From:	pediatrics-mailer@alerts.highwire.org
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Subject:	AAP Policy for July 2020; Vol. 146, No. 1

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AAP Policy

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Articles

Coinfection and Other Clinical Characteristics of COVID-19 in Children Qin Wu, Yuhan Xing, Lei Shi, Wenjie Li, Yang Gao, Silin Pan, Ying Wang, Wendi Wang and Quansheng Xing Pediatrics 2020; 146:e20200961

http://pediatrics.aappublications.org/content/146/1/e20200961.abstract?etoc

Pediatric patients with COVID-19 presented with symptoms distinct from adults and were susceptible to coinfection; persistent fecal shedding of viral RNA was found after respiratory specimens revealed negative results.

Parental Hesitancy About Routine Childhood and Influenza Vaccinations: A National Survey Allison Kempe, Alison W. Saville, Christina Albertin, Gregory Zimet, Abigail Breck, Laura Helmkamp, Sitaram Vangala, L. Miriam Dickinson, Cindy Rand, Sharon Humiston and Peter G. Szilagyi Pediatrics 2020; 146:e20193852

http://pediatrics.aappublications.org/content/146/1/e20193852.abstract?etoc

In this study, we assessed the prevalence of hesitancy about routine childhood and childhood influenza vaccination among a nationally representative sample of US parents.

Improving HPV Vaccination Rates: A Stepped-Wedge Randomized Trial Rebecca B. Perkins, Aaron Legler, Emily Jansen, Judith Bernstein, Natalie Pierre-Joseph, Terresa J. Eun, Dea L. Biancarelli, Thomas J. Schuch, Karin Leschly, Anny T.H.R. Fenton, William G. Adams, Jack A. Clark, Mari-Lynn Drainoni and Amresh Hanchate Pediatrics 2020; 146:e20192737

http://pediatrics.aappublications.org/content/146/1/e20192737.abstract?etoc

An interprofessional, multicomponent HPV vaccination intervention resulted in sustained improvement to both initiation and completion rates at the population level.

Clinical Features of E-cigarette, or Vaping, Product Use-Associated Lung Injury in Teenagers

Devika R. Rao, Kendra L. Maple, Amy Dettori, Folashade Afolabi, Jenny K.R. Francis, Maddy Artunduaga, Tiffany J. Lieu, Kim Aldy, Dazhe James Cao, Stephanie Hsu, Sing Yi Feng and Vineeta Mittal Pediatrics 2020; 146:e20194104

http://pediatrics.aappublications.org/content/146/1/e20194104.abstract?etoc

We provide a description of the clinical presentation, laboratory and imaging findings, and clinical course of 13 adolescents treated for EVALI in Dallas, Texas, in 2019.

E-cigarette Marketing Regulations and Youth Vaping: Cross-Sectional Surveys, 2017–2019 David Hammond, Jessica L. Reid, Robin Burkhalter and Vicki L. Rynard Pediatrics 2020; 146:e20194020

http://pediatrics.aappublications.org/content/146/1/e20194020.abstract?etoc

In this article, we examine the impact of recent changes in regulatory restrictions on e-cigarette marketing in Canada on youth's exposure to e-cigarette marketing, and vaping behavior.

Respiratory Syncytial Virus-Associated Hospitalizations Among Young Children: 2015-2016

Brian Rha, Aaron T. Curns, Joana Y. Lively, Angela P. Campbell, Janet A. Englund, Julie A. Boom, Parvin H. Azimi, Geoffrey A. Weinberg, Mary A. Staat, Rangaraj Selvarangan, Natasha B. Halasa, Monica M. McNeal, Eileen J. Klein, Christopher J. Harrison, John V. Williams, Peter G. Szilagyi, Monica N. Singer, Leila C. Sahni, Daniella Figueroa-Downing, Darius McDaniel, Mila M. Prill, Brett L. Whitaker, Laura S. Stewart, Jennifer E. Schuster, Barbara A. Pahud, Gina Weddle, Vasanthi Avadhanula, Flor M. Munoz, Pedro A. Piedra, Daniel C. Payne, Gayle Langley and Susan I. Gerber

Pediatrics 2020; 146:e20193611

http://pediatrics.aappublications.org/content/146/1/e20193611.abstract?etoc

In this active, prospective, multicenter, population-based surveillance study, we provide updated estimates of RSV hospitalization burden among US children <5 years old in 2015–2016.

Child Care Attendance and Educational and Economic Outcomes in Adulthood Pascale Domond, Massimiliano Orri, Yann Algan, Leanne Findlay, Dafna Kohen, Frank Vitaro, Richard E. Tremblay and Sylvana M. Côté Pediatrics 2020; 146:e20193880

http://pediatrics.aappublications.org/content/146/1/e20193880.abstract?etoc

This 30-year prospective cohort study, leveraging administrative data, reveals association between early child care attendance, high school graduation, and reduced risk of adult poverty.

Global Burden of Childhood Epilepsy, Intellectual Disability, and Sensory Impairments Bolajoko O. Olusanya, Scott M. Wright, M.K.C. Nair, Nem-Yun Boo, Ricardo Halpern, Hannah Kuper, Amina A. Abubakar, Nihad A. Almasri, Jalal Arabloo, Narendra K. Arora, Sophia Backhaus, Brad D. Berman, Cecilia Breinbauer, Gwen Carr, Petrus J. de Vries, Christie del Castillo-Hegyi, Aziz Eftekhari, Melissa J. Gladstone, Rosa A. Hoekstra, Vijaya Kancherla, Mphelekedzeni C. Mulaudzi, Angelina Kakooza-Mwesige, Felix A. Ogbo, Helen E. Olsen, Jacob O. Olusanya, Ashok Pandey, Maureen E. Samms-Vaughan, Chiara Servili, Amira Shaheen, Tracey Smythe, Donald Wertlieb, Andrew N. Williams, Charles R.J. Newton, Adrian C. Davis, Nicholas J. Kassebaum and on behalf of the Global Research on Developmental Disabilities Collaborators (GRDDC) Pediatrics 2020; 146:e20192623

http://pediatrics.aappublications.org/content/146/1/e20192623.abstract?etoc

At least 291 million children and adolescents had disabilities in 2017 globally, which is substantially higher than the GBD estimate of 93 million in 2004.

Survival Without Major Morbidity Among Very Low Birth Weight Infants in California Henry C. Lee, Jessica Liu, Jochen Profit, Susan R. Hintz and Jeffrey B. Gould Pediatrics 2020; 146:e20193865

http://pediatrics.aappublications.org/content/146/1/e20193865.abstract?etoc

Using a population-based approach, this study shows improvement in survival without major morbidity among VLBW infants in California.

Prenatal Antidepressant Use and Risk of Adverse Neonatal Outcomes Gretchen Bandoli, Christina D. Chambers, Alan Wells and Kristin Palmsten Pediatrics 2020; 146:e20192493

http://pediatrics.aappublications.org/content/146/1/e20192493.abstract?etoc

Using a large privately insured administrative claims database, we assessed patterns of antidepressant use in pregnancy and associated offspring outcomes.

Pediatric Outcomes After Regulatory Mandates for Sepsis Care Kristin H. Gigli, Billie S. Davis, Jonathan G. Yabes, Chung-Chou H. Chang, Derek C. Angus, Tina Batra Hershey, Jennifer R. Marin, Grant R. Martsolf and Jeremy M. Kahn Pediatrics 2020; 146:e20193353

http://pediatrics.aappublications.org/content/146/1/e20193353.abstract?etoc

The authors of this study evaluate the effect of the 2013 New York State sepsis regulations on pediatric sepsis outcomes using a comparative interrupted time-series analytic approach.

In-Hospital Formula Feeding and Breastfeeding Duration Marcia Burton McCoy and Pamela Heggie Pediatrics 2020; 146:e20192946

http://pediatrics.aappublications.org/content/146/1/e20192946.abstract?etoc

PS matching techniques produce a more accurate estimate of the negative effect of IHFF on breastfeeding duration among Minnesota WIC participants.

Recovery of Iron Stores After Adolescents Donate Blood Ralph R. Vassallo, Joan F. Hilton, Marjorie D. Bravo, Eric Vittinghoff, Brian Custer and Hany Kamel Pediatrics 2020; 146:e20193316

http://pediatrics.aappublications.org/content/146/1/e20193316.abstract?etoc

In the absence of supplements, rebuilding lost iron stores in adolescent blood donors takes substantially longer for some donors than currently mandated IDIs.

Mental Health Problems and Risk of Suicidal Ideation and Attempts in Adolescents Massimiliano Orri, Sara Scardera, Léa C. Perret, Despina Bolanis,

Caroline Temcheff, Jean R. Séguin, Michel Boivin, Gustavo Turecki, Richard E. Tremblay, Sylvana M. Côté and Marie-Claude Geoffroy Pediatrics 2020; 146:e20193823

http://pediatrics.aappublications.org/content/146/1/e20193823.abstract?etoc

In this contemporary sample, we report the prevalence of suicide-related outcomes and associations with MHPs from ages 13 to 20 years.

Attention-Deficit/Hyperactivity Disorder and Psychotropic Polypharmacy Prescribing Trends

Heather L. Girand, Szymon Litkowiec and Minji Sohn Pediatrics 2020; 146:e20192832

http://pediatrics.aappublications.org/content/146/1/e20192832.abstract?etoc

In this study, we describe increasing rates of ADHD and psychotropic polypharmacy in children and young adults and analyze patient characteristics associated with polypharmacy.

Benzodiazepine Treatment and Fracture Risk in Young Persons With Anxiety Disorders Greta A. Bushnell, Tobias Gerhard, Stephen Crystal and Mark Olfson Pediatrics 2020; 146:e20193478

http://pediatrics.aappublications.org/content/146/1/e20193478.abstract?etoc

In this study, we observed an elevated fracture rate in children with anxiety disorders initiating benzodiazepine treatment compared to SSRI treatment, with no increase in young adults.

Parent-Child Agreement on Postconcussion Symptoms in the Acute Postinjury Period Isabelle Gagnon, Elizabeth Teel, Gerard Gioia, Mary Aglipay, Nick Barrowman, Maegan Sady, Christopher Vaughan, Roger Zemek and PEDIATRIC EMERGENCY RESEARCH CANADA (PERC) 5P TEAM Pediatrics 2020; 146:e20192317

http://pediatrics.aappublications.org/content/146/1/e20192317.abstract?etoc

In this study, we establish parent-child agreement for postconcussion symptom reports and examine the predictive power of a previously derived clinical rule when using child-reported symptoms.

Parent Preferences for Pediatric Clinician Messaging to Promote Smoking Cessation Treatment Brian P. Jenssen, Mary Kate Kelly, Jennifer Faerber, Chloe Hannan, David A. Asch, Justine Shults, Robert A. Schnoll and Alexander G. Fiks Pediatrics 2020; 146:e20193901

http://pediatrics.aappublications.org/content/146/1/e20193901.abstract?etoc

Using parent report, we analyze what smoking cessation messages from pediatric clinicians are most likely to motivate them to start treatment.

Long-term Social Outcomes After Congenital Heart Surgery Alireza Raissadati, Hanna Knihtilä, Tommi Pätilä, Heta Nieminen and Eero Jokinen

Pediatrics 2020; 146:e20193745

http://pediatrics.aappublications.org/content/146/1/e20193745.abstract?etoc

Using the Finnish national CHS and population databases, in this article, we provide a comprehensive insight into long-term social outcomes after CHS.

A Core Outcome Set for Neonatal Opioid Withdrawal Syndrome Lauren E. Kelly, Flora Shan, Sonya MacVicar, Emily Czaplinksi, Wendy Moulsdale, Sarah Simpson, Karel Allegaert, Lauren M. Jansson and Martin Offringa

Pediatrics 2020; 146:e20200018

http://pediatrics.aappublications.org/content/146/1/e20200018.abstract?etoc

An internationally developed, evidence-informed, and consensus-based set of 13 outcomes is created to be measured in clinical care and research on NOWS.

Young Children's Use of Smartphones and Tablets Jenny S. Radesky, Heidi M. Weeks, Rosa Ball, Alexandria Schaller, Samantha Yeo, Joke Durnez, Matthew Tamayo-Rios, Mollie Epstein, Heather Kirkorian, Sarah Coyne and Rachel Barr Pediatrics 2020; 146:e20193518

http://pediatrics.aappublications.org/content/146/1/e20193518.abstract?etoc

Mobile device sampling is a feasible, objective, and unobtrusive method that provides detailed output regarding the timing, content, and duration of tablet or smartphone use.

Competency of Future Pediatricians Caring for Children With Behavioral and Mental Health Problems Cori Green, JoAnna K. Leyenaar, Adam L. Turner and Laurel K. Leslie Pediatrics 2020; 146:e20192884

http://pediatrics.aappublications.org/content/146/1/e20192884.abstract?etoc

In this national survey, we describe pediatric trainee competence in the assessment and treatment of B/MH conditions and variation in competence across training programs.

Resuscitation Opportunities for Fellows of Very Low Birth Weight Infants in the Vermont Oxford Network

Megan M. Gray, Erika M. Edwards, Danielle E.Y. Ehret, Brianna K. Brei, Lucy T. Greenberg, Rachel A. Umoren, Steven Ringer and Jeffrey Horbar Pediatrics 2020; 146:e20193641

http://pediatrics.aappublications.org/content/146/1/e20193641.abstract?etoc

In this study, we use the VON database to characterize the frequency of VLBW and ELBW DR resuscitations and procedures at NPM fellowship programs.

Defining the Essential Components of a Teaching Service Caroline J. Gross, Laura E. Chiel, Amanda R. Gomez, Carolyn H. Marcus, Catherine D. Michelson and Ariel S. Winn Pediatrics 2020; 146:e20200651

http://pediatrics.aappublications.org/content/146/1/e20200651.abstract?etoc

We present a consensus definition of the essential and recommended components of resident teaching services using Delphi methodology.

Commentaries

Rethinking Flu Vaccine Messaging Annabelle de St. Maurice and Kathryn Edwards Pediatrics 2020; 146:e20201770

http://pediatrics.aappublications.org/content/146/1/e20201770.extract?etoc

Curbing Youth E-cigarette Use Must Remain a Priority S. Christy Sadreameli and Peter J. Mogayzel Jr Pediatrics 2020; 146:e20200902

http://pediatrics.aappublications.org/content/146/1/e20200902.extract?etoc

Measuring the Burden of RSV in Children to Precisely Assess the Impact of Preventive Strategies Octavio Ramilo and Asuncion Mejias Pediatrics 2020; 146:e20201727

http://pediatrics.aappublications.org/content/146/1/e20201727.extract?etoc

High-Quality Child Care as an Effective Antipoverty Strategy: Emerging Evidence From Canada Iheoma U. Iruka Pediatrics 2020; 146:e20200483

http://pediatrics.aappublications.org/content/146/1/e20200483.extract?etoc

The Increasing Global Burden of Childhood Disability: A Call for Action Marissa Vawter-Lee and Patrick T. McGann Pediatrics 2020; 146:e20201119

http://pediatrics.aappublications.org/content/146/1/e20201119.extract?etoc

Continually Improving Outcomes for Very Low Birth Weight Infants Roger F. Soll and William Edwards Pediatrics 2020; 146:e20200436

http://pediatrics.aappublications.org/content/146/1/e20200436.extract?etoc

Studying Medication Safety in Pregnancy: A Call for New Approaches, Resources, and Collaborations Sascha Dublin, Paige Wartko and Rita Mangione-Smith Pediatrics 2020; 146:e20201540

http://pediatrics.aappublications.org/content/146/1/e20201540.extract?etoc

The Legacy of Pediatric Sepsis State Legislation Halden F. Scott, Fran Balamuth and Elizabeth R. Alpern Pediatrics 2020; 146:e20201525

http://pediatrics.aappublications.org/content/146/1/e20201525.extract?etoc

In-Hospital Formula Feeding and Breastfeeding Duration Lori Feldman-Winter and Ann Kellams Pediatrics 2020; 146:e20201221

http://pediatrics.aappublications.org/content/146/1/e20201221.extract?etoc

Reducing Iron Deficiency in Teen-Aged Blood Donors Alan E. Mast Pediatrics 2020; 146:e20201318

http://pediatrics.aappublications.org/content/146/1/e20201318.extract?etoc

Using Mobile Device Sampling to Objectively Measure Screen Use in Clinical Care Libby Matile Milkovich and Sheri Madigan Pediatrics 2020; 146:e20201242

http://pediatrics.aappublications.org/content/146/1/e20201242.extract?etoc

Addressing the Behavioral and Mental Health Educational Gap in Pediatric Residency Training Sue E. Poynter, Kenya McNeal-Trice and Javier Gonzalez del Rey Pediatrics 2020; 146:e20200805

http://pediatrics.aappublications.org/content/146/1/e20200805.extract?etoc

The Maturation of a Proficient Neonatologist: From the Delivery Room to Independent Practice Heather French and Eric Eichenwald Pediatrics 2020; 146:e20200212

http://pediatrics.aappublications.org/content/146/1/e20200212.extract?etoc

Consideration of Heterogeneity in a Meta-analysis of Latino Sexual Health Interventions Vincent Guilamo-Ramos, Andrew Hidalgo and Lance Keene Pediatrics 2020; 146:e20201406

http://pediatrics.aappublications.org/content/146/1/e20201406.extract?etoc

Dyslexia in Pediatrics: Simple Practices to Tackle a Complex Issue Iliana I. Karipidis and David S. Hong Pediatrics 2020; 146:e20201470

http://pediatrics.aappublications.org/content/146/1/e20201470.extract?etoc

From the American Academy of Pediatrics

Policy Statement: Digital Advertising to Children Jenny Radesky, Yolanda (Linda) Reid Chassiakos, Nusheen Ameenuddin, Dipesh Navsaria and COUNCIL ON COMMUNICATION AND MEDIA Pediatrics 2020; 146:e20201681

http://pediatrics.aappublications.org/content/146/1/e20201681.abstract?etoc

Policy Statement: Advocacy and Collaborative Health Care for Justice-Involved Youth Mikah C. Owen, Stephenie B. Wallace and COMMITTEE ON ADOLESCENCE Pediatrics 2020; 146:e20201755

http://pediatrics.aappublications.org/content/146/1/e20201755.abstract?etoc

Policy Statement: Electronic Documentation in Pediatrics: The Rationale and Functionality Requirements Heather C. O'Donnell, Srinivasan Suresh and COUNCIL ON CLINICAL INFORMATION TECHNOLOGY Pediatrics 2020; 146:e20201682

http://pediatrics.aappublications.org/content/146/1/e20201682.abstract?etoc

Technical Report: Electronic Documentation in Pediatrics: The Rationale and Functionality Requirements Heather C. O'Donnell, Srinivasan Suresh and COUNCIL ON CLINICAL INFORMATION TECHNOLOGY Pediatrics 2020; 146:00

http://pediatrics.aappublications.org/content/146/1/00.abstract?etoc

AAP Meeting Abstracts

NCE Abstracts 2020 Pediatrics 2020; 146:e202000ln http://pediatrics.aappublications.org/content/146/1/e202000ln.abstract?etoc

Pediatrics Perspectives

Mitigating the Impacts of the COVID-19 Pandemic Response on At-Risk Children Charlene A. Wong, David Ming, Gary Maslow and Elizabeth J. Gifford Pediatrics 2020; 146:e20200973

http://pediatrics.aappublications.org/content/146/1/e20200973.abstract?etoc

Strategies that could mitigate the health risks of pandemic response measures for at-risk subpopulations of children are outlined for policy makers, health care workers and systems, and communities.

Sheltering in Place in a Xenophobic Climate: COVID-19 and Children in Immigrant Families Rushina Cholera, Olanrewaju O. Falusi and Julie M. Linton Pediatrics 2020; 146:e20201094

http://pediatrics.aappublications.org/content/146/1/e20201094.extract?etoc

Vulnerable Youth and the COVID-19 Pandemic Rachel I. Silliman Cohen and Emily Adlin Bosk Pediatrics 2020; 146:e20201306

http://pediatrics.aappublications.org/content/146/1/e20201306.extract?etoc

Increased Risk for Family Violence During the COVID-19 Pandemic Kathryn L. Humphreys, Myo Thwin Myint and Charles H. Zeanah Pediatrics 2020; 146:e20200982

http://pediatrics.aappublications.org/content/146/1/e20200982.extract?etoc

Children's Hospital ICU Resource Allocation in an Adult Pandemic Ian D. Wolfe, Jeremy R. Garrett, Brian S. Carter and John D. Lantos Pediatrics 2020; 146:e20201140

http://pediatrics.aappublications.org/content/146/1/e20201140.extract?etoc

Toward a Deeper Understanding of Gun Violence Nancy A. Dodson and David Hemenway Pediatrics 2020; 146:e20193333

http://pediatrics.aappublications.org/content/146/1/e20193333.extract?etoc

The Daunting Problem of Medical Complexity and Housing Instability Rebecca R. Seltzer, B. Simone Thompson and Chris Feudtner Pediatrics 2020; 146:e20193284

http://pediatrics.aappublications.org/content/146/1/e20193284.extract?etoc

Monthly Feature

A Little Hurts a Lot: Exploring the Impact of Microaggressions in Pediatric Medical Education Kimberly Young, Angela Punnett and Shazeen Suleman Pediatrics 2020; 146:e20201636

http://pediatrics.aappublications.org/content/146/1/e20201636.extract?etoc

Research Briefs

Lung Ultrasound in Children With COVID-19 Marco Denina, Carlo Scolfaro, Erika Silvestro, Giulia Pruccoli, Federica Mignone, Marisa Zoppo, Ugo Ramenghi and Silvia Garazzino Pediatrics 2020; 146:e20201157

http://pediatrics.aappublications.org/content/146/1/e20201157.extract?etoc

Review Articles

Parenting Interventions in Pediatric Primary Care: A Systematic Review Justin D. Smith, Gracelyn H. Cruden, Lourdes M. Rojas, Mark Van Ryzin, Emily Fu, Matthew M. Davis, John Landsverk and C. Hendricks Brown Pediatrics 2020; 146:e20193548

http://pediatrics.aappublications.org/content/146/1/e20193548.abstract?etoc

In this article, we review the evidence for implementation of parenting programs in pediatric primary care, which are effective at preventing and treating children's behavioral health problems.

Sexual Health Programs for Latinx Adolescents: A Meta-analysis Reina Evans, Laura Widman, McKenzie Stokes, Hannah Javidi, Elan Hope and Julia Brasileiro Pediatrics 2020; 146:e20193572

http://pediatrics.aappublications.org/content/146/1/e20193572.abstract?etoc

Synthesizing 12 trials, sexual health interventions improved abstinence,

condom use, and sexual health knowledge and reduced the number of sex partners among Latinx adolescents.

Diagnostic Dilemmas

An 8-Year-Old Boy With Fever, Splenomegaly, and Pancytopenia Rachel Offenbacher, Brad Rybinski, Tuhina Joseph, Nora Rahmani, Thomas Boucher and Daniel A. Weiser Pediatrics 2020; 146:e20192372

http://pediatrics.aappublications.org/content/146/1/e20192372.abstract?etoc

The case of an 8-year-old boy with fever, abdominal pain, and pallor found to have splenomegaly and pancytopenia who was ultimately diagnosed with a rare etiology

State-of-the-Art Review Article

Reintroducing Dyslexia: Early Identification and Implications for Pediatric Practice Joseph Sanfilippo, Molly Ness, Yaacov Petscher, Leonard Rappaport, Barry Zuckerman and Nadine Gaab Pediatrics 2020; 146:e20193046

http://pediatrics.aappublications.org/content/146/1/e20193046.abstract?etoc

In this review, we synthesize current knowledge of the foundations of dyslexia, consider outcomes, and discuss ways in which our contemporary understanding can be used to inform early clinical identification.

Special Articles

Updated Strategies for Pulse Oximetry Screening for Critical Congenital Heart Disease Gerard R. Martin, Andrew K. Ewer, Amy Gaviglio, Lisa A. Hom, Annamarie Saarinen, Marci Sontag, Kristin M. Burns, Alex R. Kemper and Matthew E. Oster Pediatrics 2020; 146:e20191650

http://pediatrics.aappublications.org/content/146/1/e20191650.abstract?etoc

Newborn screening for CCHD significantly improves outcomes. New approaches can improve the efficiency of screening.

Ethical and Public Health Implications of Targeted Screening for Congenital Cytomegalovirus Ladawna L. Gievers, Alison Volpe Holmes, Jaspreet Loyal, Ilse A. Larson, Carlos R. Oliveira, Erik H. Waldman and Sheevaun Khaki Pediatrics 2020; 146:e20200617

http://pediatrics.aappublications.org/content/146/1/e20200617.abstract?etoc

The ethical and public health implications of testing neonates for cCMV through a targeted screening program is explored.

The Ethics of Creating a Resource Allocation Strategy During the COVID-19 Pandemic Naomi Laventhal, Ratna Basak, Mary Lynn Dell, Douglas Diekema, Nanette Elster, Gina Geis, Mark Mercurio, Douglas Opel, David Shalowitz, Mindy Statter and Robert Macauley Pediatrics 2020; 146:e20201243

http://pediatrics.aappublications.org/content/146/1/e20201243.abstract?etoc

Bioethicists discuss how children should be considered in resource allocation frameworks for the COVID-19 pandemic and moral dilemmas in implementation of crisis standards of care.

Ethics Rounds

Pediatric Palliative Care in a Pandemic: Role Obligations, Moral Distress, and the Care You Can Give Amanda M. Evans, Monique Jonas and John Lantos Pediatrics 2020; 146:e20201163

http://pediatrics.aappublications.org/content/146/1/e20201163.abstract?etoc

Limited resources during the pandemic may affect patients in PPC and their families, and providers may experience resultant moral distress; we suggest some coping strategies.

Access to Transplantation for Undocumented Pediatric Patients Olga Charnaya, Priya Verghese, Aviva Goldberg, Keren Ladin, Thalia Porteny and John D. Lantos Pediatrics 2020; 146:e20193692

http://pediatrics.aappublications.org/content/146/1/e20193692.abstract?etoc

In this case, we seek to explore the ethical considerations in providing undocumented pediatric patients with organ failure access to transplant as a therapeutic option.

Quality Reports

Reduction in Resources and Cost for Gastroenteritis Through

Implementation of Dehydration Pathway Jessica K. Creedon, Matthew Eisenberg, Michael C. Monuteaux, Mihail Samnaliev and Jason Levy Pediatrics 2020; 146:e20191553

http://pediatrics.aappublications.org/content/146/1/e20191553.abstract?etoc

Implementation of a dehydration pathway in a pediatric ED led to improvement in resource use, cost, and patient throughput.

The Improving Renal Outcomes Collaborative: Blood Pressure Measurement in Transplant Recipients Michael E. Seifert, Devesh S. Dahale, Margret Kamel, Pamela D. Winterberg, Gina-Marie Barletta, Craig W. Belsha, Abanti Chaudhuri, Joseph T. Flynn, Rouba Garro, Roshan P. George, Jens W. Goebel, David B. Kershaw, Debora Matossian, Jason Misurac, Corina Nailescu, Christina R. Nguyen, Meghan Pearl, Ari Pollack, Cozumel S. Pruette, Pamela Singer, Judith S. VanSickle, Priya Verghese, Bradley A. Warady, Andrew Warmin, Patricia L. Weng, Larysa Wickman, Amy C. Wilson, David K. Hooper and ON BEHALF OF THE IMPROVING RENAL OUTCOMES COLLABORATIVE (IROC) Pediatrics 2020; 146:e20192833

http://pediatrics.aappublications.org/content/146/1/e20192833.abstract?etoc

Improper BP measurement limits control of hypertension. Using the IROC learning health system, we improved appropriate BP measurement across 17 transplant centers over 20 weeks.

Case Reports

A Case Series of the 2019 Novel Coronavirus (SARS-CoV-2) in 3 Febrile Infants in New York Lance Feld, Joshua Belfer, Rashi Kabra, Pratichi Goenka, Shipra Rai, Shannon Moriarty and Stephen Barone Pediatrics 2020; 146:e20201056

http://pediatrics.aappublications.org/content/146/1/e20201056.abstract?etoc

In this study, we describe clinical presentations of 3 febrile infants <2 months of age hospitalized in a New York pediatric hospital.

Early Neonatal SARS-CoV-2 Infection Manifesting With Hypoxemia Requiring Respiratory Support Mariateresa Sinelli, Giuseppe Paterlini, Marco Citterio, Alessia Di Marco, Tiziana Fedeli and Maria Luisa Ventura Pediatrics 2020; 146:e20201121

http://pediatrics.aappublications.org/content/146/1/e20201121.abstract?etoc

Severe Pediatric COVID-19 Presenting With Respiratory Failure and Severe

Thrombocytopenia Pratik A. Patel, Shanmuganathan Chandrakasan, Geoffrey E. Mickells, Inci Yildirim, Carol M. Kao and Carolyn M. Bennett Pediatrics 2020; 146:e20201437

http://pediatrics.aappublications.org/content/146/1/e20201437.abstract?etoc

We present the successful management of a critically ill, previously healthy child with COVID-19 presenting with respiratory failure and severe thrombocytopenia.

Elevated Serum Creatinine: But Is It Renal Failure? Molly Wong Vega, Sarah J. Swartz, Sridevi Devaraj and Srivaths Poyyapakkam Pediatrics 2020; 146:e20192828

http://pediatrics.aappublications.org/content/146/1/e20192828.abstract?etoc

We present a case report of internet-based sharing of a homemade formula by nonmedical personnel placing an infant at risk because of unregulated dietary supplements.

Flualprazolam: Report of an Outbreak of a New Psychoactive Substance in Adolescents Adam Blumenberg, Adrienne Hughes, Andrew Reckers, Ross Ellison and Roy Gerona Pediatrics 2020; 146:e20192953

http://pediatrics.aappublications.org/content/146/1/e20192953.abstract?etoc

A group of adolescents develop CNS depression due to intoxication with an NPS: flualprazolam.

Complete Heart Block Secondary to Flecainide Toxicity: Is It Time for CYP2D6 Genotype Testing? Bao Hui Poh, Jan Hau Lee, Abdul Alim Abdul Haium and Tze Liang Jonathan Choo Pediatrics 2020; 146:e20192608

http://pediatrics.aappublications.org/content/146/1/e20192608.abstract?etoc

In this case study, we highlight the need to consider CYP2D6 gene testing before flecainide initiation in infants because of genetic polymorphism.

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From:	Perrine, Cria G. (CDC/ONDIEH/NCCDPHP)
Sent:	Fri, 20 Jul 2018 14:24:03 +0000
То:	Trish MacEnroe
Cc:	Carol MacGowan (dvx2@cdc.gov)
Subject:	agenda for today's call

Hi Trish, we don't need to include the BFRC on the agenda for today's call. It is in clearance and we are getting some different questions about the data and presentation, so we won't have anything to update on today.

So I think we are good to stick with your proposed agenda:

- 1. Current media activities around the WHA resolution
- 2. Moving forward with the BFHI Implementation Guidance BFHI Expert Meeting
- 3. Possibility of a BFUSA CDC debriefing the Wednesday morning following the Expert Meeting
- 4. Fed Is Best

From:	Perrine, Cria G. (CDC/DDNID/NCCDPHP/DNPAO)
Sent:	Thu, 17 Dec 2020 14:41:59 +0000
То:	Ellen Boundy (lwz9@cdc.gov)
Subject:	AHRQ review of maternal health outcomes
Attachments:	AHRQ infographic_maternal health outcomes.pdf, AHRQ_BF programs policies
maternal health ou	tcomes developed countries_2018.pdf

From:EMPowerSent:Fri, 14 Oct 2016 15:56:03 +0000To:Undisclosed recipients:Subject:All-Hospital Webinar Recording- Making Baby Friendly Baby SafeAttachments:Safe Sleep and Skin-to-Skin Care in the Neonatal.pptx, Safe Sleep and Skin-to-Skin Care in the Neonatal Period for Healthy Term Newborns.pdf



Dear EMPower Hospitals,

Thank you for joining us yesterday for Dr. Jay Goldsmith's presentation on *"Making Baby Friendly Baby Safe"*. To access yesterday's webinar, please use the link below. The presentation begins at the 8:05 recording mark. Additionally, please see attachments for webinar slides and for Dr. Goldsmith's AAP clinical report.

Webinar recording:

https://abtassociates.webex.com/abtassociates/lsr.php?RCID=da5c1260c810a865c112dbcae70ecc34

Baby Friendly USA Safety Webinar referenced by Dr. Goldsmith: https://attendee.gotowebinar.com/recording/289258797253942786

All the best,

The EMPower Breastfeeding Team www.EMPowerBreastfeeding.org

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## Making "Baby Friendly" Baby Safe



mith, M.D.Tulane UniversityNew Is, LA goldsmith.jay@gmail.com



Unlike this group, I have no conflicts of interest to disclose!!!

"Health care systems should ensure that maternity care practices provide education and counseling on breastfeeding. Hospitals should become more "baby-friendly," by taking steps like those recommended by the UNICEF/WHO's Baby-Friendly Hospital Initiative." Regina A. Benjamin, MD, MBA US Surgeon General (2009–2013)

#### Case

3410 gm AGA term male born by SVD at 1546 hours to 30 y.o. g7 p1mother in Level 1 hospitalMother had balanced translocation of chromosome 15 and multiple lossesPROM x 3 days → pitocin inductionApgars 6/9Allowed to breast feed in LDRP in first hour

#### Case

Assessed by RN x2 during "bonding period," the last time at 1647 (born at 1546)1655: found by RN to be gray, apneic, bradycardic in mother's armsRushed to nursery and CPR startedMD arrived at 1700 and successfully intubatedUnable to place peripheral ivFirst gasp and HR at 1729Neonatologist at 1737

#### Case

Successful resuscitation and baby moved to Level 3 for coolingNow has significant developmental delays and CPLitigation claims inadequate monitoring during "bonding period" and resuscitation beneath the standard of care



#### **The Problem**

Skin-to-skin care, rooming in; promotion of breastfeeding in hospitalsWHO Ten Steps to Successful BreastfeedingSSC and RI have evidence of enhanced outcomes BUTSafety concernsSUPCFallsUnrecognized medical problems in newborn

#### Definitions

Skin-to-skin CarePlacing naked infant in direct contact with mother with the ventral skin of the baby touching the ventral skin of the caregiverRecommended immediately following birth for 1 hour; also later in infancyDelay painful procedures (Vit K, eye treatment)Provided for all "well" term newborns (c-sections)Late preterm may also "benefit", but are at increased risk of early morbidities



#### Definitions

Rooming-inMothers and infants to remain together 24 hours/day while in hospitalApplies to term and late preterm (>35 weeks)Procedures performed at the bedsideMothers may nap, shower or leave the room with the expectation that staff will monitor the newborn at "routine intervals" Mothers encouraged to use call bell for assistance

#### **Evidence Supporting SSC & RI**

Extensive research on SSCImmediately after birth stabilizes newborn temp, prevents hypothermiaStabilized blood glucose, decreases crying, better CR stabilityDecreases pain from proceduresIn preterms, improves neurobehavioral maturation, gi adaptation, better sleep patters, better growthDecreases maternal stress, decreases depression, decreases postpartum hemorrhage (!)Improves breastfeeding (reduced formula use)



### **Evidence Supporting SSC & RI**

 Research on RIImproves patient satisfactionBetter outcomes including dyads with NASProvides better security against abductionLeads to decreased infant abandonmentSupports cue based feedingDecreases hyperbilirubinemiaIncreases likelihood of breastfeeding to 6 months



#### Breastfeeding and the Use of Human Milk Pediatrics, March 2012

Policy Statement (Section on Breastfeeding)Reaffirmed recommendation of exclusive breastfeeding for first 6 months of lifeProtective effect of breastfeeding against: Asthma, eczema, atopic dermatitis, gi infections, lower respiratory tract infections, O.M.

# Breastfeeding and the Use of Human Milk

 $\}$  SIDS reduced by >1/3 in breastfed babies15-30% decrease in adolescent and adult obesity in breastfed vs. nonbreastfed infantsPediatricians encouraged to promote breastfeeding to mothers and for hospitals to accommodate and stimulate breastfeeding during the birth hospitalization.

#### **Hospital Routines**

AAP Sample Hospital Breastfeeding Policy Adopts WHO/UNICEF principles on breastfeeding (1991)Revise hospital policies that interfere with early skin-to-skin contact or limit time infant can spend with mother, eliminate human milk substitutes and pacifier useAAP endorsed Ten Steps Program (2009)
The Ten Steps to Successful Breastfeeding are: Have a written breastfeeding policy that is routinely communicated to all health care staff. Train all health care staff in the skills necessary to implement this policy. Inform all pregnant women about the benefits and management of breastfeeding. Help mothers initiate breastfeeding within one hour of birth. Show mothers how to breastfeed and how to maintain lactation, even if they are separated from their infants. Give infants no food or drink other than breast-milk, unless medically indicated. Practice rooming in allow mothers and infants to remain together 24 hours a day. Encourage breastfeeding on demand. Give no pacifiers or artificial nipples

## **Ten Steps Program**

Adherence to program demonstrated to:Increase rates of breastfeeding initiation, duration and exclusivityImplementation of 5 postpartum practices have been shown to:Increase breastfeeding duration (regardless of SE status)Increase breastfeeding in 1st hour after birthIncrease exclusive breastfeedingIncrease avoidance of pacifiers

## "Baby Friendly" Hospitals

Baby Friendly Hospital Initiative (BFHI) launched in 1991Based on WHO/UNICEF Ten Steps Program (1991) and Innocenti Declaration (1990)"Baby Friendly USA", certifying body (the "Golden Bow")First hospital certified in 1996September 2016: 375 certified hospitals (700 more applications in process); these hospitals deliver 18.5% of babies in US ( $\approx$ 740,000)

# Safety Concerns re: immediate STS care

Contraindications to immediate STS careBaby requiring positive pressure ventilation in DRLow Apgar scores (< 7 at 5 minutes)Cord pH < 7.0 or BD > -12Baby< 37 weeks gestationConcerns re lack of standardization in careLapses of observation by staffLack of education of staff in potential dangers

## Unintended Consequences of Current Breastfeeding Initiatives

Concerns re: SUPC, co-sleeping, leaving mother-baby unattended in first hours of life, fallsAdvocates against "overly rigid insistence" on following 10 STEPSConcerns regarding advice against pacifiers which have protective effect against SIDS

Bass JL et al, JAMA Pediatrics, August 2016

## **Definition of SUPC**

Potentially fatal event in otherwise healthyappearing term newbornBritish definition:>35 weeks gestationWell at birth (normal 5 minute ApgarCollapses unexpectedly requiring CPRDies, goes to NICU or develops encephalopathyOther medical conditions (sepsis, cardiac, etc.) ruled out

## Incidence of SUPC

Depends on definition usedIf brief resolved unexplained event (BRUE) included, low risk and probably benignThen incidence much higher Serious SUPC requiring medical CPR2.6 to 133 cases/100,000 live birthsKernicterus estimated at 1–2/100,000 live births SUPC of Newborn Infants: A Review of Cases, Definitions, Risks and Preventive Measures

Reviewed all published reports of SUPC in first postnatal week (398)Wide ranging estimates of incidence: 2.6 to 133/100,000 births½ died; ½ CNS sequelaeNo etiology found in 153 of 233 deaths1/3 of cases in first 2 hours; 1/3 between 24 hours and 1/3 between 1 and 7 days

Herlenius E, Kuhn P: Trans Stroke Res, 2013

SUPC of Newborn Infants: A Review of Cases, Definitions, Risks and Preventive Measures

Recommendations to reduce SUPCSystematic information to parents re: airway patencyParent education re: supine position, bed-sharing, soft bedding, head covering, etc.Appropriate surveillance of newborn in first hoursSupervision of STS with educationPositioning infant to avoid mechanical airway obstruction

### Reports of deaths and ALTEs in early neonatal period associated with STS contact

Unexpected postnatal collapse of presumably health newbornsEtiology of arrests unknownAre these events consistent with "Triple Risk Model"?Intrinsic vulnerability of infant (blunted CO2 response)Critical developmental period (e.g. post-delivery stress or sedation)Exogenous stressor (e.g. prone position, nose in breast, covers over face, hyperthermia, etc.) Apparent life-threatening events in presumably healthy newborns during early STS contact

Andres V et al, Pediatrics, 2011

6 cases of ALTEs in DR during 1st 2 hours of lifeAll healthy infants, on mother during early STS contactMother and infant not observedSuggested surveillance during early STS

#### Sudden deaths and severe ALTEs in term infants within 24 hours of birth Poets A et al, *Pediatrics*, 2011

Report of cases in Germany in 2009 of unexplained SUD after 10 min Apgar ≥ 843 cases reported, 17 met entry criterialncidence 2.6/100,000 live births7 deaths, 6 abnormal CNS at discharge9 events in first 2 hours of life; 12 babies lying on mother's chest and abdomen7 noticed by HP while mother was awake!!

### Deaths and near deaths of healthy newborn infants while bed sharing on maternity wards

Thach BT, *J Perinatol*, 2014

Evaluate bed sharing programs on maternity wardsSurvey MEs for deaths of healthy newborns while bed sharing15 deaths, 3 near deaths reportedAccidental suffocation deemed most likely cause of incidentsSuggests education of mothers and more efficient monitoring during STS contact

## Sudden unexplained early neonatal death or collapse: a national surveillance study

 National 3 year surveillance study: AustraliaSUEND or ALTEs reported at 0.05– 0.38/1000 live births; identified 48 cases26 babies who collapsed found on carer's chest"First postnatal day is a vulnerable period" Development and implementation of safe sleep guidelines needed

Lutz et al. 2016 Pediatr Res

## Falls

Mothers (or fathers) may become dizzy, faint or unable to hold infantMaternal fatigue, drug administration may increase riskMother with baby in bed may fall asleep and baby roll to floor

## **Oregon Patient Safety Review**

7 hospitals part of one health system22,866 births: 9 cases of infant fallsIncidence of 3.94 falls per 10,000 births (2006–2007)Increase from previous review (1.6/100,000 births) for unknown reasons

## **AAP Policies in place**

Discourage bed-sharing (Task Force On SIDS, Pediatrics, 2011) NRP, 7th edition (2016): baby who requires PPV requires postresuscitation care (implies monitoring)





Neonatal Resuscitation Algorithm-2015 Update.

#### Neonatal Resuscitation Algorithm - 2016 Update



#### Post Resuscitation Care: NRP 7th Edition, 2016

"Babies who required supplemental oxygen or PPV after delivery will need close assessment. They.....should be evaluated frequently during the immediate newborn period...Many will require admission to a nursery environment where continuous cardio-respiratory monitoring is available and vital signs can be measured frequently."



# Making the first days of life safer: time for a new protocol?

Paviotti G et al, J Perinatol, 2014

Developed protocol to:Promote safe motherinfant bondingEstablish successful early breastfeedingCorrect risk factors for SUPCProtocol concentrates on maternal education, frequent assessments, discouraging bed-sharing, STS only when mother awake, not leaving mother alone in first hours after birth

## **Infant Safety**

Mother post delivery exhaustionMother may have had opioids, MgSO4, other depressant/sedating medicationsMonitoring by hospital personnel (who?) or family (untrained, father also fatigued)Danger of SUPC or fall

## Balance safe sleep and skin-toskin care/breastfeeding initiation

Frained observer during first 1-2 hoursLimit bonding in compromised infantIncreased maternal education re: bedsharing

## Procedure for immediate postnatal STS

Delivery of term infantDry, stimulate, assesslf stable place STS with cord attached, clamp cord after one minuteCover head with cap (optional) and place prewarmed blankets ot cover body, leaving face exposedAssess 1 and 5 minute Apgar scoresReplace wet blankets and cap with dry warm onesAssist and support to breastfeed

## **Risk stratification for STS care**

High risk situations include:PPV (resuscitation)Low Apgar scoresLate pretermDifficult deliveryMother receiving opioids, MgSO4Excessively sleepy motherIUGR/LGA/IDM baby

## Additional safety measures

Stabilize ambient temperatureUse of appropriate lightingFacilitating unobstructed view of baby's faceAdditional support persons may augment but NOT replace staff monitoringEducation of staff in SUPC including safe positioning of baby

# Components of safe positioning during STS

Infant's face can be seenHead in sniffing positionNose and mouth are not coveredHead turned to one sideNeck is straight, not bentShoulders and chest face motherLegs flexedBack covered with blanketsMonitored continuously by staff in delivery areaInfant placed in bassinet when mother wants to sleep

## Safety Concerns When Rooming-In

Similar concerns to STSMother falling asleep with baby in bed leading to SUPC or fallMother may be unstable due to exhaustion, medication effects; may not be able to ambulate safelyRelatively unstudied compared to falls of neurologically impaired, post surgical cases or elderly

## British study on rooming-in safety

64 mother-infant dyadsSleep in stand alone bassinet, side-car bassinet or mother's bedBreastfeeding more frequent in bedsharing and side-carNo adverse events, but video monitoring identified more safety issues with bed-sharingAuthors concluded side-car provided best opportunity for breastfeeding and safest conditions

Ball et al, ADC, 2006

# elles/he

#### **Randomly Allocated Postnatal Unit Bassinets**

Control, standard rooming-in with

Intervention, side-car bassinet attached

a stand-alone bassinet. to the bed.

## Improve safety with rooming-in

AWHONN: no more than 3 maternal-infant dyads to 1 RNNursing extenders may augment care and monitoringEducation of mothers and families on risks of bed sharingSafe sleep practices for babies modeled and taught (firm surface, back to sleep, sleep alone)

## Suggestions for rooming-in

Solution States Stat

## Transitioning to home and safe sleep beyond discharge

Anticipatory guidance re: breastfeeding and sleep safetyFollow AAP recommendations on smoking, pacifier introduction, use of alcohol, bed sharing, sleep positioningPost discharge support for breastfeeding

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#### Safe Sleep and Skin-to-Skin Care in the Neonatal Period for Healthy Term Newborns

Lori Feldman-Winter, MD, MPH, FAAP, Jay P. Goldsmith, MD, FAAP, COMMITTEE ON FETUS AND NEWBORN, TASK FORCE ON SUDDEN INFANT DEATH SYNDROME

## Combined effort of COFN and Task Force on SIDSPublished in Pediatrics, September 2016

## AAP "Clinical Report": Characteristics

Informs the pediatrician in the clinical setting/best practices, state of the art medicineBased on literature review & data analysisCan be a stand-alone documentDOES NOT include recommendations (only suggestions)

## **AAP Safe Sleep Suggestions**

Use patient safety contract (focus on high risk)Monitor mothers according to risk assessmentUse fall assessment toolsImplement maternal egress testing, especially if mother using medicationsReview mother-infant equipment (bed-rails, call bells, etc.)Publicize information on fall preventionUse risk assessment tools to avoid hazards of STS and rooming in practices
## Baby Friendly Safety Webinar: Safety First, Step 4

Example of late preterm infant with hypoglycemiaIOM Swiss cheese analogy on how untoward effects of STS could have been avoided with appropriate preparations and interventionshttps://attendee.gotowebinar.co m/recording/289258797253942786



## **Case Denouement**

Multiple expert depositions taken for both sidesDefense claimed no protocol required full time staff in mother's room (arrest occurred after 1 hour of age)Defense claimed resuscitation met standard for Level 1 hospitalDefendant hospital settled for undisclosed amount prior to start of trial



 $\label{eq:clinical relative} CLINICAL \ REPORT \quad {\it Guidance for the Clinician in Rendering Pediatric Care}$ 

American Academy of Pediatrics



DEDICATED TO THE HEALTH OF ALL CHILDREN\*

## Safe Sleep and Skin-to-Skin Care in the Neonatal Period for Healthy Term Newborns

Lori Feldman-Winter, MD, MPH, FAAP, Jay P. Goldsmith, MD, FAAP, COMMITTEE ON FETUS -AND NEWBORN, TASK FORCE ON SUDDEN INFANT DEATH SYNDROME

Skin-to-skin care (SSC) and rooming-in have become common practice in the newborn period for healthy newborns with the implementation of maternity care practices that support breastfeeding as delineated in the World Health Organization's "Ten Steps to Successful Breastfeeding." SSC and rooming-in are supported by evidence that indicates that the implementation of these practices increases overall and exclusive breastfeeding, safer and healthier transitions, and improved maternal-infant bonding. In some cases, however, the practice of SSC and rooming-in may pose safety concerns, particularly with regard to sleep. There have been several recent case reports and case series of severe and sudden unexpected postnatal collapse in the neonatal period among otherwise healthy newborns and near fatal or fatal events related to sleep, suffocation, and falls from adult hospital beds. Although these are largely case reports, there are potential dangers of unobserved SSC immediately after birth and throughout the postpartum hospital period as well as with unobserved rooming-in for at-risk situations. Moreover, behaviors that are modeled in the hospital after birth, such as sleep position, are likely to influence sleeping practices after discharge. Hospitals and birthing centers have found it difficult to develop policies that will allow SSC and rooming-in to continue in a safe manner. This clinical report is intended for birthing centers and delivery hospitals caring for healthy newborns to assist in the establishment of appropriate SSC and safe sleep policies.

#### INTRODUCTION

#### **Definition of Skin-to-Skin Care and Rooming-In**

Skin-to-skin care (SSC) is defined as the practice of placing infants in direct contact with their mothers or other caregivers with the ventral skin of the infant facing and touching the ventral skin of the mother/

#### abstract

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To cite: Feldman-Winter L, Goldsmith JP, AAP COMMITTEE ON FETUS AND NEWBORN, AAP TASK FORCE ON SUDDEN INFANT DEATH SYNDROME. Safe Sleep and Skin-to-Skin Care in the Neonatal Period for Healthy Term Newborns. *Pediatrics*. 2016;138(3):e20161889 caregiver (chest-to-chest). The infant is typically naked or dressed only in a diaper to maximize the surface-tosurface contact between mother/ caregiver and the infant, and the dyad is covered with prewarmed blankets, leaving the infant's head exposed. SSC is recommended for all mothers and newborns, regardless of feeding or delivery method, immediately after birth (as soon as the mother is medically stable, awake, and able to respond to her newborn) and to continue for at least 1 hour, as defined by the World Health Organization's (WHO's) "Ten Steps to Successful Breastfeeding."1,2 SSC is also a term used to describe continued holding of the infant in the manner described above and beyond the immediate delivery period and lasting throughout infancy, whenever the mother/ caregiver and infant have the opportunity. For mothers planning to breastfeed, SSC immediately after delivery and continued throughout the postpartum period also involves encouraging mothers to recognize when their infants are ready to breastfeed and providing help if needed.<sup>2</sup> Additional recommendations by the WHO, as part of the Baby-Friendly Hospital Initiative and endorsed by the American Academy of Pediatrics (AAP) in 2009, include the following specifications for the period of time immediately after delivery: routine procedures such as assessments and Apgar scores are conducted while SSC is underway, and procedures that may be painful or require separation should be delayed until after the first hour; if breastfeeding, these procedures should occur after the first breastfeeding is completed.<sup>3</sup> The AAP further delineates that the administration of vitamin K and ophthalmic prophylaxis can be delayed for at least 1 hour and up to 4 hours after delivery. The **Baby-Friendly Hospital Initiative** encourages continued SSC

throughout the hospital stay while rooming-in.<sup>4</sup>

Unless there is a medical reason for separation, such as resuscitation, SSC may be provided for all newborns. In the case of cesarean deliveries, SSC may also be provided when the mother is awake and able to respond to her infant. In some settings, SSC may be initiated in the operating room following cesarean deliveries, while in other settings SSC may begin in the recovery room. SSC for healthy newborns shall be distinguished from "kangaroo care" in this clinical report, because the latter applies to preterm newborns or infants cared for in the NICU.<sup>5</sup> This report is intended for mothers and infants who are well, are being cared for in the routine postpartum or motherinfant setting, and have not required resuscitation. Although sick or preterm newborns may benefit from SSC, this review is intended only for healthy term newborns. Late preterm infants (defined as a gestational age of 34-37 weeks) may also benefit from early SSC but are at increased risk of a number of early neonatal morbidities.6

Rooming-in is defined as allowing mothers and infants to remain together 24 hours per day while in the delivery hospital. This procedure is recommended for all mothers and their healthy newborns, regardless of feeding or delivery method, and in some cases applies to older late preterm (>35 weeks' gestation) or early term (37-39 weeks' gestation) newborns who are otherwise healthy and receiving routine care, who represent up to 70% of this population.<sup>7</sup> Mothers are expected to be more involved with routine care, such as feeding, holding, and bathing. Newborns may remain with their mothers unless there is a medical reason for separation for either the mother or the infant. Procedures that can be performed at the bedside can be performed while the infant is preferably being held skin-to-skin or

at least in the room with the mother. Being held skin-to-skin by the mother has been shown to decrease pain in newborns undergoing painful procedures such as blood draws.<sup>8,9</sup> Mothers may nap, shower, or leave the room with the expectation that the mother-infant staff members monitor the newborn at routine intervals. Mothers are encouraged to use call bells for assistance with their own care or that of their newborns.

#### **Evidence for SSC and Rooming-In**

SSC has been researched extensively as a method to provide improved physiologic stability for newborns and potential benefits for mothers. SSC immediately after birth stabilizes the newborn body temperature and can help prevent hypothermia.10,11 SSC also helps stabilize blood glucose concentrations, decreases crying, and provides cardiorespiratory stability, especially in late preterm newborns.<sup>12</sup> SSC has been shown in numerous studies as a method to decrease pain in newborns being held by mothers<sup>13-16</sup> and fathers.<sup>17</sup> In preterm infants, SSC has been shown to result in improved autonomic and neurobehavioral maturation and gastrointestinal adaptation, more restful sleep patterns, less crying, and better growth.<sup>18–21</sup> Although not specifically studied in full-term infants, it is likely that these infants also benefit in similar ways.

SSC also benefits mothers. Immediately after birth, SSC decreases maternal stress and improves paternal perception of stress in their relationship.<sup>22</sup> A recent study suggested that SSC and breastfeeding within 30 minutes of birth reduce postpartum hemorrhage.23 Experimental models indicate that mother-infant separation causes significant stress, and the consequences of this stress on the hypothalamicpituitary-adrenal axis persist.<sup>24</sup> In a randomized trial examining the relationship between SSC and

maternal depression and stress, both depression scores and salivary cortisol concentrations were lower over the first month among postpartum mothers providing SSC compared with mothers who were provided no guidance about SSC.22 For breastfeeding mother-infant dyads, SSC enhances the opportunity for an early first breastfeeding, which, in turn, leads to more readiness to breastfeed, an organized breastfeeding suckling pattern, and more success in exclusive and overall breastfeeding, 12, 25, 26 even after cesarean deliveries.27 Further evidence shows a benefit for mothers after cesarean deliveries who practice SSC as soon as the mother is alert and responsive in increased breastfeeding initiation, decreased time to the first breastfeeding, reduced formula supplementation, and increased bonding and maternal satisfaction.28 Increasing rates of breastfeeding ultimately have short- and long-term health benefits, such as decreased risk of infections, obesity, cancer, and sudden infant death syndrome.3

The evidence for rooming-in also extends beyond infant feeding practices and is consistent with contemporary models of familycentered care.<sup>29</sup> Rooming-in and the maternity care practices aligned with keeping mothers and newborns together in a hospital setting were defined as best practice but not fully implemented in the post-World War II era, largely because of nursing culture and the presumption that newborns were safer in a sterile nursery environment.30 Rooming-in leads to improved patient satisfaction.<sup>31,32</sup> Integrated mother-infant care leads to optimal outcomes for healthy mothers and infants, including those with neonatal abstinence syndrome.33 Rooming-in also provides more security, may avoid newborn abductions or switches, leads to decreased infant abandonment,34 and provides more

opportunity for supervised maternalnewborn interactions.35 Hospital staff members caring for mother-infant dyads have more opportunities to empower mothers to care for their infants than when infant care is conducted without the mother and in a separate nursery. For the breastfeeding mother-infant dyad, rooming-in may help to support cuebased feeding, leading to increased frequency of breastfeeding, especially in the first few days<sup>36</sup>; decreased hyperbilirubinemia; and increased likelihood of continued breastfeeding up to 6 months.37

SSC and rooming-in are 2 of the important steps in the WHO's "Ten Steps to Successful Breastfeeding" and serve as the basic tenets for a baby-friendly-designated delivery hospital.<sup>1,38,39</sup> The Ten Steps include practices that also improve patient safety and outcomes by supporting a more physiologic transition immediately after delivery; maintaining close contact between the mother and her newborn, which decreases the risk of infection and sepsis; increasing the opportunity for the development of a protective immunologic environment; decreasing stress responses by the mother and her infant; and enhancing sleep patterns in the mother.<sup>40-42</sup>

#### SAFETY CONCERNS REGARDING IMMEDIATE SSC

Rarely are there contraindications to providing SSC; however, there are potential safety concerns to address. A newborn requiring positive-pressure resuscitation should be continuously monitored, and SSC should be postponed until the infant is stabilized.<sup>43</sup> Furthermore, certain conditions, such as low Apgar scores (less than 7 at 5 minutes) or medical complications from birth, may require careful observation and monitoring of the newborn during SSC and in some cases may prevent SSC.<sup>11</sup> Other

safety concerns are attributable to the lack of standardization in the approach, discontinuous observation of the mother-infant dyad (with lapses exceeding 10 to 15 minutes during the first few hours of life), lack of education and skills among staff supporting the dyad during transition while skin-to-skin, and unfamiliarity with the potential risks of unsafe positioning and methods of assessment that may avert problems.44 The main concerns regarding immediate postnatal SSC include sudden unexpected postnatal collapse (SUPC), which includes any condition resulting in temporary or permanent cessation of breathing or cardiorespiratory failure.45-48 Many, but not all, of these events are related to suffocation or entrapment. In addition, falls may occur during SSC, particularly if unobserved, and other situations or conditions may occur that prevent SSC from continuing safely.44,49

SUPC is a rare but potentially fatal event in otherwise healthy-appearing term newborns. The definition of SUPC varies slightly depending on the author and population studied. One definition offered by the British Association of Perinatal Medicine<sup>50</sup> includes any term or near-term (defined as >35 weeks' gestation in this review) infant who meets the following criteria: (1) is well at birth (normal 5-minute Apgar and deemed well enough for routine care), (2) collapses unexpectedly in a state of cardiorespiratory extremis such that resuscitation with intermittent positive-pressure ventilation is required, (3) collapses within the first 7 days of life, and (4) either dies, goes on to require intensive care, or develops encephalopathy. Other potential medical conditions should be excluded (eg, sepsis, cardiac disease) for SUPC to be diagnosed. The incidence of SUPC in the first hours to days of life varies widely because of different definitions, inclusion and exclusion criteria of

newborns being described, and lack of standardized reporting and may be higher in certain settings. The incidence is estimated to be 2.6 to 133 cases per 100 000 newborns. In 1 case series, the authors described one-third of SUPC events occurring in the first 2 hours of life, one-third occurring between 2 and 24 hours of life, and the final third occurring between 1 and 7 days of life.51 Other authors suggested that 73% of SUPC events occur in the first 2 hours of life.<sup>52</sup> In the case series by Pejovic and Herlenius,<sup>51</sup> 15 of the 26 cases of SUPC were found to have occurred during SSC in a prone position. Eighteen were in primiparous mothers, 13 occurred during unsupervised breastfeeding at <2 hours of age, and 3 occurred during smart cellular phone use by the mother. Five developed grade 2 hypoxic-ischemic encephalopathy (moderate encephalopathy), with 4 requiring hypothermia treatment. Twenty-five of the 26 cases had favorable neurologic outcomes in 1 series; however, in another review, mortality was as high as 50%, and among survivors, 50% had neurologic sequelae.53 Experimental models suggest that autoresuscitation of breathing after hypoxic challenge takes longer with lower postnatal age and decreased core body temperature.54

SUPC, in some definitions, includes acute life-threatening episodes; however, the latter is presumed to be more benign. An apparent lifethreatening episode, or what may be referred to as a brief resolved unexplained event, may be low risk and require simple interventions such as positional changes, brief stimulation, or procedures to resolve airway obstruction.<sup>46,53</sup>

Falls are another concern in the immediate postnatal period. Mothers who are awake and able to respond to their newborn infant immediately after birth may become suddenly and unexpectedly sleepy, ill, or unable to continue holding their infant. Fathers or other support people providing SSC may also suddenly become unable to continue to safely hold the newborn because of lightheadedness, fatigue, incoordination, or other factors. If a hospital staff member is not immediately available to take over, unsafe situations may occur, and newborns may fall to the floor or may be positioned in a manner that obstructs their airway.

#### SUGGESTIONS TO IMPROVE SAFETY IMMEDIATELY AFTER DELIVERY

Several authors have suggested mechanisms for standardizing the procedure of immediate postnatal SSC to prevent sentinel events; however, none of the checklists or procedures developed have been proven to reduce the risk. Frequent and repetitive assessments, including observation of newborn breathing, activity, color, tone, and position, may avert positions that obstruct breathing or events leading to sudden collapse.41 In addition, continuous monitoring by trained staff members and the use of checklists may improve safety.35 Some have suggested continuous pulse oximetry; however, there is no evidence that this practice would improve safety, and it may be impractical. Given the occurrence of events in the first few hours of life, it is prudent to consider staffing the delivery unit to permit continuous staff observation with frequent recording of neonatal vital signs. A procedure manual that is implemented in a standardized fashion and practiced with simulation drills may include sequential steps identified in Box 1.55

#### BOX 1: PROCEDURE FOR IMMEDIATE SKIN-TO-SKIN CARE

- 1. Delivery of newborn
- Dry and stimulate for first breath/cry, and assess newborn

- If the newborn is stable, place skin to skin with cord attached (with option to milk cord), clamp cord after 1 minute or after placenta delivered, and reassess newborn to permit physiological circulatory transition<sup>56</sup>
- 4. Continue to dry entire newborn except hands to allow the infant to suckle hands bathed in amniotic fluid (which smells and tastes similar to colostrum), which facilitates rooting and first breastfeeding<sup>57</sup>
- Cover head with cap (optional) and place prewarmed blankets to cover body of newborn on mother's chest, leaving face exposed<sup>58</sup>
- 6. Assess Apgar scores at 1 and 5 minutes
- 7. Replace wet blankets and cap with dry warm blankets and cap
- 8. Assist and support to breastfeed

Risk stratification and associated monitoring and care may avert SUPC, falls, and suffocation.<sup>59</sup> Highrisk situations may include infants who required resuscitation (ie, any positive-pressure ventilation), those with low Apgar scores, late preterm and early term (37-39 weeks' gestation) infants, difficult delivery, mother receiving codeine<sup>60</sup> or other medications that may affect the newborn (eg, general anesthesia or magnesium sulfate), sedated mother, and excessively sleepy mothers and/or newborns. Mothers may be assessed to determine their level of fatigue and sleep deprivation.<sup>61</sup> In situations such as those described, increased staff vigilance with continuous monitoring, as described previously, is important to assist with SSC throughout the immediate postpartum period.62 Additional suggestions to improve safety include enhancements to the environment, such as stabilizing the ambient temperature,<sup>63</sup> use

of appropriate lighting so that the infant's color and condition can be easily assessed, and facilitating an unobstructed view of the newborn (Box 2). Additional support persons, such as doulas and family members, may augment but not replace staff monitoring. Furthermore, staff education, appropriate staffing, and awareness of genetic risks may limit sentinel events such as SUPC. These suggestions, however, have not yet been tested in prospective studies to determine efficacy.

#### BOX 2. COMPONENTS OF SAFE POSITIONING FOR THE NEWBORN WHILE SKIN-TO-SKIN<sup>62</sup>:

- 1. Infant's face can be seen
- Infant's head is in "sniffing" position
- 3. Infant's nose and mouth are not covered
- 4. Infant's head is turned to one side
- 5. Infant's neck is straight, not bent
- 6. Infant's shoulders and chest face mother
- 7. Infant's legs are flexed
- 8. Infant's back is covered with blankets
- Mother-infant dyad is monitored continuously by staff in the delivery environment and regularly on the postpartum unit
- When mother wants to sleep, infant is placed in bassinet or with another support person who is awake and alert

SSC may be continued while moving a mother from a delivery surface (either in a delivery room or operating room) to the postpartum maternal bed. Transitions of mother-infant dyads throughout this period, and from delivery settings to postpartum settings,



FIGURE 1 Side-car bassinet for in-hospital use. Photo courtesy of Kristin Tully, PhD.

facilitate continued bonding, thermoregulation, and increased opportunities for breastfeeding. These transitions may be accomplished safely with skilled staff members by using a standardized procedure.<sup>64</sup> A newborn who is not properly secured may pose a risk for falls or unsafe positioning, leading to suffocation.

#### SAFETY CONCERNS REGARDING ROOMING-IN

Despite all of the advantages of rooming-in, there are specific conditions that pose risks for the newborn. Many of the same concerns that occur during SSC in the immediate postnatal period continue to be of concern while rooming-in, especially if the mother and infant are sleeping together in the mother's bed on the postpartum unit.65 In addition, breastfeeding mothers may fall asleep unintentionally while breastfeeding in bed, which can result in suffocation.<sup>66</sup> Infant falls may be more common in the postpartum setting because of less frequent

monitoring and increased time that a potentially fatigued mother is alone with her newborn(s).67 The Oregon Patient Safety Review evaluated 7 hospitals that were part of 1 larger health system and identified 9 cases of newborn falls (from 22866 births), for a rate of 3.94 falls per 10 000 births over a 2-year period from 2006 to 2007, which is higher than previous reports of 1.6 per 100 000.<sup>68–70</sup> It is not clear whether this higher incidence was attributable to an actual increase or better reporting. For hospitals transitioning to mother-infant dyad care (1 nurse providing care for both mother and infant) or separate mothernewborn care while rooming-in, it is important to communicate to staff that the same level of attention and care is necessary to provide optimal safety. Mothers will be naturally exhausted and potentially sleep-deprived or may sleep in short bursts.<sup>61</sup> They may also be unable to adjust their position or ambulate safely while carrying a newborn. The postpartum period provides unique challenges regarding falls/drops and is understudied compared with

falls in the neurologically impaired or elderly patient. Checklists and scoring tools may be appropriate and have the potential to decrease these adverse events, particularly if geared to the unique needs of the postpartum period, such as shortterm disability from numbness or pain, sleepiness or lethargy related to pregnancy and delivery, and effects from medication.<sup>71</sup>

Even though mothers and family members may be educated about the avoidance of bed-sharing, falling asleep while breastfeeding or holding the newborn during SSC is common. Staff can educate support persons and/or be immediately available to safely place newborns on a close but separate sleep surface when mothers fall asleep. Mothers may be reassured that they or their support persons can safely provide SSC and that staff will be available to assist with the transition to a safe sleep surface as needed. Mothers who have had cesarean deliveries are particularly at risk because of limited mobility and effects of anesthesia and warrant closer monitoring.72

Several studies examining safety while rooming-in have been conducted. Sixty-four mother-infant dyads were studied in the United Kingdom and randomly assigned to have newborns sleep in a standalone bassinet, a side-car bassinet (Fig 1), or the mother's bed to determine perception of safety (by video monitoring) and breastfeeding outcomes.73 Breastfeeding was more frequent among those sharing a bed and using a side-car than a separate bassinet, but there were more hazards associated with bedsharing than using a side-car or bassinet. Although there were no adverse events in this study, the authors concluded that the side-car provided the best opportunities for breastfeeding with the safest conditions. In a similar study

examining dyads after cesarean delivery, more hazards were associated with stand-alone bassinets than side-car bassinets. However, side-car technology for hospital beds is not yet well established in the United States, and safety data are not yet available. Given the level of disability in mothers who have had a cesarean delivery, sidecar technology holds promise for improvement in the safety of the rooming-in environment.<sup>74</sup>

#### SUGGESTIONS TO IMPROVE SAFETY WHILE ROOMING-IN

Healthy mother-infant dyads are safest when kept together and cared for as a unit in a motherinfant setting. Staffing ratios are determined to meet the needs of both the mother and her newborn(s) and to ensure the best possible outcomes. The Association of Women's Health, Obstetric and Neonatal Nurses' recommendations are to have no more than 3 dyads assigned to 1 nurse to avoid situations in which nursing staff are not immediately available and able to regularly monitor the mother-infant dyads throughout the postpartum period.75 These ratios may permit routine monitoring, rapid response to call bells, and adequate time for teaching; however, nursing staff extenders, such as health educators and nursing assistants, may augment care. Mothers and families who are informed of the risks of bed-sharing and guided to place newborns on separate sleep surfaces for sleep are more likely to follow these recommendations while in the hospital and after going home. Family members and staff can be available to assist mothers with transitioning the newborn to a safe sleep location, and regular staff supervision facilitates the recognition of sleepy family members and safer placement of the newborns in bassinets or side-cars.

#### SUGGESTIONS FOR ROOMING-IN

- Use a patient safety contract with a particular focus on high-risk situations (see parent handout Newborn Safety Information for Parents<sup>68</sup> and sample contract<sup>71</sup>).
- Monitor mothers according to their risk assessment: for example, observing every 30 minutes during nighttime and early morning hours for higher-risk dyads.<sup>69</sup>
- 3. Use fall risk assessment tools.76
- 4. Implement maternal egress testing (a modification of a tool originally designed to transfer obese patients from bed to stand, chair, or ambulation by using repetition to verify stability), especially if the mother is using medications that may affect stability in ambulating.<sup>69</sup>
- 5. Review mother-infant equipment to ensure proper function and demonstrate the appropriate use of equipment, such as bed rails and call bells, with mothers and families.
- 6. Publicize information about how to prevent newborn falls throughout the hospital system.
- Use risk assessment tools to avoid hazards of SSC and rooming-in practices.<sup>77</sup>

#### TRANSITIONING TO HOME AND SAFE SLEEP BEYOND DISCHARGE

Information provided to parents at the time of hospital discharge should include anticipatory guidance about breastfeeding and sleep safety.<sup>3,78,79</sup> Pediatricians, hospitals, and other clinical staff should abide by AAP recommendations/guidance on breastfeeding and safe sleep, pacifier introduction, maternal smoking, use of alcohol, sleep positioning, bed-sharing, and appropriate sleep surfaces, especially when practicing SSC.<sup>79</sup> In addition, the AAP recommends the avoidance of practices that increase the risk of sudden and unexpected infant death, such as smoking, the use of alcohol, placing the infant in a nonsupine position for sleep, nonexclusive breastfeeding, and placing the infant to sleep (with or without another person) on sofas or chairs.79,80 To facilitate continued exclusive breastfeeding, the coordination of postdischarge support is recommended to enable the best opportunity to meet breastfeeding goals. Mothers may be referred to peer support groups and trained lactation specialists if breastfeeding problems occur. Community support is optimized by coordination with the medical home.<sup>81</sup>

#### CONCLUSIONS

Pediatricians and other providers have important roles in the implementation of safe SSC and rooming-in practices. Safe implementation with the use of a standardized approach may prevent adverse events such as SUPC and falls.

The following suggestions support safe implementation of these practices:

- Develop standardized methods and procedures of providing immediate and continued SSC with attention to continuous monitoring and assessment.
- 2. Standardize the sequence of events immediately after delivery to promote safe transition, thermoregulation, uninterrupted SSC, and direct observation of the first breastfeeding session.
- 3. Document maternal and newborn assessments and any changes in conditions.
- 4. Provide direct observation of the mother-infant dyad while in the delivery room setting.
- Position the newborn in a manner that provides an unobstructed airway.

- 6. Conduct frequent assessments and monitoring of the motherinfant dyad during postpartum rooming-in settings, with particular attention to high-risk situations such as nighttime and early morning hours.
- 7. Assess the level of maternal fatigue periodically. If the mother is tired or sleepy, move the infant to a separate sleep surface (eg, side-car or bassinet) next to the mother's bed.
- 8. Avoid bed-sharing in the immediate postpartum period by assisting mothers to use a separate sleep surface for the infant.
- 9. Promote supine sleep for all infants. SSC may involve the prone or side position of the newborn, especially if the dyad is recumbent; therefore, it is imperative that the mother/ caregiver who is providing SSC be awake and alert.
- 10. Train all health care personnel in standardized methods of providing immediate SSC after delivery, transitioning the mother-infant dyad, and monitoring the dyad during SSC and rooming-in throughout the delivery hospital period.

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#### **ABBREVIATIONS**

AAP: American Academy of Pediatrics
SIDS: sudden infant death syndrome
SSC: skin-to-skin care
SUPC: sudden unexpected postnatal collapse
WHO: World Health Organization

#### REFERENCES

- World Health Organization. Evidence for the ten steps to successful breastfeeding. Geneva, Switzerland: World Health Organization; 1998. Available at: www.who.int/nutrition/ publications/evidence\_ten\_step\_eng. pdf. Accessed May 5, 2016
- World Health Organization; UNICEF. Baby-Friendly Hospital Initiative: revised, updated, and expanded for integrated care. 2009. Available at: http://apps.who.int/iris/bitstream/ 10665/43593/1/9789241594967\_eng. pdf. Accessed May 5, 2016
- Eidelman Al, Schanler RJ; Section on Breastfeeding. Breastfeeding and the use of human milk. *Pediatrics*.

2012;129(3). Available at: www. pediatrics.org/cgi/content/full/129/3/ e827

- Baby-Friendly USA. Guidelines and evaluation criteria for facilities seeking Baby-Friendly designation. 2012. Available at: https://www. babyfriendlyusa.org/get-started/ the-guidelines-evaluation-criteria. Accessed May 5, 2016
- World Health Organization. Kangaroo mother care: a practical guide. 2003. Available at: http://apps.who.int/iris/ bitstream/10665/42587/1/9241590351. pdf. Accessed May 5, 2016
- Baley J, ; Committee on Fetus and Newborn. Skin-to-skin care for term and preterm infants in the neonatal ICU. *Pediatrics*. 2015;136(3):596–599
- Horgan MJ. Management of the late preterm infant: not quite ready for prime time. *Pediatr Clin North Am.* 2015;62(2):439–451
- Codipietro L, Ceccarelli M, Ponzone A. Breastfeeding or oral sucrose solution in term neonates receiving heel lance: a randomized, controlled trial. *Pediatrics*. 2008;122(3). Available at: www.pediatrics.org/cgi/content/full/ 122/3/e716
- Gray L, Miller LW, Philipp BL, Blass EM. Breastfeeding is analgesic in healthy newborns. *Pediatrics*. 2002;109(4):590–593
- Nimbalkar SM, Patel VK, Patel DV, Nimbalkar AS, Sethi A, Phatak A. Effect of early skin-to-skin contact following normal delivery on incidence of hypothermia in neonates more than 1800 g: randomized control trial. J Perinatol. 2014;34(5):364–368
- Moore ER, Anderson GC. Randomized controlled trial of very early motherinfant skin-to-skin contact and breastfeeding status. J Midwifery Womens Health. 2007;52(2):116–125
- Moore ER, Anderson GC, Bergman N, Dowswell T. Early skin-to-skin contact for mothers and their healthy newborn infants. *Cochrane Database Syst Rev.* 2012;5:CD003519
- Johnston C, Campbell-Yeo M, Fernandes A, Inglis D, Streiner D, Zee R. Skin-to-skin care for procedural pain in neonates. *Cochrane Database Syst Rev.* 2014;1:CD008435

- Kostandy R, Anderson GC, Good M. Skin-to-skin contact diminishes pain from hepatitis B vaccine injection in healthy full-term neonates. *Neonatal Netw.* 2013;32(4):274–280
- Okan F, Ozdil A, Bulbul A, Yapici Z, Nuhoglu A. Analgesic effects of skinto-skin contact and breastfeeding in procedural pain in healthy term neonates. *Ann Trop Paediatr.* 2010;30(2):119–128
- Castral TC, Warnock F, Leite AM, Haas VJ, Scochi CG. The effects of skinto-skin contact during acute pain in preterm newborns. *Eur J Pain*. 2008;12(4):464–471
- Erlandsson K, Dsilna A, Fagerberg I, Christensson K. Skin-to-skin care with the father after cesarean birth and its effect on newborn crying and prefeeding behavior. *Birth.* 2007;34(2):105–114
- Feldman R, Eidelman AI, Sirota L, Weller A. Comparison of skin-to-skin (kangaroo) and traditional care: parenting outcomes and preterm infant development. *Pediatrics*. 2002;110(1 pt 1):16–26
- Feldman R, Weller A, Sirota L, Eidelman Al. Skin-to-skin contact (Kangaroo care) promotes self-regulation in premature infants: sleep-wake cyclicity, arousal modulation, and sustained exploration. *Dev Psychol.* 2002;38(2):194–207
- Feldman R, Eidelman Al. Skin-to-skin contact (kangaroo care) accelerates autonomic and neurobehavioural maturation in preterm infants. *Dev Med Child Neurol.* 2003;45(4):274–281
- Chwo M-J, Anderson GC, Good M, Dowling DA, Shiau S-HH, Chu D-M. A randomized controlled trial of early kangaroo care for preterm infants: effects on temperature, weight, behavior, and acuity. *J Nurs Res.* 2002;10(2):129–142
- 22. Mörelius E, Örtenstrand A, Theodorsson E, Frostell A. A randomised trial of continuous skin-to-skin contact after preterm birth and the effects on salivary cortisol, parental stress, depression, and breastfeeding. *Early Hum Dev.* 2015;91(1):63–70
- 23. Saxton A, Fahy K, Rolfe M, Skinner V, Hastie C. Does skin-to-skin contact and

breast feeding at birth affect the rate of primary postpartum haemorrhage: results of a cohort study. *Midwifery*. 2015;31(11):1110–1117

- 24. Vetulani J. Early maternal separation: a rodent model of depression and a prevailing human condition. *Pharmacol Rep.* 2013;65(6):1451–1461
- Dani C, Cecchi A, Commare A, Rapisardi G, Breschi R, Pratesi S. Behavior of the newborn during skin-to-skin. *J Hum Lact.* 2015;31(3):452–457
- Dumas L, Lepage M, Bystrova K, Matthiesen A-S, Welles-Nyström B, Widström A-M. Influence of skinto-skin contact and rooming-in on early mother-infant interaction: a randomized controlled trial. *Clin Nurs Res.* 2013;22(3):310–336
- Beiranvand S, Valizadeh F, Hosseinabadi R, Pournia Y. The effects of skin-to-skin contact on temperature and breastfeeding successfulness in full-term newborns after cesarean delivery. *Int J Pediatr.* 2014;2014:846486
- Stevens J, Schmied V, Burns E, Dahlen H. Immediate or early skin-to-skin contact after a Caesarean section: a review of the literature. *Matern Child Nutr.* 2014;10(4):456–473
- 29. Phillips CR. *Family-Centered Maternity Care*. Sudbury, MA: Jones & Bartlett Learning; 2003
- Silberman SL. Pioneering in familycentered maternity and infant care: Edith B. Jackson and the Yale rooming-in research project. *Bull Hist Med.* 1990;64(2):262–287
- Mullen K, Conrad L, Hoadley G, lannone D. Family-centered maternity care: one hospital's quest for excellence. *Nurs Womens Health*. 2007;11(3):282–290
- Martell LK. Postpartum women's perceptions of the hospital environment. J Obstet Gynecol Neonatal Nurs. 2003;32(4):478–485
- Ordean A, Kahan M, Graves L, Abrahams R, Kim T. Obstetrical and neonatal outcomes of methadonemaintained pregnant women: a Canadian multisite cohort study. *J Obstet Gynaecol Can.* 2015;37(3):252–257
- Lvoff NM, Lvoff V, Klaus MH. Effect of the baby-friendly initiative on

infant abandonment in a Russian hospital. *Arch Pediatr Adolesc Med.* 2000;154(5):474–477

- O'Connor S, Vietze PM, Sherrod KB, Sandler HM, Altemeier WA III. Reduced incidence of parenting inadequacy following rooming-in. *Pediatrics*. 1980;66(2):176–182
- Jaafar SH, Lee KS, Ho JJ. Separate care for new mother and infant versus rooming-in for increasing the duration of breastfeeding. *Cochrane Database Syst Rev.* 2012;9:CD006641
- Chiou ST, Chen LC, Yeh H, Wu SR, Chien LY. Early skin-to-skin contact, rooming-in, and breastfeeding: a comparison of the 2004 and 2011 National Surveys in Taiwan. *Birth*. 2014;41(1):33–38
- Merewood A, Patel B, Newton KN, et al Breastfeeding duration rates and factors affecting continued breastfeeding among infants born at an inner-city US Baby-Friendly hospital. J Hum Lact. 2007;23(2):157–164
- Aghdas K, Talat K, Sepideh B. Effect of immediate and continuous mother-infant skin-to-skin contact on breastfeeding self-efficacy of primiparous women: a randomised control trial. *Women Birth*. 2014;27(1):37–40
- Montgomery-Downs HE, Clawges HM, Santy EE. Infant feeding methods and maternal sleep and daytime functioning. *Pediatrics*. 2010;126(6). Available at: www.pediatrics.org/cgi/ content/full/126/6/e1562
- 41. Takahashi Y, Tamakoshi K, Matsushima M, Kawabe T. Comparison of salivary cortisol, heart rate, and oxygen saturation between early skin-toskin contact with different initiation and duration times in healthy, full-term infants. *Early Hum Dev.* 2011;87 (3):151–157
- Daschner FD. Nosocomial infections in maternity wards and newborn nurseries: rooming-in or not? *J Hosp Infect*. 1986;7 (1):1–3
- Swanson JR, Sinkin RA. Transition from fetus to newborn. *Pediatr Clin North Am*. 2015;62(2):329–343
- 44. Davanzo R, De Cunto A, Paviotti G, et al. Making the first days of life safer: preventing sudden

unexpected postnatal collapse while promoting breastfeeding. *J Hum Lact.* 2015;31(1):47–52

- Poets A, Steinfeldt R, Poets CF. Sudden deaths and severe apparent lifethreatening events in term infants within 24 hours of birth. *Pediatrics*. 2011;127(4). Available at: www. pediatrics.org/cgi/content/full/127/4/ e869
- 46. Andres V, Garcia P, Rimet Y, Nicaise C, Simeoni U. Apparent life-threatening events in presumably healthy newborns during early skin-to-skin contact. *Pediatrics*. 2011;127(4). Available at: www.pediatrics.org/cgi/ content/full/127/4/e1073
- Dageville C, Pignol J, De Smet S. Very early neonatal apparent lifethreatening events and sudden unexpected deaths: incidence and risk factors. *Acta Paediatr*. 2008;97(7):866–869
- Leow JY, Platt MP. Sudden, unexpected and unexplained early neonatal deaths in the North of England. *Arch Dis Child Fetal Neonatal Ed.* 2011;96(6):F440–F442
- Goldsmith JP. Hospitals should balance skin-to-skin contact with safe sleep policies. AAP News. 2013;34(11):22
- Nassi N, Piumelli R, Nardini V, et al. Sudden unexpected perinatal collapse and sudden unexpected early neonatal death. *Early Hum Dev.* 2013;89(suppl 4):S25–S26
- Pejovic NJ, Herlenius E. Unexpected collapse of healthy newborn infants: risk factors, supervision and hypothermia treatment. *Acta Paediatr*. 2013;102(7):680–688
- 52. Becher JC, Bhushan SS, Lyon AJ. Unexpected collapse in apparently healthy newborns—a prospective national study of a missing cohort of neonatal deaths and near-death events. Arch Dis Child Fetal Neonatal Ed. 2012;97(1):F30–F34
- Herlenius E, Kuhn P. Sudden unexpected postnatal collapse of newborn infants: a review of cases, definitions, risks, and preventive measures. *Transl Stroke Res.* 2013;4(2):236–247
- Fewell JE. Protective responses of the newborn to hypoxia. *Respir Physiol Neurobiol.* 2005;149(1–3):243–255

- 55. Schoch DE, Lawhon G, Wicker LA, Yecco G. An interdisciplinary multidepartmental educational program toward baby friendly hospital designation. *Adv Neonatal Care*. 2014;14(1):38–43
- 56. Niermeyer S, Velaphi S. Promoting physiologic transition at birth: re-examining resuscitation and the timing of cord clamping. *Semin Fetal Neonatal Med*.2013;18(6):385–392
- 57. Widström AM, Lilja G, Aaltomaa-Michalias P, Dahllöf A, Lintula M, Nissen E. Newborn behaviour to locate the breast when skin-to-skin: a possible method for enabling early self-regulation. *Acta Paediatr*. 2011;100(1):79–85
- Christensson K, Siles C, Moreno L, et al. Temperature, metabolic adaptation and crying in healthy full-term newborns cared for skin-to-skin or in a cot. Acta Paediatr. 1992;81(6–7):488–493
- Abike F, Tiras S, Dunder I, Bahtiyar A, Akturk Uzun O, Demircan O. A new scale for evaluating the risks for in-hospital falls of newborn infants: a failure modes and effects analysis study. Int J Pediatr. 2010;2010:547528
- Madadi P, Ross CJ, Hayden MR, et al. Pharmacogenetics of neonatal opioid toxicity following maternal use of codeine during breastfeeding: a casecontrol study. *Clin Pharmacol Ther*. 2009;85(1):31–35
- 61. Rychnovsky J, Hunter LP. The relationship between sleep characteristics and fatigue in healthy postpartum women. *Womens Health Issues.* 2009;19(1):38–44
- Ludington-Hoe Sm MK, Morgan K. Infant assessment and reduction of sudden unexpected postnatal collapse risk during skin-to-skin contact. *Newborn Infant Nurs Rev.* 2014;14(1):28–33
- Delavar M, Akbarianrad Z, Mansouri M, Yahyapour M. Neonatal hypothermia and associated risk factors at baby friendly hospital in Babol, Iran. Ann Med Health Sci Res. 2014;4(8, suppl 2):S99–S103
- Elliott-Carter N, Harper J. Keeping mothers and newborns together after cesarean: how one hospital made the change. *Nurs Womens Health*. 2012;16(4):290–295

- Thach BT. Deaths and near deaths of healthy newborn infants while bed sharing on maternity wards. *J Perinatol.* 2014;34(4):275–279
- Feldman K, Whyte RK. Two cases of apparent suffocation of newborns during side-lying breastfeeding. *Nurs Womens Health.* 2013;17(4):337–341
- 67. Wallace SC; Pennsylvania Patient Safety Authority. Balancing family bonding with newborn safety. *Pennsylvania Patient Safety Advisory*. 2014;11(3). Available at: http://patientsafetyauth ority.org/ADVISORIES/AdvisoryLibrary/ 2014/Sep;11(3)/Pages/102.aspx
- Helsley L, McDonald JV, Stewart VT. Addressing in-hospital "falls" of newborn infants. *Jt Comm J Qual Patient Saf.* 2010;36(7):327–333
- Gaffey AD. Fall prevention in our healthiest patients: assessing risk and preventing injury for moms and babies. *J Healthc Risk Manag.* 2015;34(3):37–40
- Monson SA, Henry E, Lambert DK, Schmutz N, Christensen RD. In-hospital falls of newborn infants: data from a multihospital health care system. *Pediatrics*. 2008;122(2). Available at: www.pediatrics.org/cgi/content/full/ 122/2/e277
- 71. Lockwood S, Anderson K. Postpartum safety: a patient-centered approach to

fall prevention. *MCN Am J Matern Child Nurs.* 2013;38(1):15–18, quiz 19–20

- Mahlmeister LR. Couplet care after cesarean delivery: creating a safe environment for mother and baby. *J Perinat Neonatal Nurs*. 2005;19(3):212–214
- Ball HL, Ward-Platt MP, Heslop E, Leech SJ, Brown KA. Randomised trial of infant sleep location on the postnatal ward. *Arch Dis Child*. 2006;91(12):1005–1010
- Tully KP, Ball HL. Postnatal unit bassinet types when rooming-in after cesarean birth: implications for breastfeeding and infant safety. *J Hum Lact.* 2012;28(4):495–505
- Scheich B, Bingham D; AWHONN Perinatal Staffing Data Collaborative. Key findings from the AWHONN perinatal staffing data collaborative. *J Obstet Gynecol Neonatal Nurs.* 2015;44(2):317–328
- Heafner L, Suda D, Casalenuovo N, Leach LS, Erickson V, Gawlinski A. Development of a tool to assess risk for falls in women in hospital obstetric units. *Nurs Womens Health*. 2013;17 (2):98–107
- Slogar A, Gargiulo D, Bodrock J. Tracking 'near misses' to keep newborns safe from falls. Nurs Womens Health. 2013;17(3):219–223

- 78. American Academy of Pediatrics. Education in quality improvement for pediatric practice: safe and healthy beginnings. 2012. Available at: https:// www.aap.org/en-us/professionalresources/quality-improvement/ Quality-Improvement-Innovation-Networks/Pages/Safe-and-Healthy-Beginnings-Improvement-Project.aspx. Accessed May 5, 2016
- Moon RY; Task Force on Sudden Infant Death Syndrome. SIDS and other sleeprelated infant deaths: expansion of recommendations for a safe infant sleeping environment. *Pediatrics*. 2011;128(5). Available at: www.pediatrics. org/cgi/content/full/128/5/e1341
- Hauck FR, Thompson JM, Tanabe KO, Moon RY, Vennemann MM. Breastfeeding and reduced risk of sudden infant death syndrome: a meta-analysis. *Pediatrics*. 2011;128(1):103–110
- 81. Turchi RM, Antonelli RC, Norwood KW, et al; Council on Children with Disabilities and Medical Home Implementation Project Advisory Committee. Patient- and familycentered care coordination: a framework for integrating care for children and youth across multiple systems. *Pediatrics*. 2014;133(5). Available at: www.pediatrics.org/cgi/ content/full/133/5/e1451

## Safe Sleep and Skin-to-Skin Care in the Neonatal Period for Healthy Term Newborns

Lori Feldman-Winter, Jay P. Goldsmith, COMMITTEE ON FETUS AND NEWBORN and TASK FORCE ON SUDDEN INFANT DEATH SYNDROME *Pediatrics*; originally published online August 22, 2016; DOI: 10.1542/peds.2016-1889

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I can't remember if I sent these to you. I highlighted relevant parts of the Time article.

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New York City mother Margaret Nichols nurses her son Bo, at 7 months. She originally planned to breastfeed for two years Elinor Carucci for TIME motherhood

## Motherhood Is Hard to Get Wrong. So Why Do So Many Moms Feel So Bad About Themselves?

Claire Howorth Oct 19, 2017

#### Ideas

Claire Howorth is an assistant managing editor at TIME

Giving birth to her first child at home without medication was a foregone conclusion for Margaret Nichols. Pain would yield to will, and that would be that. Throughout her pregnancy, the 40-year-old New York City meditation teacher pored over the natural-birth canon, books like Ina May Gaskin's *Spiritual Midwifery* and *Bountiful, Beautiful, Blissful* by Gurmukh Kaur Khalsa. She became active in an international Facebook group dedicated to home and water births, stockpiling mindfulness tips to help her override the physical agonies of labor. She rented an inflatable blue birthing tub made of phthalate-free vinyl. Practically all her friends had given birth at home, and they assured her that the 118 gallons of water, warmed to roughly her body temperature, would function as "nature's epidural."

When Nichols went into labor last November, she felt elated, primed and cozy. She was surrounded by a midwife, a doula and her partner Jeff Hubbard. But 30 hours later she was in pain beyond imagination, howling what she later called desperate "animal-kingdom noises" as she hurtled in her midwife's car toward a local hospital. There, she eagerly accepted anesthesia, took a brief nap and gave birth to a healthy son she named Bo.

Back home, Nichols commenced the course of exclusive breastfeeding that is prescribed to pretty much every new mother in America. She had hoped to nurse for two years. But after 5 months she developed lactation issues, which were exacerbated by a previously undiagnosed thyroid problem. She would have to supplement with donor milk and formula. Feeling like she hadn't "succeeded" and that her story wasn't "worthy," she went dark on Facebook.

The beginning of motherhood for Nichols was thus tainted by disappointment. Seven months later, she describes a kind of "mourning" that her biology wouldn't submit to her ideals. "I prepared so much for the birth, but the one thing that's not talked about as much is how much support we need, and how vulnerable we are afterward," she says.

You could argue that Nichols set herself up, that nobody should expect babies or bodies to adhere to best-laid plans. But like millions of other American moms, she had been bombarded by a powerful message: that she is built to build a human, that she will feel all the more empowered for doing so as nature supposedly intended and that the baby's future depends on it. Call it the Goddess Myth, spun with a little help from basically everyone--doctors, activists, other moms. It tells us that breast is best; that if there is a choice between a vaginal birth and major surgery, you should want to push; that your body is a temple and what you put in it should be holy; that sending your baby to the hospital nursery for a few hours after giving birth is a dereliction of duty. Oh, and that you will feel--and look--radiant.

The myth impacts all moms. Because they partly reflect our ideals, hospital and public-health policy are wrapped up with it. But even the best intentions can cause harm. The consequences vary in degree, from pervasive feelings of guilt to the rare and unbearable tragedy of a mother so intent on breastfeeding that she accidentally starves her infant to death.

A survey of 913 mothers commissioned by TIME and conducted by SurveyMonkey Audience found that half of all new mothers had experienced regret, shame, guilt or anger, mostly due to unexpected complications and lack of support. More than 70% felt pressured to do things a certain way. More than half said a natural birth was extremely or very important, yet 43% wound up needing drugs or an epidural, and 22% had unplanned C-sections. Breastfeeding, too, proved a greater challenge than anticipated. Out of the 20% who planned to breastfeed for at least a year, fewer than half actually did. The majority of mothers in the survey, as well as those I talked to in dozens of additional interviews, pointed to "society in general" as the source of the pressure, followed by doctors and other mothers.

Partly to blame are tsk-tsking furies: the barista who challenges your coffee order, the motherin-law who asks why the ketchup isn't organic, the fellow partygoer who wonders, eyebrow cocked, if the drink you are holding is "virgin." "Anytime I pulled out a bottle and powdered formula, I felt eyes staring at me with daggers," says Ashley Sobel, a mom in New York. "Pumping instead of breastfeeding. Child going crazy on a plane. Going back to work immediately," says Janel Molton, who lives in Palo Alto, Calif. "We live in a world where people fling judgments with their fingertips."

This kind of mom-shaming, in which people feel licensed or even morally obligated to single out certain behaviors as wrong, might explain why many mothers I spoke to talked about their introductions to motherhood in the language of failure. A woman who had to be induced for a vaginal birth called her plans "not successful." A mom who had planned to go medication-free but ultimately "gave in" to an epidural said she wished she had "trusted" her body. And while only one mother I talked to had an elective C-section, the ones who had unplanned surgeries were almost uniformly disappointed. The feelings were similar and even more widespread among moms who either couldn't breastfeed or stopped for "selfish" reasons--bleeding nipples, lack of sleep, returning to work. Of course what these moms wanted--what we all know they wanted--was a healthy baby. That's what most of them got. But what's lost in the cacophony of anxiety is the other thing every mom wants: to enjoy the beauty of motherhood.



Nichols pumps

her breast milk, which she supplements with donor milk and formula. Elinor Carucci for TIME

How did we come to believe that mothers should be compliant with nature--the master of evolutionary hardball--and then feel responsible when it works against us? Certainly, some of it is the Internet, which increasingly delivers medical information with a side of personal opinion.

Google the basics and the top results will frequently lead to BabyCenter.com, part medical resource, part Reddit for parents. The site, owned by Johnson & Johnson, features articles written by a medical advisory board, but what more often turns up are links to its community forums, where the expert opinion is that of your fellow mother. Take the question "Should I breastfeed or bottle-feed?" Search sends you to a BabyCenter chat on which the top-rated answer--a ranking of "helpfulness" determined by users' likes--states: "For every 87 formula-

fed babies who die of SIDS, only 3 breastfed babies die from SIDS." This is false. On the site's forums, you can find page after page of repeat visitors trash-talking and trolling one another. They call themselves "drama llamas." This is what passes for expertise on one of the web's most popular destinations for expectant and new mothers.

Elsewhere online, the goddess templates abound. There's Genevieve Howland, a.k.a. Mama Natural, whose YouTube series has more than 64 million views. Nearly 19 million people have watched the videos she posted of her two natural births. There was Beyoncé's pregnancy announcement on Instagram, showing the singer, then expecting twins, resplendent as a fecund deity. There are the legions of sublimely filtered public motherhoods, blogged in detail by women like Naomi Davis and Courtney Adamo.

It's a lot to live up to, even for them. And yet it seems only natural to revere the vision of the effortlessly fertile, happily pregnant DIY mama who finds affirmation in the excruciating. Who doesn't want to believe that motherhood is innate? I certainly did. When I was pregnant with my daughter, I Googled everything. I grilled my OB on skipping pain meds (she laughed) and pondered the benefits of a doula (she scoffed). I wound up having a C-section when my daughter didn't descend. And, yes, I was sad about it. My daughter couldn't nurse, so I pumped for almost five months, stashing away freezer bags with the zeal of a doomsday prepper to carry her to 6 months exclusively on breast milk. I felt smug about my supply, and guilty when I eventually stopped.

I asked Dr. Mary Jane Minkin, a clinical professor of obstetrics at Yale School of Medicine, if my feelings were common. She said she sees women making themselves "crazy" over the wish to do things as naturally as possible, including giving birth intervention-free and breastfeeding. "In the 1900s, we didn't have a lot of interventions," she tells me. "Guess what? People died. The average female life expectancy was 48. That was as 'natural' as it got." Catherine Monk, a psychologist and associate professor at Columbia University Medical Center, whose research focuses on maternal stress, echoes Minkin. "There's a crescendo of voices saying, 'If you don't do X or Y, you're doing it wrong,'" Monk says. The result is "a kind of over-preciousness about motherhood. It's obsessive, and it's amplified by the Internet and social media."

Time was, women desperately needed someone like Ina May Gaskin. The Tennessee midwife has authored several popular natural-birth manuals, starting with Spiritual Midwifery in 1975-not long after a time when husbands were often banned from delivery rooms, women were put under general anesthesia during labor and formula-feeding was the rule rather than the exception. The book detailed the methods of a freethinking commune called the Farm where Gaskin and other midwives delivered babies. (Women still give birth there.) Even for moms who didn't want to give birth in a cabin in the woods, Gaskin and those who followed her helped foster a culture in which women felt empowered to make their own obstetrical choices.

Gaskin's work also helped popularize the role of midwives in the U.S. Midwives, in turn, have precipitated the rise of the doula, or birth assistant, over the past few decades. In 2015, more than 38,000 births took place at home. Most of them were planned and part of a big increase in out-of-hospital births over the past decade, which now account for more than 1.5% of all U.S. births--almost as many as elective C-sections. Overall, C-sections are down for the third year in a row, making up 26% of low-risk first births.

Philosophies about having a baby the "right way"—and the scientific knowledge undergirding the advice we're expected to follow—are, like so much else in health trends, cyclical. To epidural or not to epidural? It will give you a wicked headache (highly possible, says science), or it will hamper your bonding with the baby (somewhat possible, says other science), or it may not work at all (there's always that chance). It wasn't long ago that formula was promoted as a bounty of women's lib. Today it's disparaged as a last resort.

These pendulum swings make motherhood harder and more confusing, something I heard a lot about from the moms I spoke with for this article. "With my first, I found myself really stressed out trying to live up to it all and embarrassed when I couldn't," says Seana Norvell, a California mom who had a C-section when her first baby was breech. She had trouble producing enough milk, but she obsessed about breastfeeding. Her husband and mother secretly fed her child formula, an act she says she is now grateful for. "As a new mom, it's easy to feel judged," says Tennessee mother Kaitlyn Kambestad. "There are so many conflicting studies, ideas and opinions. It's overwhelming."



Combo-feeding

(formula and breast milk) rates in the U.S. dropped from 43% in 2009 to 34% in 2014 for babies under 6 months Elinor Carucci for TIME

The one thing being pitched universally these days is breastfeeding. There are good reasons to do it: it may help reduce gastrointestinal infections, middle-ear infections and some immunebased diseases like allergies and asthma. It's free. It could be lovely bonding time with your baby. All of which is why more than 80% of American moms try it. Dr. Lori Feldman-Winter, a representative of the American Academy of Pediatrics, says evidence supports the belief that mother's milk impacts babies' brain activity. "It's particularly apparent in premature babies," she says. "Probably it's most important in the most vulnerable populations." But where women used to claim that formula was excessively pushed on them, the preaching, both from many doctors and from fellow mothers, may now have gone too far the other way. Take the Baby-Friendly Hospital Initiative (BFHI). Established in 1991 by the World Health Organization and UNICEF, the BFHI is an effort to help women around the world breastfeed exclusively from day one until a baby is 6 months old and for as long as possible once solid foods are introduced. It was meant to ensure proper nutrition, especially in regions that lack clean drinking water. But it has also been influential in the U.S. because it designates hospitals that conform to its rules as "baby-friendly." Last year, almost 20% of America's 3.9 million newborns were delivered in one of 420 BFHI-certified facilities. There's at least one in every state.

If you walk into a BFHI-certified hospital, the signs will be clear: there are images everywhere of mothers nursing their babies. You won't see any formula, bottles or pacifiers on display. Those are forbidden under BFHI guidelines, which state that human milk is "the normal way" to feed an infant. If a mother wants to formula-feed, this hospital must warn of "possible consequences" to the baby's health. The BFHI also strongly recommends rooming-in, the practice of having babies sleep in the hospital room, if not in the bed, with their mom.

The pressure to room-in alarms some doctors. Last October, after several of Boston's largest hospitals shut down newborn nurseries to achieve the BFHI designation, three prominent physicians wrote a scathing viewpoint in *JAMA Pediatrics*, a leading peer-reviewed journal. "There is now emerging evidence that full compliance with the 10 steps of the initiative may inadvertently be promoting potentially hazardous practices and/or having counterproductive outcomes," wrote Dr. Joel L. Bass and Dr. Tina Gartley, both in pediatrics at Newton-Wellesley, and Dr. Ronald Kleinman, the physician-in-chief at MassGeneral Hospital for Children. They worry that rooming-in could lead to mothers' accidentally smothering their children and possibly contribute to sudden unexpected postnatal collapse, a rare but often fatal respiratory failure.

When I ask Trish MacEnroe, the executive director of the BFHI's U.S. arm, what the possible consequences of not breastfeeding are--Injury? Illness? Death?--she tells me: "Breast milk and formula are not equivalent to one another. The mother's breast milk is a unique biological food." The goal of the BFHI, MacEnroe says, "is not to produce guilt, but it is to prevent regret. We believe mothers have the right to know about the impact of their decisions."

Even if they don't give birth in a BFHI-certified hospital, the refrain that new moms hear may not be so different. In April, the American Academy of Pediatrics issued a stern statement underscoring that "breastfeeding should be considered a public-health imperative and not merely a lifestyle choice." But it's hard to wrap your head around what "lifestyle choice" means when, say, you are suffering the pain of plugged ducts, or staying up all night for cluster feedings, or trying to please zealous lactation consultants. Not to mention the likelihood that you're among the 87% of American workers who don't have paid maternity leave. Given any-or all--of those factors, you could be forgiven for feeling like you're set up to fail. As Rachel Zaslow, a certified nurse-midwife in Charlottesville, Va., puts it, "The minute a person becomes pregnant, there's a notion that if you're not doing those kinds of things, you're not a good mother."

Luckily, An anti-shame canon is growing. Political scientist Courtney Jung's recent book *Lactivism* argues that breast milk has become an industry the way formula once was,

compounding the incentives and pressures that potentially hurt moms. Dr. Amy Tuteur, a former OB, wrote *Push Back*, a polemic against natural parenting. In *Blaming Mothers*, legal scholar Linda Fentiman writes that "mothers—and pregnant women—are increasingly seen as exclusively responsible for all aspects of their children's health and well-being." In the spring, Dr. Alexandra Sacks wrote about the difficult process of matrescence—the total identity shift of becoming a mother—for the New York *Times*. All strains of the goddess myth.

There is a backlash beyond the bookshelf too. Last year, Dr. Christie Del Castillo-Hegyi, an emergency-room physician in Arkansas, founded Fed Is Best. The organization, run by a group of doctors, nurses and mothers, raises awareness of feeding options. It wants the BFHI to reconsider its stringent rules and to inform mothers on what Del Castillo-Hegyi says are under-recognized risks of exclusive breastfeeding, ranging from jaundice to starvation. She would know. Several years ago, in her quest to exclusively breastfeed, she nearly starved her infant son to death. Some of the mothers who work with Fed Is Best have had similar experiences, in a few cases leading to their babies' death. They are determined to keep such tragedy from striking others. "If you have leaders telling you this is what's best, it becomes ideology, policy, identity," says Del Castillo-Hegyi. "I can't even think of something more vulnerable than motherhood. And if motherhood means 'exclusive breastfeeding,' then a mother will do anything."

Mothers *will* do anything. I knew that going into my research for this story. But for all the communal aspects of bearing and raising children, for all the prescriptions we follow on the path of shaping another human, motherhood is a uniquely individual experience. Even amid harsh self-reflection, the moms I spoke to who had been let down ultimately concluded as much. "After the birth, I saw how judgmental I was about parenting styles," New York City mom Margaret Nichols says. "I realized we all have our path and way of thinking, and what works for each mother is exactly perfect for that child." Says Seana Norvell, who recently gave birth to her third child: "What I've learned is there are some things you can control, but there is a lot you can't. We just have to give ourselves a break and do the best we can."

It's hard to keep an individual "best" in mind amid images of glory and perfection, and anecdotal stories about what worked or didn't for another mom. But "women are coming out and talking more about [the problems of motherhood]," says Domino Kirke, a New York doula with a practice in Los Angeles, whose popular Instagram account is filled with graphic but exhilarating images of the births she attends: mothers and their newborns amid bloody placenta on the bed at home as well as gracefully shot operating rooms where C-sections give way to joy. She says she wants to help mothers erase "the unknown," which is where she thinks the shame and guilt come from.

Among the 112,693 photographs that are hashtagged #nationalbreastfeedingweek and #worldbreastfeedingweek, there are a few rogue bottles, some defiant pumps and the red, tear-streaked face of a mother named Angela Burzo. Her nursing selfie, captioned "This photo depicts my reality," went viral in August, no doubt thanks to its truth-to-myth frankness. Even among the picture-perfect mommy bloggers, some are making a concerted effort to talk about the dissonance between what we see and what we feel. LaTonya Yvette, a popular lifestyle blogger who offers refreshing assessments of "honest motherhood," is just one of them. Says Yvette: "The story I share as mother directly aligns with the mother I am."

Motherhood in the connected era doesn't have to be dominated by any myth. Social media can just as easily help celebrate our individual experience and create community through contrast. Moms have to stick together even as we walk our separate paths. We have to spot the templates and realize there are no templates. We have to talk about our failures and realize there are no failures.

—With reporting by ALICE PARK and ALEXANDRA SIFFERLIN/NEW YORK

## TodaysBaby Quality Improvement: Safe Sleep Teaching and Role Modeling in 8 US Maternity Units

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BACKGROUND AND OBJECTIVES: Nursing education and role modeling can increase adherence to safe sleep practices. Eight US hospital maternity units with variable baseline approaches to education participated in a national multicenter nursing quality improvement (QI) intervention to promote safe sleep practices. The goals at participating maternity units were to (1) increase the rate of mothers who reported receiving safe sleep information from nurses to  $\geq$ 90% and (2) increase the rates of infants observed sleeping supine in a safe environment to  $\geq$ 90%.

METHODS: A safe sleep QI toolkit, designed for and provided to all sites, included an educational curriculum and tools to use for staff and parent education. Local teams implemented safe sleep education using the tools as plan-do-study-act cycles. After each cycle, audits assessing maternal report of nursing education on safe sleep and inpatient infant sleep position and environment were performed.

**RESULTS:** The QI interventions lasted a median of 160 days (range, 101–273). Mothers reported receiving information on 4 primary safe sleep topics 72% to 95% of the time (a 24%–57% increase over the baseline). Additionally, 93% of infants were observed in a supine sleep position, and 88% of infants were observed in a safe sleep environment (a 24% and 33% increase over baseline, respectively). These rates were sustained up to 12 months later.

**CONCLUSIONS:** Implementation of a multisite QI intervention for safe sleep parenting education and role modeling led to increased knowledge of and compliance with safe sleep practices during postpartum hospitalization.

Annually, ~3500 infants die suddenly and unexpectedly during sleep in the United States, despite the successful Back to Sleep campaign of the 1990s that halved the sudden infant death syndrome rate.<sup>1</sup> Adherence to supine sleep recommendations has plateaued since 2001,<sup>2</sup> and public health efforts have not resulted in significant decreases in soft bedding use and bedsharing.<sup>3,4</sup> Advice and role modeling to caregivers by health care providers during the postpartum hospital stay are associated with greater caregiver adherence to the American Academy of Pediatrics (AAP) safe sleep recommendations.<sup>5,6</sup>

Most US births occur in a hospital setting, which affords an ideal opportunity to model and provide education about safe sleep practice for caretakers. Although nurses interface most frequently with parents in the postpartum setting and have tremendous impact on infant care practices after discharge,<sup>5,7</sup> there is inconsistent in-hospital adherence to safe sleep practices.<sup>8,9</sup>

#### abstract



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Drs Kellams conceptualized and designed the project, participated in the analysis of the data, drafted the initial manuscript, and reviewed and revised the manuscript; Dr Parker participated in the analysis of the data, helped draft the initial manuscript, and reviewed and revised the manuscript; Ms Geller helped conceptualize and design the project, participated in site recruitment and enrollment, participated in the analysis of the data, helped draft the initial manuscript, and reviewed and revised the manuscript; Drs Moon, Colson, Drake, Corwin, Ms McClain, and Dr Hauck conceptualized and designed the project, assisted in the analysis of the data, and reviewed and revised the manuscript: Dr Golden assisted in the implementation of the quality improvement at his site, submitted data, participated in the analysis of the data, and reviewed and revised the manuscript; and all authors approved the final manuscript as submitted and agree to be accountable for all aspects of the work.

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To cite: Kellams A, Parker MG, Geller NL, et al. TodaysBaby Quality Improvement: Safe Sleep Teaching and Role Modeling in 8 US Maternity Units. *Pediatrics*. 2017;140(5):e20171816 We therefore developed a quality improvement (QI) intervention for safe sleep education as part of a multicenter trial for promoting AAP safe sleep recommendations. In this article, we describe the strategies used to improve safe sleep education and role modeling at 8 US maternity units and the extent to which participating maternity units achieved the goals of  $\geq 90\%$ maternal-reported, in-hospital safe sleep education on sleep position: an environment without objects, room-sharing (but not bed-sharing), pacifier use after established breastfeeding, and  $\geq 90\%$ of infants with observed safe sleep practices (supine in a separate sleep environment [ie, crib or bassinette] free of other objects).

#### METHODS

#### Context

The Social Media and Risk Reduction Training (SMART) study is a multicenter, randomized controlled trial of 2 interventions aimed at promoting safe sleep practices. In 1 intervention, hospital staff provided QI education in maternity units on either safe sleep (n = 8) or breastfeeding (n = 8) practices. The hospitals in the safe sleep QI program were evaluated in this analysis. At baseline, these hospitals had variable approaches for the delivery of safe sleep education and modeling practices to parents. Members of the SMART study team visited and provided initial training and tools on enrollment. However, the 8 hospitals implemented the QI independently, with minimal interaction among hospitals. Therefore, the participating hospitals were not part of a QI collaborative but rather completed nearly simultaneous QI projects using a common set of tools.

#### The Intervention: Hospital QI Teams

Study investigators conducted a study enrollment visit lasting 2 to 3

hours at each participating hospital to introduce the TodaysBaby Safe Sleep Toolkit, instruction manual, and data collection tools and procedures. Each hospital identified a site "champion" (usually a nurse manager or nurse educator) who provided educational material about safe sleep to maternity nursing staff, emphasizing their role in role modeling and education for parents and visiting family members. Physician and nursing team members could receive part 4 Maintenance of Certification credits or continuing education units, respectively, if they met participation requirements. The study team provided technical assistance, but otherwise, the local teams operated independently. Study investigators held 1 conference call with representatives from each hospital, during which they could ask questions, troubleshoot common concerns, and share strategies to overcome barriers. To increase the feasibility of more widespread implementation in the future, we standardized implementation of the QI intervention as much as possible; therefore, no other study team support was provided to sites during the active QI phase.

#### The Intervention: Development of the Safe Sleep Toolkit

Guiding principles in the development of the toolkit were ease of implementation and costeffective use across a variety of locations and settings. Study investigators developed the Safe Sleep Nursing Education Toolkit using (1) existing tools, including the National Institutes of Health Safe Infant Sleep Curriculum for Nurses<sup>10</sup> and the 2011 AAP safe sleep recommendations<sup>11</sup>; (2) previous epidemiologic research about barriers to adherence to safe sleep practices (such as concerns about choking if supine)<sup>1,12-18</sup>; (3) qualitative data from nursing leadership at the participating maternity units identifying successful materials, venues, and strategies used in previous QI projects on their units; (4) qualitative data from focus groups with maternity staff at Yale University and the University of Virginia to identify facilitators and barriers to providing safe sleep education to parents; and (5) consultation with an advertising agency with expertise in branding and social marketing to provide insight into the designing and scripting of educational materials for nursing staff to deliver to families. The tools were designed to be a "campaign" rather than a traditional "educational initiative." The campaign name, "TodaysBaby, " and logo were used on all materials (Supplemental Fig 6).

The toolkit materials emphasized that infant sleep practices be modeled and taught by nursing staff and provided strategies for addressing known barriers to adherence. Elements included sleep position, the absence of other objects in the sleep environment, roomsharing without bed-sharing, and the introduction of a pacifier for sleep once breastfeeding is established. The final toolkit included the following: (1) PowerPoint slides providing a brief review of the plan-do-studyact (PDSA) cycle methodology<sup>19</sup> and key safe sleep messages for nursing staff; (2) posters calling attention to the QI campaign and the need to deliver key messages; (3) pocketsized cards that nurses could use when counseling parents about safe sleep; (4) sample letters that could be sent to hospital leadership, QI officers, and pediatric and obstetrical providers to raise awareness about the QI campaign and highlight the AAP recommendations; (5) a sample hospital policy on safe sleep that could be adapted for each hospital; and (6) a secure SMART study Web site with safe sleep resources, answers to frequently asked questions about infant safe sleep, and the ability to track QI progress.

#### The Intervention: Site QI Activities

QI activities occurred between July 2014 and July 2015. Each hospital initiated its QI intervention on a rolling basis. The baseline data at each hospital were collected at a single point in time, ~2 weeks before beginning the QI intervention, to allow time for planning the first cycle's intervention. Hospitals used PDSA cycles<sup>19</sup> as the cornerstone of their QI initiatives. On the basis of audit results after each cycle, each team decided on changes for their next cycle. Hospitals were encouraged to individualize their approaches on the basis of needs and previous successful strategies (eg, e-mail reminders, team huddle updates, and presentations at staff meetings). Maternal education was expected to be completed during the postpartum hospital stay.

#### Measures and Audits (Study of Interventions)

The main outcomes included (1) reports by mothers of receiving safe sleep information from nursing staff and (2) observations of infants sleeping in a supine position and in a safe sleep environment. By using identical measures for each hospital, outcomes were assessed by unannounced audits of postpartum mothers and sleeping infants on the maternity unit before discharge. Mothers were asked if nurses advised them on safe sleep practices, including (a) placing the infant on his or her back for sleep, (b) not placing anything in the bassinet or crib other than the infant, (c) sharing the room but not the bed with the infant, and (d) offering a pacifier at sleep time once breastfeeding is established. Sleeping infants were observed for sleep position (supine versus other) and safe sleep environment, standardly defined as the following: absence of objects

(other than a thin swaddle blanket or light cotton blanket tucked snugly on 3 sides, below the level of the infant's neck) and sleep location (alone in bassinet, not bed-sharing with sleeping adult).

Each hospital designated 1 to 2 QI team members (nurses, educators, or other staff members) to conduct unannounced audits; they were trained by study investigators and used standardized, structured, web-based data reporting forms. Audits of 10 mothers and 10 infants were conducted at baseline, at the end of each PDSA cycle (approximately every 2-3 weeks), and approximately monthly after completion of the site's QI intervention. The number of observations and audits was selected to allow for rapid PDSA cycles<sup>20</sup> without creating an undue burden on staff. The final audit at each site consisted of 20 maternal interviews and 20 infant observations. For each audit, staff approached 10 mothers, using a systematic sampling strategy (eg, first 10 sleeping infants, odd-numbered rooms) of their choosing that was consistently applied. The sampling strategy and time of day (day or night shift) for the audit was determined by each individual hospital QI team. The forms captured the local interventions used in each PDSA cycle and the audit results. Team progress tracked over time (and compared with the de-identified progress of other participating hospitals) was displayed and easily accessible on the study Web site. On completion of the QI intervention, the teams were asked to give their feedback regarding the impact and effectiveness of integrating project activities into nursing workflow via a written 2-page questionnaire and/or verbally by phone with a member of the study team. The questions were compiled by the study team

and included items such as the unit's experience of whether efficiency, patient care, or workflow were impacted negatively, which resources were most helpful and least helpful, and any changes they would suggest for other hospitals planning to implement the QI.

We estimated that it would take 3 to 4 months to complete the QI intervention but that the length of the campaign would vary for each hospital to achieve the goal of  $\geq$ 90% compliance with all outcome measures. During the QI intervention, certain outcome measures (usually maternal report of nursing education on pacifier use) did not reach 90% compliance. In this case, the decision to end the local QI work was made jointly between the local hospital and the research team when it was mutually felt that further improvement was unlikely with the current resources. Once the QI intervention was considered completed, the hospitals entered "maintenance mode," in which they were instructed to continue with the changes they had implemented to date but not to implement anything new; sites completed the standardized audit approximately monthly to monitor their results over time.

#### Analysis

The interventions during each PDSA cycle were categorized as the following: staff awareness about the Ql intervention and key messages, staff education on the evidence behind safe sleep, unit policy changes, and parent education (Table 1). The main outcomes among all participating hospitals were analyzed at baseline ("time 0") and after PDSA cycles (2–3 week intervals) for 6 months by using run charts. We compared site-specific data regarding main outcomes at baseline and TABLE 1 Interventions Used During PDSA Cycles Among Participating Hospitals

	Hospitals Used $\geq 1$ Time Out of Max of 8 Hospitals, <i>n</i> (%)
Increase staff awareness	
TodaysBaby poster for nurses <sup>a</sup>	8 (100%)
Verbal review during shift change team huddles	7 (87.5%)
Verbal review during staff meetings	7 (87.5%)
Staff e-mail blast	5 (62.5%)
Announcement letters <sup>a</sup>	3 (37.5%)
Presentation and/or posting of campaign results	2 (25.0%)
Staff education	
Computer-based staff education	3 (37.5%)
Competency checklist and staff demonstration with manager and one-on-one teaching	3 (37.5%)
Mandatory in-service or skills day	1 (12.5%)
Staff policy	
Incorporated safe sleep teaching into discharge process	3 (37.5%)
Modified existing policies <sup>a</sup>	4 (50.0%)
Removed contradictory messages	5 (62.5%)
Family education about safe sleep	
TodaysBaby laminated cards <sup>a</sup>	7 (87.5%)
Posters and/or bulletin boards visible to families	5 (62.5%)
Written education materials provided	3 (37.5%)
Incorporated education in a discharge class	3 (37.5%)
Incorporated education into local news or hospital magazine	1 (12.5%)

Max maximum

<sup>a</sup> Provided by the research team.

after the QI intervention. Average aggregate rates for each month were calculated on the basis of any data that were submitted by teams within a given month (Figs 1 and 2). During the maintenance mode, rates of outcomes were calculated at ~4, 6, and 12 months postcompletion of the QI intervention to track sustainability (Figs 3 and 4).

The written and/or verbal feedback from the teams on completion of the QI intervention were reviewed by the study team, and dominant themes were identified and compiled to assist in informing the possibility of implementation at future sites.

#### **Ethical Considerations**

Each site was instructed to provide their routine care and education for other aspects of



#### **FIGURE 1**

TodaysBaby safe sleep QI hospital run charts of maternal report of receipt of instruction in 4 key safe sleep education messages among 8 participating hospitals. Hospitals performed audits on 10 mothers at each time point. Data points represent the average of all hospitals at monthly time points.



#### **FIGURE 2**

TodaysBaby safe sleep QI hospital run charts of infants placed in a (A) supine sleep position and (B) a safe sleep environment (no objects in the crib) among 8 participating hospitals. Hospitals performed audits on 10 infants at each time point. Data points represent the average of all hospitals at monthly time points.



#### **FIGURE 3**

TodaysBaby safe sleep QI averaged percent of maternal report of receipt of nursing instruction in 4 safe sleep education messages among 8 participating hospitals. Data are shown at baseline, at the end of the QI time period, and at 4, 6, and 12 months post-QI. NQI, nursing QI.



#### **FIGURE 4**

TodaysBaby safe sleep QI averaged percent of infants placed in a supine sleep position and placed in a safe sleep environment with no objects among 8 participating hospitals. Data are shown at baseline, at the end of the QI time period, and at 4, 6, and 12 months post-QI.

maternal education and infant care in addition to the safe sleep education and role modeling targeted by the campaign. The institutional review board at each participating hospital approved the QI campaign as part of the larger SMART study.

#### RESULTS

#### **Characteristics of the Sites**

Characteristics of the 8 hospitals are shown in Table 2. One hospital (hospital 7) consisted of 2 campuses that completed separate QI interventions. These campuses are represented separately when the timing of active QI work versus the maintenance mode are presented (Fig 5) because the QI intervention started and stopped at different times at each site. However, the results from these 2 campuses are presented as 1 hospital (Tables 1 and 3, Figs 1-4). Hospitals were chosen from 4 different US regions. Six sites were urban, 2 were suburban, and 1 was rural. Six had >2000 deliveries (range, 1229-4376) in the QI period of July 2014 to July 2015. One hospital was designated "Baby-Friendly," and 3 were in the initial designation process.

#### **Intervention Over Time**

In Fig 5, we show the timeline for each site's enrollment and audits. Hospitals spent a median of 24.1 (range, 14.4–39.0) weeks completing the QI intervention. The maintenance mode for each site was a median of 51.6 (range, 29.3–61.4) weeks. Each team completed a median of 6 (range, 5–9) PDSA cycles. Each audit was completed over a median of 3 days

TABLE 2 Characteristics of Participating TodaysBaby Safe Sleep QI Hospitals

Hospital	US Region	Annual Births From July 2014 to July 2015	Urban or Rural Classification	Non-Hispanic African American, %	Hispanic, %	Private Insurance, %	Baby-Friendly Status From July 2014 to July 2015
1	South Atlantic	2249	Urban	49	4	39	Designation in process
2	Northeast	1229	Urban	70	25	34	Designation in process
3	South Atlantic	3300	Urban	10	60	25	No
4	Northeast	4130	Urban	8	30	43	No
5	West	1604	Suburban	14	67	2	Baby-Friendly
6	West	4376	Rural	3	65	20	No
7a	West South	2152	Suburban	36	3	50	No
7b	Central	1477	Urban	25	6	25	No
8	West South Central	3390	Urban	8	40	53	Designation in process

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#### FIGURE 5

Timeline for hospital enrollment, baseline and PDSA audits, and maintenance mode.

TABLE 3 Outcomes of SMART Study at Baseline and at the End of the QI Initiative

Hospital			Maternal F	Infant Observations								
	Supine Pos	ition, %	No Objec	:ts, %	Room-Sha	ring, %	Pacifie	r, %	Supine Pos	ition, %	No Objects, %	
	Baseline	End	Baseline	End	Baseline	End	Baseline	End	Baseline	End	Baseline	End
1	30	100	30	100	30	100	0	100	60	50	30	80
2	100	100	100	100	80	100	10	80	90	100	70	90
3	90	100	70	100	100	100	30	70	90	100	90	100
4	40	90	30	90	60	80	10	10	80	90	10	80
5	80	90	20	90	20	80	0	70	40	90	60	100
6	90	100	40	100	0	90	0	90	60	100	40	100
7	80	90	80	90	60	90	40	70	85	100	95	100
8	50	90	40	80	50	80	20	40	40	100	60	80

Percentages represent the median proportion of hospitals with indicated outcomes.

## (range, 0–60 days). Each hospital completed a median of 14 audits (range, 9–16).

The QI teams at each site (which included bedside nurses, nurse managers, and physicians) chose interventions for PDSA cycles based on perceived needs and the effectiveness of previous cycles. The interventions used in PDSA cycles and the percent of sites using each intervention are listed in Table 1. The most common strategy was the posting of TodaysBaby posters for nursing staff (used at all 8 hospitals), followed by nursing use of TodaysBaby pocket-size resource cards, huddle announcements, and staff meetings (each used by 7 hospitals). Five hospitals used staff e-mail blasts, removed contradictory messages from policies and education materials, and displayed posters and bulletin boards visible to families. We are unable to formally assess whether particular interventions had greater or lesser impact with only 8 hospitals completing their QI interventions in varied combinations.

#### **Outcomes**

Aggregated data of the main outcomes are shown in Figs 1 and 2. Mothers' reports of receipt of nursing education on safe sleep practices (Fig 1) and observations of infants in a safe sleep position and environment (Fig 2) increased by >20 percentage points during the QI intervention. In general, hospital units that had low baseline percentages of adherence with the outcome measures attained similarly high percentages after the QI intervention as those with higher baseline percentages (Table 3). Overall, each individual hospital had a median increase of 30% (range, 10%–50%) across the 6 measures. Maintenance mode data demonstrated that improvements were maintained, with the exception of maternal report of nursing education regarding pacifier use (Figs 3 and 4).

#### **Contextual Elements**

Communication was minimal among the sites during the QI campaign, with the exception of the aforementioned conference call. This collaborative discussion was well received and helpful, especially for hospitals that were earlier in their QI intervention. The barriers discussed on the call included physician engagement, reviewing with physicians the evidence base for the recommendations, the need for scripting for nursing staff to answer common questions from families, and carving out staff time for the audits.

Because each unit implemented different interventions and different combinations of interventions, it is not possible to discern if any particular intervention was more effective than the others. However, in both qualitative interviews and the concluding survey, teams reported that reminders at huddles and staff meetings, the TodaysBaby pocketsized cards used to teach parents, and individual crib cards (1 site created these for their own use) were the most useful strategies. In general, there was enthusiasm for the PDSA cycle methodology. Many sites endorsed the importance of having a champion. The hospitals reported that the toolkits were easy to use, they liked the branding and the scripting, and all of the tools were helpful to some degree. It was important for each hospital to be able to creatively tailor the approach for their site. In addition, hospitals commented that it was helpful to view their progress in comparison with the other participating hospitals

on the study Web site. Although there were some initial concerns regarding the amount of time it would take and whether they could free up staff to perform the audits, all sites indicated that the audits were not time consuming (<30 minutes per cycle). Teams were surprised to discover that often some of the "other" items in the cribs (eg, thermometers, bulb syringes) were related to infant care. Most said that they would not change anything, but 2 sites mentioned that they would have liked more help with data collection, and 1 site said that they would have liked their PDSA cycles to be a little longer than the suggested 2 weeks.

#### DISCUSSION

Implementation of a nursingfocused safe sleep toolkit using QI methodology was feasible among 8 US maternity units and led to rapid improvement of adherence to AAPrecommended safe sleep practices during postpartum hospitalization, with over 90% of infants observed to be sleeping in the supine position and almost 90% of infants observed to be in a safe sleep environment. These improvements were sustained for 12 months after the QI intervention. This intervention was successful with minimal training in QI methodology and safe sleep practices provided by the study team among a diverse set of maternity units.

These results are consistent with results from studies in other hospital settings where QI methodology has been an effective strategy to increase adherence to infant safe sleep practices.<sup>21–23</sup> As in the current study, the use of safe sleep toolkits that include education tools for nurses to deliver to families have also been successfully used in the NICU.<sup>24,25</sup> In recent studies conducted in maternity units, researchers have demonstrated that bundled interventions using nurse modeling, parents viewing a DVD, and either nurses or parents signing a commitment or acknowledgment of the fact that education improved adherence to safe sleep practices at the time of discharge and at 4 months.<sup>26,27</sup>

This project was unique in that it was designed to be a comprehensive campaign, and each site could select resources and strategies from the toolkit to tailor their PDSA cycles on the basis of specific needs. The introduction and overview could be viewed online or presented in a webinar format, and the toolkit and materials could be downloaded as needed by each facility. Hospitals could identify champions and form teams on their own. Frequently asked questions and helpful resources were readily available online.

The only measure that did not reach the  $\geq$ 90% target was the report of receipt of nursing advice to use a pacifier during sleep once breastfeeding has been established. Lower reporting of receiving advice about pacifiers may be due to residual confusion regarding the AAP recommendations to introduce pacifiers as a part of safe sleep and sudden infant death syndrome risk reduction<sup>11</sup> and the recent push to implement the Baby-Friendly Ten Steps, which discourage the introduction of pacifiers until breastfeeding is well established.28,29 For future implementation, greater emphasis on this recommendation with careful explanation may be needed to encourage appropriate pacifier use as a risk reduction strategy.

It is important to ascertain whether gains attained during the birth hospitalization are sustained postdischarge. The role modeling of safe sleep practices by hospital personnel is associated with greater caregiver adherence at home<sup>5,6</sup> because it establishes or reinforces the importance of the safe sleep practices.<sup>15</sup> There are few studies in which researchers evaluated longerterm effects of Ql initiatives such as this, and discussing these effects are beyond the scope of this article. However, incremental benefits may be hard to demonstrate given that many hospitals have high baseline levels of adherence. Additional studies will be needed to determine the optimal timing and content needed for sustained increases in adherence.

The QI intervention was designed before the updated AAP policy statement in 2016,<sup>11</sup> and therefore it is possible that the updated safe sleep recommendations could have required a change in the toolkit. However, the 4 safe sleep recommendations included in the QI campaign were unchanged in the 2016 AAP policy statement, making the QI campaign consistent with current AAP guidelines.

We did not formally assess each hospital's baseline educational practices, although most did report having safe sleep brochures available. However, units with low baseline percentages of adherence with the outcome measures attained similarly high percentages after the QI intervention as those with higher baseline percentages.

Participating teams were engaged in the larger SMART study, suggesting that they were committed to the success of the safe sleep intervention. They also received basic training and support from the study team. However, individual hospital-level data on unit-specific barriers were not collected. Future maternity hospitals aiming to adopt the intervention may differ in level of engagement and resources, and there may be different barriers.

Teams collected their data at different times, depending on the rate of their PDSA cycles, so data were grouped by monthly intervals for 6 months. This provided only 7 data points (including the baseline), which was insufficient to create statistical process control charts, which would enable the creation of confidence limits around the outcomes. Individual hospitals wishing to implement this intervention would be able to decide for themselves an appropriate end point.

#### CONCLUSIONS

Adherence to infant safe sleep practices (including supine position and proper sleep location) in the first months of life remains suboptimal. Safe sleep education and role modeling for parents in the postpartum hospital setting are variable but represent an opportunity for intervention. The implementation of a simple, nursing-based safe sleep education toolkit using basic QI methodology among a diverse group of maternity units led to rapid and sustained improvements in safe sleep education and practices. This intervention has the potential for widespread adoption that may contribute to reduction in sleeprelated infant deaths.

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#### ABBREVIATIONS

AAP: American Academy of Pediatrics PDSA: plan-do-study-act QI: quality improvement SMART: Social Media and Risk Reduction Training

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#### REFERENCES

 United States Department of Health and Human Services (US DHHS); Centers of Disease Control and Prevention (CDC); National Center for Health Statistics (NCHS); Office of Analysis and Epidemiology (OAE); Division of Vital Statistics (DVS). CDC WONDER: Linked Birth/Infant Death Records. 2017. Available at: http://wonder.cdc.gov/ Ibd.html. Accessed July 11, 2017  Colson ER, Rybin D, Smith LA, Colton T, Lister G, Corwin MJ. Trends and factors associated with infant sleeping position: the national infant sleep position study, 1993-2007. Arch Pediatr Adolesc Med. 2009;163(12):1122–1128

- Colson ER, Willinger M, Rybin D, et al. Trends and factors associated with infant bed sharing, 1993-2010: the National Infant Sleep Position study. JAMA Pediatr. 2013;167(11):1032–1037
- Shapiro-Mendoza CK, Colson ER, Willinger M, Rybin DV, Camperlengo L, Corwin MJ. Trends in infant bedding use: National Infant Sleep Position study, 1993-2010. *Pediatrics*. 2015;135(1):10–17
- Colson ER, Joslin SC. Changing nursery practice gets inner-city infants in the supine position for sleep. Arch Pediatr Adolesc Med. 2002;156(7):717–720
- Colson ER, Bergman DM, Shapiro E, Leventhal JH. Position for newborn sleep: associations with parents' perceptions of their nursery experience. *Birth*. 2001;28(4):249–253
- Brenner RA, Simons-Morton BG, Bhaskar B, et al. Prevalence and predictors of the prone sleep position among inner-city infants. *JAMA*. 1998;280(4):341–346
- Bartlow KL, Cartwright SB, Shefferly EK. Nurses' knowledge and adherence to sudden infant death syndrome prevention guidelines. *Pediatr Nurs*. 2016;42(1):7–13
- Stastny PF, Ichinose TY, Thayer SD, Olson RJ, Keens TG. Infant sleep positioning by nursery staff and mothers in newborn hospital nurseries. *Nurs Res.* 2004;53(2):122–129
- Eunice Kennedy Shriver National Institute of Child Health and Human Development; National Institutes of Health; US Department of Health and Human Services. Continuing education (CE) activity on risk reduction for sudden infant death syndrome (SIDS) and other sleep-related causes of infant death: curriculum for nurses. 2007. Available at: https://www.nichd. nih.gov/sids/Pages/sidsnursesce.aspx. Accessed July 11, 2017
- Moon RY; Task Force on Sudden Infant Death Syndrome. SIDS and other sleeprelated infant deaths: expansion of

recommendations for a safe infant sleeping environment. *Pediatrics*. 2011;128(5):1030–1039

- Ajao TI, Oden RP, Joyner BL, Moon RY. Decisions of black parents about infant bedding and sleep surfaces: a qualitative study. *Pediatrics*. 2011;128(3):494–502
- Joyner BL, Oden RP, Ajao TI, Moon RY. Where should my baby sleep: a qualitative study of African American infant sleep location decisions. J Natl Med Assoc. 2010;102(10):881–889
- Joyner BL, Oden RP, Moon RY. Reasons for pacifier use and non-use in African-Americans: does knowledge of reduced SIDS risk change parents' minds? *J Immigr Minor Health*. 2016;18(2):402–410
- Moon RY, Oden RP, Joyner BL, Ajao TI. Qualitative analysis of beliefs and perceptions about sudden infant death syndrome in African-American mothers: implications for safe sleep recommendations. J Pediatr. 2010;157(1):92–97.e2
- Oden RP, Joyner BL, Ajao TI, Moon RY. Factors influencing African American mothers' decisions about sleep position: a qualitative study. *J Natl Med Assoc.* 2010;102(10):870–872, 875–880
- Colson ER, Levenson S, Rybin D, et al. Barriers to following the supine sleep recommendation among mothers at four centers for the Women, Infants, and Children Program. *Pediatrics*. 2006;118(2). Available at: www. pediatrics.org/cgi/content/full/118/2/ e243
- Colson ER, McCabe LK, Fox K, et al. Barriers to following the back-to-sleep recommendations: insights from focus groups with inner-city caregivers. *Ambul Pediatr*. 2005;5(6):349–354
- Institute of Medicine. Advancing Quality Improvement Research: Challenges and Opportunities. Workshop Summary. Washington, DC: The National Academies Press; 2007
- 20. Etchells E, Ho M, Shojania KG. Value of small sample sizes in rapid-cycle

quality improvement projects. *BMJ Qual Saf.* 2016;25(3):202–206

- McMullen SL, Fioravanti ID, Brown K, Carey MG. Safe sleep for hospitalized infants. MCN Am J Matern Child Nurs. 2016;41(1):43–50
- Canter J, Rao V, Patrick PA, Alpan G, Altman RL. The impact of a hospitalbased educational video on maternal perceptions and planned practices of infant safe sleep. J Spec Pediatr Nurs. 2015;20(3):187–192
- 23. Macklin JR, Gittelman MA, Denny SA, Southworth H, Arnold MW. The EASE quality improvement project: improving safe sleep practices in Ohio children's hospitals. *Pediatrics*. 2016;138(4):e20154267
- Gelfer P, Cameron R, Masters K, Kennedy KA. Integrating "back to sleep" recommendations into neonatal ICU practice. *Pediatrics*. 2013;131(4). Available at: www.pediatrics.org/cgi/ content/full/131/4/e1264
- Hwang SS, O'Sullivan A, Fitzgerald E, Melvin P, Gorman T, Fiascone JM. Implementation of safe sleep practices in the neonatal intensive care unit. J Perinatol. 2015;35(10):862–866
- Goodstein MH, Bell T, Krugman SD. Improving infant sleep safety through a comprehensive hospitalbased program. *Clin Pediatr (Phila)*. 2015;54(3):212–221
- Mason B, Ahlers-Schmidt CR, Schunn C. Improving safe sleep environments for well newborns in the hospital setting. *Clin Pediatr (Phila)*. 2013;52(10):969–975
- Baby-Friendly USA. The ten steps to successful breastfeeding. Available at: https://www.babyfriendlyusa. org/about-us/baby-friendly-hospitalinitiative/the-ten-steps. Accessed July 11, 2017
- 29. Moon RY; Task Force on Sudden Infant Death Syndrome. SIDS and other sleeprelated infant deaths: evidence base for 2016 updated recommendations for a safe infant sleeping environment. *Pediatrics*. 2016;138(5):e20162940

#### TodaysBaby Quality Improvement: Safe Sleep Teaching and Role Modeling in 8 US Maternity Units

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#### TodaysBaby Quality Improvement: Safe Sleep Teaching and Role Modeling in 8 US Maternity Units

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### Newborn Safety Bundle to Prevent Falls and Promote Safe Sleep

Bethann Lipke, MS, CNS, RN-BC, Gael Gilbert, MPH, MBA, BSN, RN, Heather Shimer, MSN, CNS, RNC-OB, BCLC, C-EFM, Larry Consenstein, MD, Christine Aris, MS, RN, NNP-BC, Lynne Ponto, BSN, RNC, Susan Lafaver, BSN, RNC, EFMc, and Christopher Kowal, DNP, RN, CCRN-CSC

#### Abstract

**Purpose:** At our Baby-Friendly USA hospital, with at least 80% of mothers breastfeeding and rooming-in, it is not uncommon for mothers to fall asleep in their hospital bed while feeding. The aim of this study was to develop a newborn infant safety bundle and evaluate its efficacy in helping reduce unsafe sleep situations while simultaneously preventing newborn falls.

**Study Design and Method:** Data were collected in March 2015 using an infant at risk-to-fall instrument prior to nurses initiating the newborn infant safety bundle. The bundle included: (a) a parent safety agreement; (b) education, teach-back, and role modeling of safe sleep practices; and (c) implementation of a reporting and debriefing system for infant falls. All new mothers were eligible for inclusion. Data were collected over a random month every quarter for four quarters (through June 2016).

**Results:** Fourteen percent (n = 23) of babies born at the hospital in March 2015 were found to be exposed to risk-to-fall situations; over half of their mothers were found asleep and still holding the baby. Following bundle implementation, identified unsafe sleep situations during June 2015 to June 2016 have trended down with no reports of an infant fall through May 2017.

Clinical Implications: Increasing parental awareness, understanding, and participation in safe sleep practice creates and maintains a safer infant environment in the hospital setting.

Key words: Infant falls; Infant risk-reduction bundle; Infant safety bundle; Newborn falls; Safe sleep; Safety strategies.

mproving and sustaining newborn infant safety in acute care mother-baby clinical units and beyond, including safe sleep and newborn falls reduction, have become a priority focus in the United States. The American Academy of Pediatrics (AAP) Task Force on Sudden Infant Death Syndrome (2016) recommends room sharing without bed sharing during the postpartum hospitalization and after discharge home to minimize risk of sudden infant death syndrome. Recommendations about safe sleep for newborns in the acute care setting are focused on skin-to-skin care and rooming-in (Feldman-Winter, Goldsmith, AAP Committee on Fetus and Newborn, & AAP Task Force on Sudden Infant Death Syndrome, 2016). Baby-Friendly USA (2012) hospitals are challenged with maintaining best practices: (a) early introduction of skin-skin contact after birth; (b) keeping mother and baby together (rooming-in) throughout the acute care birthing stay; and (c) striving for greater than 80% breastfeeding rates (World Health Organization, 2016).

It is not uncommon for a mother to fall asleep in her hospital bed while feeding her newborn. This situation increases risk of adverse outcomes such as sudden unexpected postnatal collapse and near-miss events or deaths related to sleep, suffocation, and falls from the mother's hospital bed (Feldman-Winter et al., 2016; Simpson, 2017). Galuska (2011) reports typical infant risk-to-fall maternal indicators including breastfeeding, cesarean birth, use of opioid pain relief within the last 4 hours, and the phenomenon of emotional/ physiologic maternal exhaustion second or third night postpartum (especially between midnight and early morning [9:00 a.m.]) (Monson, Henry, Lambert, Schmutz, & Christensen, 2008). Slogar, Gargiulo, and Bodrock (2013) reinforce earlier findings of maternal risks resulting in infant falls: (a) increased levels of maternal fatigue; (b) any episode of nighttime feeding; and (c) prior nearmiss occurrence experienced where nurses find the mother either falling asleep with or asleep already while holding her infant. Further research suggests leaving babies alone to


room-in with sleep-deprived parents during the first hours postpartum may result in accidental adverse outcomes (Wallace, 2014). Although nurses may educate mothers and families about the risks of bed sharing, falling asleep while breastfeeding, and during skin-to-skin care, nurses should be readily available to safely place newborns close to mother but in their own separate sleep area when mothers fall asleep with her newborn (Feldman-Winter et al., 2016). According to Wallace (2015) in the Pennsylvania Patient Safety Advisory, 55% of infant falls were infants falling from a sleeping parent's arms, with more than half of these events occurring between midnight and 7:00 a.m.

Newborn falls are underreported and may occur more frequently than what has been documented (Teuten, Bolger, & Paul, 2015). Reasons for lack of parental reporting include

fear of reprisal from healthcare professionals, apprehension of being negatively judged (re: poor parenting skills), and fear of social service involvement (Teuten et al.). Between 600 and 1,600 infant falls per year occur in the United States (Helsley, McDonald, & Stewart, 2010). Even falls from low levels of height can cause significant trauma and head injury to the newborn (Ruddick, Platt, & Lazaro, 2010). Infant falls can escalate into conditions of serious harm to the newborn as well as severe emotional distress for parents and caregivers (Wallace, 2014). Infant falls in the acute care setting can create multiple legal and financial implications for hospitals.

The literature is sparse with historical publications discussing near-miss opportunities, risk, and prevalence of occurrence of falls among newborns in U.S. hospitals (Feldman-Winter et al., 2016).

Figure 1. Infant at Risk-to-Fall Instrument

Infant at Risk-to-Fall Form					
Date:	Time:		MR Number:		
Location of Infa	nt:				
In arms of sleep	oing adult:				
D Mothe	r				
Other					
□ Mother's bed					
Chair or cot					
🛛 Unsup	ervised on be	d or chair			
Crowd	ed room/path	way:			
Other:					
Mothor's had					
mother's bed.	Locked:	D Ves			
	Position'		D Other		
	Side-rails:	Up Up	Down		
Was anyone else in the room with the mother?  Yes  No					
Other comment more space is n	ts to describe eeded):	unsafe situ	ation for infant (use other sid	le if	
-					

Recently, greater attention to infant safety is emerging in professional literature (Simpson, 2017; Slogar et al., 2013). Similarly, acute care hospitals and many ambulatory care centers are now focusing on fallprevention strategies for all patient populations: paying specific attention to the phenomenon of newborn fall safety.

To promote newborn safety in the acute care setting, Simpson (2015) suggests the following practice strategies: (a) Assess the individual needs of each mother, considering her level of pain, fatigue, support, medication status, and her understanding of infant safety practices. (b) Encourage mothers to room-in with their baby while avoiding making the hesitant or resistant mother feel guilty. (c) Assign one nurse to three (motherbaby) couplets. This is the current staffing recommendation (Association of Women's Health, Obstetric, and Neonatal Nurses, 2010) and should be maintained particularly during the night hours, as mothers often need a great deal of assistance breastfeeding especially at nighttime (when they are most tired). (d) Encourage hospitalized mothers to call for assistance when tired, exhausted, or need help placing their infant in the bassinet.

Evidence is emerging on a more accurate prevalence of newborn falls in the immediate, acute care, postpartum periods. Similarly, the clinical leadership team for maternity units are challenged with balancing mother-baby attachment time, encouragement and management of improved breastfeeding practices, and providing education to all parents during their brief, postpartum hospital stay. As a result, more innovative infant safety programs are being developed across the United States. Galuska (2011) developed a universal newborn fall-prevention program focusing on parent education, commitment pledge to infant safety, use of infant safety signage, and maternal rest promotion in busy and often loud units.

# Newborn Infant Safety Bundle

In 2005, our facility adopted a patient safety improvement program for physicians, midwives, and nurses. After successful completion, we obtained advanced certification in the same program in 2007. We continue the practice of consistent global staff education; safety and emergency drills; CHAT (current communication, history, assessment, treatment) huddles; and debriefing sessions built into daily, standard delivery of maternity care.

The team expanded this safety program and developed a Sudden Infant Death Syndrome (SIDS) educational campaign (McMullen, Lipke, & LeMura, 2009). This included: (a) use of an online SIDS teaching tool; (b) placement of an educational "Steps-to-Home" crib card at the newborn's bedside; (c) implementation of a "No Cosleeping for Multiples" intervention; (d) use of sleep sack swaddling in the unit (parents also received one to take home); and (e) use of more safety-specific, infant discharge instructions (St. Joseph's Health [SJH], 2012, 2015). Since program implementation, nursing role-modeling safe sleep practice and providing parental education on the topic of SIDS prevention have greatly improved.

Our team was confident we had a robust safety practice for mothers and infants. However, in 2014, two infants experienced a fall. In each case, the mother fell asleep with her baby in her arms. A taskforce was created to analyze the events and develop an infant safety bundle to further reduce risk and the number of infant falls. Realtime, unsafe sleep situations and risk factor exemplars were gathered, establishing a baseline before any new and improved safety bundle practices were implemented. Colleagues developed an infant risk-to-fall evaluation form for staff to complete if an unsafe sleep situation is witnessed (Figure 1) (SJH, 2015).

## Figure 2. Infant Safety Bundle

#### Maternal risk factors

- Epidural analgesia/anesthesia
- · Cesarean birth
- · High level of fatigue
- · Second or third postpartum night
- Recent opioid or sedative use

#### **Parent safety agreements**

- Parental form with safety risks and education on keeping baby safe while in the hospital
- Parents sign agreement after nurse reviews the agreement with the parents

#### Safety interventions for parents and visitors

- · Safety bulletin boards on Mother-Baby unit
- · Crib cards for safe sleep on every baby crib
- Nurses role model safe sleep practices
- Nurses round every 1–2 hours minimum
- Patient doors are left unlatched at night for nurses to check on infant
- Nurses instruct mothers to call the nurse when ready to feed their baby

## **Reporting and debriefing system for infant falls**

- · Contact neonatal provider if an infant fall occurs
- · Event report generated and sent to risk management
- Team debriefing after an infant fall

## Purpose

The purpose of this study was to evaluate the efficacy of the infant safety bundle in reducing and preventing unsafe sleep conditions and infant falls in our maternal-child units. Clinical colleagues felt optimistic that if risk-reduction strategies to prevent infant falls were included in current safe sleep practices, nurses could improve outcomes. The project was approved by the organization's institutional review board.

## **Study Design and Methods**

An observational, descriptive safety study was designed for nurses to assess environmental conditions and personal behaviors and interactions between adult parents and newborns in the postpartum acute care setting. Demographic information about mothers was not included. Data about unsafe sleep situations were collected. Infants less than a week old who were patients on our postpartum units and infants in the neonatal intensive care unit were included in the study. Nurses and other team members were made aware of the study's intent, instrument, and data collection timeframe. Preprogram (baseline) data were collected in March 2015 prior to beginning the study. Data were collected during a randomly chosen month per quarter (June 2015-June 2016) using an evaluation instrument developed by the hospital's clinical taskforce based on unsafe sleep situations reported in the literature (Figure 1). For example, a baby should sleep in their own safe sleep place; anything other would be considered unsafe unless the infant was asleep in the arms of an awake and alert adult (Feldman-Winter et al., 2016). If the mother was asleep with the baby in her arms or in an unsafe sleep space, then this would be a reported unsafe sleep situation. Collection months were selected each quarter through simple random sampling. All postpartum parents (N = 832 births) were eligible for recruitment and study inclusion. If an unsafe sleep situation was identified, nurses were instructed to evaluate and document it and then educate parents, family, and friends about findings; with inclusion of appropriate, subsequent remediation and quality documentation.

Bundle components (Figure 2) included use of parental safety agreements with the caregiver team and a



list of safety interventions for parents and visitors. Education with role modeling on safe sleep practice came next, and awareness on reporting and debriefing after an infant fall followed (SJH, 2015).

The safety program used maternal risk factors attributed to newborn falls identified in the literature: cesarean birth, extreme fatigue, second or third postpartum night, and recent opioid or sedative use (Ainsworth, Summerlin-Long, & Mog, 2016; Galuska, 2011; Kassa, Moon, & Colvin, 2016; Matteson, Henderson-Williams, & Nelson, 2013). Epidural anesthesia was added as a risk factor because it was currently in the "risk-to-fall" criteria for our hospital fall bundle (SJH, 2015). Although breastfeeding was listed as a potential risk factor contributing to newborn falls, as a Baby-Friendly USA (Baby-Friendly USA, Inc., 2012) hospital, it was encouraged with appropriate safety recommendations.

A parental-newborn safety agreement adapted from Providence Health & Services perinatal departments (Helsley et al., 2010; Providence Health & Services, 2012) was used to instruct mothers, fathers, and home caregivers of the risks for newborn falls in the hospital and at home. The agreement summarizes the protocols to keep infants safe in the acute care setting as well as providing education required for care early-on in the home. Our *Steps-to-Home* crib card focuses on safe sleep practices and newborn care that parents should follow in the hospital and at home (SJH, 2015).

In the event of an infant fall, multiple steps are taken immediately by the team. First, they inform the manager and contact a neonatal intensive care unit provider while protecting and assessing the infant. Next, a patient safety event report is completed and submitted. Immediately following the event, a postfall debriefing occurs, and involved clinical team members are given the opportunity to come together and communicate their feelings about the occurrence as well as the mother's assessed risk status (SJH, 2015).

Shortly into the launch of the infant safety bundle, another infant fall was reported in June 2015. Our nursing team wanted to create the safest environment, so instructions were given to mothers to call the nurse for physical presence during feedings at any time of day or night. Nurses conducted more frequent parent-newborn bedside rounds (every 1–2 hours at minimum), and patient's room doors were not latched shut, so the nurse could quietly check on parent and baby even while asleep (SJH, 2015).

#### Results

Preprogram data collected in March 2015 produced 23 risk evaluations. These represented 14% (n = 23) of the month's total births (n = 169), with over half of them being mothers who were found asleep while still holding their baby. Over the next 12 months, there was a reduction in the number of episodic findings during the study timeframe (Figure 3).

There are approximately 2,000 births at our hospital each year. In 2014, we had two infant falls and in 2015, one infant fall. As of May 2017, there were no further infant falls on their mother-baby units. The number of identified unsafe sleep situations from June 2015 to June 2016 has trended downward since bundle implementation. As of June 2016, the infant safety bundle has been integrated as a standard of best clinical practice and embraced by the nursing practice culture in all mother-baby clinical units within our system. Nurses continue to identify, report, and educate parents about unsafe sleep situations as part of their routine practice. Our maternalchild safety program committee receives reports on all adverse and near-miss situations. This process for reporting near-miss episodes in care allows clinicians to account for unsafe sleep scenarios, should they occur.

We found some parents who refused to sign the safety agreement because they felt that by signing the form, an infant fall would become their fault. We identified this as an opportunity for nursing education, as it was reported some nurses were simply presenting the form to parents to sign without offering the education. We reeducated nurses, so they could better explain the significance of the safety agreement to the parent before asking them to sign. Parents needed to understand that the safety agreement was intended to





be a partnership between the parent and staff to help keep the newborn safe. We also wanted nurses to recognize that the parent and other caregivers needed to have the information presented to them in a nonthreatening way. Beginning with a caring but structured parental communication, we helped build a team approach to creating a safer environment for the infant.

# Clinical Nursing Implications

Parents should be encouraged to report any infant fall situation during their postpartum hospitalization without the worrying about repercussion. Although parents may be willing to comply with the concept of safe infant sleep practices, there is always a risk they may fall asleep unknowingly in the postpartum, acute care phase due to extreme exhaustion experienced during childbirth (Monson et al., 2008). It is understood that parents have best intentions for their newborn, but inherent risk factors with childbirth may increase risk for an infant to fall or be placed in an unsafe sleep position. Nurses accept responsibility to discuss and educate parents about any identified potential action-behavior situations. This can be challenging as parents may feel ashamed, upset, afraid, or even annoved at the nurse who requests to place the infant in the bassinet if mom and dad are falling asleep in bed. Bed sharing is always a personal choice, no matter how much parental guidance is bestowed. Maternal-baby nurses must balance infant safety, safe sleep practices, and risk-reduction strategies to prevent an infant fall, at the same time they help the parents learn about normal newborn care and promote attachment. Role-modeling safe sleep and falls-prevention strategies for parents can have a great impact on routines at home. Nurses can help create a caring, healing, and learning environment for parents so Suggested Clinical Nursing Implications

- Implementation of a newborn safety bundle to promote safe sleep and minimize risk of falls in the acute care setting may decrease risk of adverse accidental outcomes.
- Nurses conduct more frequent parent-newborn bedside rounds (every 1–2 hours at minimum), and patient's room doors are not latched shut, so the nurse can quietly check on parent and baby even while asleep.
- Instructions are given to mothers to call the nurse for physical presence during infant feedings at any time of day or night.
- Use of role-playing and face-to-face counseling by mother-baby nurses can create a caring and learning environment for parents so safety practices learned while in the hospital continue at home after discharge from the hospital.

they may continue safe newborn practices after discharge.

Development, implementation, and evaluation of a newborn safety program requires a team to achieve success. Our team began a safety initiative over 12 years ago, and learned the value of highlighting efforts to promote infant safety using evidence-based practices. We appreciate the value of frontline clinical team members' engagement in program development, process management and improvement, and evaluation audits to remove barriers and help cultivate changes in nursing practice. Parents and frontline colleagues working together creates a safe environment for protecting our smallest patients from harm. As a Magnet<sup>TM</sup>-designated (American Nurses Credentialing Center, 2017) facility with Baby-Friendly USA (2012) designation, we found fluid communication, strong team dynamics, and bundled practice strategies help shape best practice into a program of caring.

Safe sleep practices for mothers, fathers, and family members are role-modeled so at home the family can emulate what they have experienced in the hospital setting. As the body of evidence on infant falls grows, our safety strategies may need to be modified. Practice changes take time. Many maternal-child nurses have been providing care in the same way they have for many years. It is challenging to change how things have always been done: whether according to tradition or rote memory from past practice. The first steps to improving infant safety are to find innovative ways to convince clinicians that old practice needs to change. As more recent scientific findings are incorporated into evidence-based practice, it will help reinforce their value and benefit when nurses are explaining safety practices to parents. Future evidence on newborn infant safety will be added to our clinical practice as it becomes available. 💠

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The authors declare no conflicts of interest.

#### References

- Ainsworth, R. M., Summerlin-Long, S., & Mog, C. (2016). A comprehensive initiative to prevent falls among newborns. *Nursing for Women's Health*, 20(3), 247-257. doi:10.1016/j.nwh.2016.04.025
- American Academy of Pediatrics Task Force on Sudden Infant Death Syndrome. (2016). SIDS and other sleep-related infant deaths: Updated 2016 recommendations for a safe infant sleeping environment. *Pediatrics*, 138(5), e20162938. doi:10.1542/peds.2016-2938
- American Nurses Credentialing Center. (2017). Magnet® recognition program. Retrieved from www.nursecredentialing.org/Magnet. aspx
- Association of Women's Health, Obstetric and Neonatal Nurses. (2010). *Guidelines for* professional registered nurse staffing for perinatal units. Washington, DC: Author.
- Baby-Friendly USA, Incorporated. (2012). Baby-Friendly USA. Albany, NY: Retrieved from https://www.babyfriendlyusa.org/
- Feldman-Winter, L., Goldsmith, J. P., American Academy of Pediatrics Committee on Fe-

tus and Newborn, & American Academy of Pediatrics Task Force on Sudden Infant Death Syndrome. (2016). Safe sleep and skin-to-skin care in the neonatal period for healthy term newborns. *Pediatrics*, 138(3), e20161889. doi:10.1542/peds.2016-1889

- Galuska, L. (2011). Prevention of in-hospital newborn falls. *Nursing for Women's Health*, *15*(1), 59-61. doi:10.1111/j.1751-486x.2011. 01611.x
- Helsley, L., McDonald, J. V., & Stewart, V. T. (2010). Addressing in-hospital "falls" of newborn infants. *Joint Commission Jour*nal on Quality and Patient Safety, 36(7), 327-333, AP1-AP3. doi:http://dx.doi.org/10.1016/ S1553-7250(10)36049-1
- Kassa, H., Moon, R. Y., & Colvin, J. D. (2016). Risk factors for sleep-related infant deaths in in-home and out-of-home settings. *Pediatrics*, 138(5), e20161124. doi:10.1542/ peds.2016-1124
- Matteson, T., Henderson-Williams, A., & Nelson, J. (2013). Preventing in-hospital newborn falls: A literature review. MCN. The American Journal of Maternal Child Nursing, 38(6), 359-366.doi:10.1097/NMC.0b013e3182a1fb91
- McMullen, S. L., Lipke, B., & LeMura, C. (2009). Sudden infant death syndrome prevention: A model program for NICUs. *Neonatal Network*, 28(1), 7-12. doi:10.1891/0730-0832.28.1.7
- Monson, S. A., Henry, E., Lambert, D. K., Schmutz, N., & Christensen, R. D. (2008). Inhospital falls of newborn infants: Data from a multihospital health care system. *Pediatrics*, 122(2), e277-e280. doi:10.1542/ peds.2007-3811
- Providence Health & Services. (2012). Hospital safety information for parents [Unpublished internal policy]. Portland, OR: Author.
- Ruddick, C., Platt, M. W., & Lazaro, C. (2010). Head trauma outcomes of verifiable falls in

newborn babies. Archives of Disease in Childhood. Fetal & Neonatal Edition, 95(2), F144-F145. doi:10.1136/adc.2008.143131

- Simpson, K. R. (2015). Newborn safety in the hospital. MCN. The American Journal of Maternal Child Nursing, 40(4), 272. doi:10.1097/NMC.00000000000151
- Simpson, K. R. (2017). Sudden unexpected postnatal collapse and sudden unexpected infant death. MCN. The American Journal of Maternal Child Nursing, 42(6), 304. doi:10.1097/NMC.0000000000000376
- Slogar, A., Gargiulo, D., & Bodrock, J. (2013). Tracking 'near misses' to keep newborns safe from falls. *Nursing for Women's Health*, *17*(3), 219-223. doi:10.1111/1751-486X.12035
- St. Joseph's Health. (2012). Safe sleep environment and bed sharing [Unpublished internal policy]. Syracuse, NY: Author.
- St. Joseph's Health. (2015). MCH infant safety bundle [Unpublished internal policy]. Syracuse, NY: Author.
- Teuten, P., Bolger, S., & Paul, S. P. (2015). Need for improved recognition of in-hospital newborn falls. *Australian Nursing and Midwifery Journal, 23*(1), 28-31.
- Wallace, S. C. (2014). Balancing family bonding with newborn safety. *Pennsylvania Patient Safety Advisory 2014 September*, *11*(3), 102-108. Retrieved from http:// patientsafetyauthority.org/ADVISORIES/ AdvisoryLibrary/2014/Sep;11(3)/Pages/ 102.aspx
- Wallace, S. C. (2015). Preventing newborn falls while supporting family bonding. *The American Journal of Nursing*, *115*(11), 58-61. doi:10.1097/01.NAJ.0000473316.09949. 1f
- World Health Organization. (2016). Babyfriendly hospital initiative. Geneva, Switzerland. Retrieved from www.who.int/ nutrition/topics/bfhi/en/

From:	Anstey, Erica Hesch (CDC/DDNID/NCCDPHP/DNPAO) (CTR)		
Sent:	Wed, 13 Oct 2021 16:15:20 +0000		
То:	Bosso, Eileen T. (CDC/DDNID/NCCDPHP/DNPAO);O'Connor, Lauren		
(CDC/DDNID/NCCD	PHP/DNPAO) (CTR)		
Cc:	Grossniklaus, Daurice (CDC/DDNID/NCCDPHP/DNPAO);Boundy, Ellen		
(CDC/DDNID/NCCD	PHP/DNPAO);Perrine, Cria G. (CDC/DDNID/NCCDPHP/DNPAO);Nelson, Jennifer M.		
(CDC/DDNID/NCCD	PHP/DNPAO);Anstey, Erica Hesch (CDC/DDNID/NCCDPHP/DNPAO) (CTR);Hamner,		
Heather (CDC/DDN	ID/NCCDPHP/DNPAO);Flores-Ayala, Calixto Rafael		
(CDC/DDNID/NCCD	PHP/DNPAO);MacGowan, Carol (CDC/DDNID/NCCDPHP/DNPAO)		
Subject:	Awareness: Vera Wilde article		
Attachments:	Vera Wilde_2021_BF insufficiencies and harm to neonates.pdf		

Hello all-

I wanted to bring your attention to an article (attached) that was just published by Vera Wilde, who sent us an inquiry a few months ago (inquiry information below). You will note the similar overtones to certain other organizations that discuss milk insufficiency and safety. On p. 13, under disclosures: "Vera Wilde, PhD, became interested in the scientific evidence on breastfeeding after her healthy, full-term son suffered excessive weight loss due to insufficient milk."

"This article argues that modern misconception of exclusive breastfeeding as natural and thus safe causes common and preventable harm to neonates." (p. 2)

"In the time it often takes mothers' milk to come in, their neonates risk death or permanent disability. Because time seems to be one important factor in the potential severity of complications from insufficient milk intake, minimizing neonatal deprivation or starvation periods by providing sufficient milk may prevent substantial harm to neonates. But current guidelines fail to recognize the commonality and severity of these possible harms, as well as the importance of time in mitigating associated risks." (p. 4)

Best, Erica

Erica H. Anstey, PhD, MA, CLC (Pronouns: she, her, hers) Program Coordinator and Breastfeeding Specialist McKing Consulting Corporation Maternal, Infant, and Toddler Nutrition Team Division of Nutrition, Physical Activity, and Obesity (DNPAO) National Center for Chronic Disease Prevention and Health Promotion (NCCDPHP) Centers for Disease Control and Prevention (CDC) 770.488.5041 (office) | eanstey@cdc.gov

Lauren -<u>So sorry for the delay. This looks good.</u> Please let me know if you receive additional inquiries (b)(5)

(b)(5)

Thank you for sending! Eileen

-----Original Message-----

From: O'Connor, Lauren (CDC/DDNID/NCCDPHP/DNPAO) (CTR) <pcq9@cdc.gov> Sent: Tuesday, August 10, 2021 9:20 AM To: Bosso, Eileen T. (CDC/DDNID/NCCDPHP/DNPAO) <guz3@cdc.gov> Cc: Anstey, Erica Hesch (CDC/DDNID/NCCDPHP/DNPAO) (CTR) <yhm7@cdc.gov>; Grossniklaus, Daurice (CDC/DDNID/NCCDPHP/DNPAO) <dtg3@cdc.gov>; Boundy, Ellen (CDC/DDNID/NCCDPHP/DNPAO) <lwz9@cdc.gov>; Perrine, Cria G. (CDC/DDNID/NCCDPHP/DNPAO) <hgk3@cdc.gov> Subject: FW: Survey and scoring algorithm request

Good morning Eileen,

I believe you may already be in the loop in regards to our latest inquiry from Vera Wilde to our mPINC@cdc.gov inbox. See our correspondence, and her latest inquiry below. We have drafted a response and would like your input on if you think it's appropriate. Please let us know your thoughts.

(b)(5)

Thanks Eileen, Lauren

Lauren O'Connor, MPH, CLC Public Health Breastfeeding Specialist McKing Consulting Corporation Maternal, Infant, and Toddler Nutrition Team Division of Nutrition, Physical Activity, and Obesity Centers for Disease Control and Prevention 404-498-2254 (office)| PCQ9@cdc.gov

-----Original Message-----From: Vera Wilde <vera@verawil.de> Sent: Friday, August 6, 2021 6:07 PM To: MPINC (CDC) <MPINC@cdc.gov> Subject: Re: Survey and scoring algorithm request

Hi Lauren,

Thanks for your email and the reattachments.

The mPINC is a survey on "Maternity Practices in Infant Nutrition and Care" with a focus on breastfeeding. In terms of survey design questions, I'm wondering why it doesn't include any related safety, risk, or harm items.

For instance, a number of questions seem geared toward promoting "Baby Friendly"-style exclusive breastfeeding

practices including minimising formula supplementation. But then there are no measures of related outcomes such as neonatal screening, treatment, or readmissions for inadequate nutrition/hydration (e.g., for hypernatremia, hypoglycaemia, or jaundice) in breastfed newborns.

Is the assumption that some other agency is tracking safety data like this? Any idea who might be? And why not do this as part of mPINC?

Thanks and best, Vera

> On 29. Jun 2021, at 15:59, MPINC (CDC) < MPINC@cdc.gov> wrote:

>

> Greetings Vera,

>

> Please find the 2009 survey reattached. I have also reattached the 2013-2015 survey. The survey remained exactly the same for both the 2013 and the 2015 administrations so you will find only one file for both years.

>

> Please feel free to let me know any questions you have on the survey design and our mPINC team will be able to provide you with further information.

>

> I hope this information is helpful and please let me know if you have any further questions.

>

> Sincerely,

> Lauren O'Connor, MPH, CLC

> mPINC Team

>

> ----- Original Message-----

> From: Vera Wilde <vera@verawil.de>

> Sent: Tuesday, June 29, 2021 9:04 AM

> To: MPINC (CDC) < MPINC@cdc.gov>

- > Subject: Re: Survey and scoring algorithm request
- >
- > Hi Lauren,

>

> Thanks. At your convenience, could you please try re-sending 2009, as the attachment cannot be opened (I get a file is damaged error) and 2015, as the attachment was not included in your email?

>

> Who's a good person to ask questions about the survey design?

- >
- > All best, > Vera

> ver

>

>> On 29. Jun 2021, at 14:03, MPINC (CDC) <MPINC@cdc.gov> wrote:

>>

>> Hi Vera,

>>

>> Attached please find survey copies for 2007, 2009, 2011, 2013 and 2015 mPINC surveys. You can find survey copies for 2018 and 2020 on our website here: <u>https://www.cdc.gov/breastfeeding/data/mpinc/questionnaires.htm</u>. Keep in mind that prior to our newly designed survey in 2018, we had included freestanding birth centers in our mPINC survey. However the surveys attached are the hospital surveys.

>>

>> I have also attached the scoring algorithm that was used for surveys prior to 2018. You can find our 2018 survey scoring algorithm on our website here: <u>https://www.cdc.gov/breastfeeding/data/mpinc/scoring.htm</u>. Our 2020 scoring algorithm is not yet available, however it will be published on our website once 2020 reports are available

later in 2021.

>>

>> Please keep in mind, we updated the mPINC survey questionnaire in 2018. Results from the 2018 mPINC survey and 2020 mPINC survey cannot be compared with results from previous mPINC surveys. Multiple years of data from the updated survey (i.e., 2018, 2020 and later) will be comparable.

>>

>> I hope this information is helpful and please let me know if you have any further questions.

>>

>> Sincerely, >> Lauren O'Connor, MPH, CLC >> mPINC Team >> >> ----- Original Message----->> From: Vera Wilde <vera@verawil.de> >> Sent: Monday, June 28, 2021 9:45 AM >> To: MPINC (CDC) <MPINC@cdc.gov> >> Subject: Re: Survey and scoring algorithm request >> >> Hi Lauren, >> >> Thanks for your email. Would it be possible to please see all versions? >> >> All best, >> Vera >> >> >>> On 28. Jun 2021, at 13:54, MPINC (CDC) <MPINC@cdc.gov> wrote: >>> >>> Greetings Vera, >>> >>> Thank you for your email. Can you confirm, are you looking for the 2020 mPINC survey and scoring algorithm, or a previous year's survey and scoring algorithm? >>> >>> Sincerely, >>> Lauren O'Connor, MPH, CLC >>> mPINC Team >>> >>> ----- Original Message----->>> From: Vera Wilde <vera@verawil.de> >>> Sent: Sunday, June 27, 2021 1:44 AM >>> To: MPINC (CDC) <MPINC@cdc.gov> >>> Subject: Survey and scoring algorithm request >>> >>> Dear Sir or Madam, >>> >>> Could I please see the mPINC survey and scoring algorithm? >>> >>> Thanks and best regards, >>> Vera >>> >>> >> >> <2009 mPINC Survey for Hospitals.pdf><2011 mPINC HOSPITAL >> Survey.pdf><2013 2015 mPINC Survey.docx><2007 mPINC >> survey.pdf><Scoring Algorithm 2007-2015 mPINC Survey.pdf>

> <2009 mPINC Survey for Hospitals.pdf><2013\_2015 mPINC Survey.docx>

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# Breastfeeding Insufficiencies: Common and Preventable Harm to Neonates

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## Abstract

Insufficient milk intake in breastfed neonates is common, frequently missed, and causes preventable hospitalizations for jaundice/hyperbilirubinemia, hypernatremia/dehydration, and hypoglycemia - accounting for most U.S. neonatal readmissions. These and other consequences of neonatal starvation and deprivation may substantially contribute to fully preventable morbidity and mortality in previously healthy neonates worldwide. Previous advanced civilizations recognized this problem of breastfeeding insufficiencies and had an infrastructure to solve it: Wetnursing, shared nursing, and prelacteal feeding traditions used to be well-organized and widespread.

Modern societies accidentally destroyed that infrastructure. Then, modern reformers missing a few generations of direct knowledge transmission about safe breastfeeding invented a new, historically anomalous conception of breastfeeding defined in terms of exclusivity. As that new intervention has become increasingly widespread, so too have researchers widely reported associated possible harms of the longer neonatal starvation/deprivation and later infant under-nutrition periods that it creates when breastfeeding is insufficient. Early insufficient nutrition/hydration has possible long-term effects including neurodevelopmental consequences such as attention deficit hyperactivity disorder, autism, cerebral palsy, cognitive and developmental delay, epilepsy, hearing impairment, kernicterus, language disorder, mood disorders, lower IQ, and specific learning disorder.

Current early infant feeding guidelines conflict with the available evidence. Recent reform efforts have tended to focus on using more technology and measurement to harm fewer neonates instead of proposing the indicated paradigm shift in early infant feeding to prevent more harm. The scientific evidence is already sufficient to mandate application of the precautionary principle to feed neonates early, adequate, and often milk before mothers' milk comes in and whenever signs of hunger persist, mitigating possible risks including death or disability. In most contexts, the formula is the best supplementary milk for infants at risk from breastfeeding insufficiencies. National-level reviews of scientific evidence, health policy, and research methods and ethics are needed to initiate the early infant feeding paradigm shift that the data already support. Policy experiments and related legislative initiatives might also contribute to the shift, as insurers might decline or be required by law to decline reimbursing hospitals for costs of this type of preventable hospitalization, which otherwise generates profit.

Categories: Pediatrics, Preventive Medicine, Nutrition

**Keywords:** breastfeeding, autism spectrum disorder (asd), neonatal nutrition, starvation, neonatal jaundice, hypoglycemia, hyperbilirubinemia, hypernatremic dehydration, neurodevelopment, preventive health

## Introduction And Background

Exclusive breastfeeding carries serious and under-recognized risks. An extensive literature shows that early adverse event exposures are associated with neurodevelopmental problems, and a large body of evidence links neonatal starvation specifically with a range of such problems. In the U.S., insufficient milk intake associated with breastfeeding contributes to the majority of 80,000 U.S. neonatal readmissions annually [1,2], mostly for jaundice/hyperbilirubinemia hypernatremia, dehydration, and hypoglycemia. In Nigeria, acute bilirubin encephalopathy (ABE) - an acute illness caused by severe hyperbilirubinemia - causes 5%-14% of neonatal deaths [3-5]; a study of nine major hospitals in five cities found over 15% of infants treated for hyperbilirubinemia had mild to severe bilirubin encephalopathy (including 35 deaths) [6]. ABE sits at one pole of a continuum of harms potentially associated with neonatal jaundice that also includes attention deficit hyperactivity disorder [7, 8], autism [9-11], cerebral palsy [12-14], cognitive and developmental delay and disorder [15], epilepsy [16,17], hearing impairment [18,19], kernicterus [20] - severe bilirubin-induced brain injury, language disorder, mood disorders [21], lower IQ [22], and specific learning disorder [22]. Hypernatremic dehydration similarly risks preventable brain damage [23,24], organ failure [25], and death [26]. Neonatal hypoglycemia also risks possible neurodevelopmental harm [27-30], with no consensus definition [31] and an estimated incidence up to 5%-15% of healthy babies [32,33]; like neonatal jaundice, it is also common in less well-resourced countries [34,35].

A sizeable minority of breastfed neonates receives inadequate nutrition/hydration [36-39], risking serious

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injury or death, because breastfeeding insufficiencies including delayed and insufficient milk affect doubledigit percentages of mothers. According to some estimates, delayed onset of full milk production (lactogenesis II), defined as mothers perceiving milk coming in beyond 72 hours postpartum, occurs in 33-44% of first-time mothers [39, 40]. In one study of "unusually compliant and well educated" first-time mother volunteers, 15% had persistent insufficient milk after three weeks despite intensive professional lactation support [36]. In that study, minimal prenatal breast enlargement and minimal postpartum breast engorgement as well as prior breast surgery significantly predicted insufficient lactation - suggesting biological root causes. Such insufficiencies put a substantial minority of breastfed babies at risk of suffering insufficient nutrition/hydration for days, weeks, or longer. Such a lengthy deprivation or frank starvation period would normally be considered medically dangerous and legally as well as ethically unacceptable to impose on any human. It overlaps with the riskiest period for neonates, who are most likely to die within their first week of life [41,42].

Appropriate supplemental milk prevents possible harm from insufficient milk. What that means varies according to context: Screened and pasteurized milk bank donor breastmilk may be an option in some cases, but supplies are limited and thus access often restricted to preterm and sick infants; other sources of breastmilk (e.g., in wetnursing and shared nursing arrangements where available) pose infectious disease transmission risks. Animal milk may be the most readily available option in some communities, and mothers may prefer it in communities where it has long traditions of supplemental infant feeding use; but it requires fortifying additives and presents special challenges from the act of milking, to transportation, boiling and dilution with boiled water and sugar in the case of cow's milk, and refrigeration or safe storage in the home [43]. Thus from availability, nutritional, and bacteriological perspectives, formula is usually the best supplemental milk option: It is widely accessible and safe wherever clean water and formula access are sustainable, i.e., absent dire poverty, endemic corruption, and other extreme conditions that can impair basic infrastructure development/maintenance and disrupt essential supplies access. Even under such conditions, these risks may be mitigated, for instance, through context-specific aid and education on boiling or otherwise obtaining appropriate water and other aspects of hygienic preparation; feeding cups, as opposed to plastic bottles with nipples that can be difficult to clean, have long been staples of safe supplemental feeding practices in less well-resourced settings [44], and also have important advantages in several subgroups even in better-resourced settings [45]. Formula further provides more complete nutrition (e.g., including vitamin D) than unfortified animal milks including breastmilk [46]. So while there is no onesize-fits-all solution for every context, harm prevention is as easy as offering hungry infants more milk, and that solution set is widely feasible. Why, then, is insufficient milk intake in breastfed neonates common, frequently missed, and potentially deadly or disabling across country and socioeconomic contexts?

This article argues that modern misconception of exclusive breastfeeding as natural and thus safe causes common and preventable harm to neonates. Previous advanced civilizations recognized the problem of breastfeeding insufficiencies and built an infrastructure to solve it: Well-organized wetnursing professions [47-51], co- nursing [52], and early infant supplementation (prelacteal feeding) traditions characterized such societies' infant feeding practices. Widespread prelacteal feeding, seen by some practitioners as helping new mothers rest and newborns stay nourished to promote health and breastfeeding success, continues [53-66], along with more limited wetnursing and co-nursing practices, in many low- and middle-income countries today.

But modern changes that contributed to increased formula-feeding, such as scientific progress in storing food without spoilage and more women leaving home to work, had killed wetnursing by the early 20th century in Western societies. Intergenerational and other co-nursing arrangements, too, were effectively extinct in these societies by the turn of that century. Then, public health advances dramatically decreased estimated infant mortality in the U.S. between 1850 and 1950: primarily clean water, broader understanding and acceptance of germ theory, pasteurized market milk, and breastfeeding education and encouragement, along with better birth and death registration and continuing technological innovations like pulsating vacuum milking machines that made market milk production cleaner [67-71]. Next, modern Western reformers coming from what had become predominantly formula-feeding societies with sustained intergenerational knowledge gaps about breastfeeding, unaware of the commonality of breastfeeding insufficiencies and of associated serious risks from neonatal starvation, redefined it in terms of exclusivity. This historically anomalous ideal was based on flawed science and logic - and lack of awareness of the negative consequences of such a paradigm shift - and contributes substantially to current infant morbidity and mortality worldwide.

This review shows that the evidence regarding common and preventable harm to neonates associated with breastfeeding insufficiencies is sufficient to warrant fundamental changes to early infant feeding policies and practices. Current protocols and their implementation, such as the WHO/UNICEF Ten Steps to Successful Breastfeeding codified by the Baby-Friendly Hospital Initiative, emphasize exclusivity in breastfeeding. This emphasis assumes that lengthy neonatal starvation periods are rare when they are common, and safe when they are risky, and that formula (or other best available milk) supplementation necessarily undermines breastfeeding when the evidence is insufficient to establish that claim. Instead, early infant feeding guidance should advise that all neonates be offered adequate milk within two hours of birth and after every nursing session until their mothers' milk has come in and supply has been established as sufficient, e.g., through typical infant weight gain, behavior, and waste output.

Default early, adequate, and often formula supplementation is consistent with widespread prelacteal feeding traditions and behaviors worldwide. It applies the precautionary principle to act when grave hazards are possible and stakes are high. At the same time, prior prelacteal feeding traditions were heterogeneous and should be updated according to the best available evidence, including to support safe breastfeeding. This return to prelacteal feeding as the recommended norm would avoid lengthy, risky starvation periods for a substantial minority of neonates. There is insufficient evidence to establish that it would cause harm in turn, including by lowering breastfeeding rates.

## Review

# Evidence of substantial, preventable harm to neonates from exclusive breastfeeding

Breastfeeding began its modern resurgence in the mid-1970s, absent the previous safety infrastructure including a well-organized wetnursing profession and prelacteal feeding traditions that had protected many neonates from harm from common breastfeeding insufficiencies; and evidence of associated harm began accumulating shortly thereafter. Beginning in the late 70s, Gilmore and Rowland [72], Roddey et al [73], Rowland et al [74], and Thullen [75] reported cases of severe malnutrition in breastfed infants, usually associated with primapara mothers and neonatal jaundice, including significant clinical sequelae such as profound cardiovascular collapse, severe hypernatremia, perforated duodenal ulcer, and transient renal failure, all of which may develop in response to acute starvation. Gilmore and Rowland noted all affected infants were first children of upper middle class parents, while Rowland et al emphasized that malnutrition from breastfeeding insufficiencies may progress rapidly and not be recognized by "otherwise intelligent," motivated parents - sentiments echoed by clinicians today.

Breastfeeding's resurgence, still without infrastructural protections against harm from common insufficiencies, continued. Since before "The Baby Killer" report [76] triggered the Nestlé Boycott and 1978 Senate hearing, doctors (including those the report cited) tended to dismiss mothers' double-digit selfreports of insufficient milk. Researchers (with good intent) created datasets that made it impossible to empirically assess such claims, reproducing widespread dismissal of women's perceptions of common breastfeeding insufficiencies. Neonates suffered the consequences. As Neifert and Seacat observed [77], "The overenthusiastic promotion of unsupplemented breastfeeding" even in cases with clear risk factors for breastfeeding insufficiencies "can lead to critical failure to thrive in the infant."

By the mid-90s, a rise in associated preventable newborn hospitalizations was noted, along with recurrence of kernicterus [78-80], which disproportionately affects Black babies [81]. Edmonson et al [82], Paul et al [83], Flaherman et al [84], and others found exclusive breastfeeding correlated with preventable newborn readmissions for starvation effects including dehydration and jaundice. Kemper and McCarthy [85] found breastfeeding was substantially more common among infants who developed jaundice. Koziol et al [20] noted breastfeeding was a risk factor for kernicterus, and posited subcortical mechanisms of the related spectrum of bilirubin-induced neurologic dysfunction (BIND or partial kernicterus syndromes) in infants who developed even moderate elevations in bilirubin. Amin et al [22] reviewed the observational evidence linking the BIND spectrum and comorbid neurodevelopmental disorders including cognitive delay, attention deficit hyperactivity disorder, specific learning disorder, autism, and/or language disorder, delineating multiple possible biological mechanisms for the link.

Still, breastfeeding proponents dominant in most medical and public health institutions concerned with early infant feeding continued to strive to increase exclusive breastfeeding - without infrastructural safeguards, relevant safety data, or informed consent regarding possible risks. So, too, evidence of associated harm continued increasing. Beginning in the late 90s, Cooper et al [86], Laing and Wong [87], Moritz et al [88], and Reilev et al [89] showed breastfeeding-associated hypernatremia (often comorbid with jaundice) was increasing. Moritz and Ayus [90] warned of its non-specific symptoms and potentially lethal or disabling progression, echoing Koh et al's [28] warning that neonates with neural dysfunction during hypoglycemia often appear asymptomatic. Reilev et al showed risk of hypernatremic dehydration increased only with degree of relative weight loss, warning the rise could be associated with Baby Friendly, the WHO/UNICEF program of exclusive breastfeeding promotion which educates mothers on benefits but not risks of exclusive breastfeeding and discourages supplementation unless "medically necessary" - a condition lacking consensus definition. The WHO/UNICEF continued, then as now [91], to discourage formula supplementation and make no mention of exclusive breastfeeding's risks as part of its Ten Steps to Successful Breastfeeding, Baby Friendly, and related breastfeeding promotion programs. Neifert warned again [92] that "Those who enthusiastically promote breastfeeding... must confront the reality of breastfeeding failure and implement necessary changes in medical education and support services to foster successful outcomes in breastfed infants" who were otherwise in danger of failure to thrive and hypernatremic dehydration from insufficient milk intake.

Such warnings went unheeded, and evidence of associated harm continued mounting. Moritz et al [88] found 1.9% of healthy term and near-term breastfed babies at Children's Hospital of Pittsburgh were admitted for breastfeeding-associated hypernatremic dehydration, with the vast majority (87%) first-borns and most (81%) presenting with jaundice. Flaherman et al [84] found exclusive breastfeeding increased newborn

hospitalizations by 2.2% and also correlated with more outpatient visits before hospitalizations: Concerned caretakers sought medical help, but neonates still went hungry. Mette et al found healthcare providers admitted less than half their sample, almost none of whom were supplemented, suggesting widespread problems in medical recognition. Futatani et al [93] found 37% of exclusively breastfed, full-term singletons at Toyama Prefectural Central Hospital lost at least 10% of their birthweight, of whom 20% had blood ketone levels beyond the diabetic ketoacidosis threshold. Ferrández-González et al [94] found a 30.9% incidence of hypernatremia in near-term and term neonates at the Vega Baja Hospital (Orihuela, Alicante, Spain), with 74.5% of hypernatremic infants exclusively breastfed. Shan et al [95] found rooming-in was associated with increased exclusive breastfeeding, birthweight loss >10% at day 3 of age, and neonatal admission for phototherapy for hyperbilirubinemia; mixed-fed neonates also saw hospitalization risk increase, suggesting even supplemented neonates may frequently suffer medically inadequate nutrition/hydration under Baby Friendly. Discouraging formula supplementation to promote exclusive breastfeeding comes at the cost of risking possible harm to neonates.

## **Time matters**

These findings suggest a neonatal starvation problem of considerable scale, underestimated by hospital postpartum readmission data that exclude diagnoses like failure to thrive, growth faltering, wasting, and underweight that often avoid hospitalization, diagnoses during continued birth hospitalization, and missed diagnoses. Jaundice is likely underdiagnosed for many reasons, including substantial possible false-negative bias in the standard neonatal jaundice diagnostic tool [96-98]. The true scale of the problem is unknown and uncertainty pervades existing knowledge about associated risks; but time matters.

Insufficient nutrition worsens jaundice as bilirubin builds up with significantly decreased voiding in breastversus formula-fed infants [99]. Progressive dehydration worsens hypernatremia. Hypoglycemia worsens as cellular stores of glucose deplete. There is no established safe level of neonatal hyperbilirubinemia, hypernatremia, or hypoglycemia. Even moderate hyperbilirubinemia [20] and moderate, early, and transient neonatal hypoglycemia risk neurodevelopmental impairment [29].

Counter-intuitive patterns of apparently disparate risk between preterm and near- or full-term infants are consistent with the possibility that an alternative early infant feeding paradigm limiting neonatal starvation periods could prevent a large number of deaths and disabilities. On one hand, a vast body of literature has long established that preterms are more vulnerable to many adverse outcomes including jaundice. On the other hand, preterms appear less vulnerable to possible neurodevelopmental harm from consequences of early insufficient milk intake. Neonatal hypoglycemia increases term infants' autism risk threefold but does not increase the risk in preterms [100]. The same pattern of possible lower or no increased risk for preterms as opposed to full-term neonates also holds for jaundice and autism risk [9-11]. Why would a more vulnerable subgroup show less vulnerability to neurodevelopmental harm?

This counter-intuitive pattern is consistent with the possible explanation that the problem is insufficient milk intake, and time matters. Preterms' heightened medical monitoring may result in earlier detection of complications from insufficient milk intake. Their heightened vulnerability may result in earlier intervention. Both may help prevent neurodevelopmental harm from insufficient milk intake. Different norms surrounding supplementing preterms early and often with adequate milk may also contribute: Preterms often have greater access to limited donor breastmilk, and are typically fed with fortified milk regardless of milk type, increasing their caloric and vitamin intake. Mothers of preterms are widely recognized as having a higher frequency of insufficient milk, flagging preterms for likely supplementation need. Another possible contributing factor is survivor bias: Preterms are at heightened risk of death from many causes and might also die from causes relating to neonatal starvation at higher rates than full-term neonates, leading them to suffer comparatively less associated neurodevelopmental harm later.

In the time it often takes mothers' milk to come in, their neonates risk death or permanent disability. Because time seems to be one important factor in the potential severity of complications from insufficient milk intake, minimizing neonatal deprivation or starvation periods by providing sufficient milk may prevent substantial harm to neonates. But current guidelines fail to recognize the commonality and severity of these possible harms, as well as the importance of time in mitigating associated risks.

#### Conflict between current guidelines and evidence

Current guidelines recommend waiting to offer formula at least until the medical need has been established, treating formula-feeding as riskier than starvation or invasive medical intervention. The Academy of Breastfeeding Medicine (ABM) 2017 supplementation guidelines indicate supplementation when birthweight loss exceeds 8%-10% at day 5 or later, or the 75th percentile for age, and then only after "a thorough evaluation" [101]. ABM's 2021 hypoglycemia guidelines [102] ignore starvation as a possible cause of neonatal hypoglycemia, although it is likely the most common cause. They also de-emphasize formula-feeding as the last possible supplementary feeding option among many, listing "extra expressed breastmilk, pasteurized donor human milk, or infant formula (with your permission)," as if formula carried special risks that parents might want to avoid, although such risks are not established and no other option is usually available for healthy, near- or full-term neonates when breastfeeding is insufficient. Similarly, Pediatric

Endocrine Society recommendations for high-risk neonates "suggest evaluation when the infant is >48 hours of age so that the period of transitional glucose regulation has passed [103]" - contradicting evidence that moderate neonatal hypoglycemia starting within six hours of birth elevates risk of developmental delay at 2-6 years [30].

Baby Friendly recommends breastfeeding initiation as soon as possible after birth, which is compatible with nursing followed by formula supplementation until breastfeeding is established. Hofvander [104] found that among Swedish Baby Friendly hospitals, some routinely supplemented less than 10% of healthy neonates until breastmilk came in, while in others up to 90% were supplemented. There seems to be little available evidence on such hospital-level variation in interpreting and applying Baby Friendly-style exclusive breastfeeding promotion. But existing evidence is insufficient to support the idea of a forced choice between supporting breastfeeding - including by denying hungry neonates formula - and preventing harm to neonates from insufficient nutrition/hydration by offering early, adequate, and often formula supplementation instead.

In a set of randomized trials, researchers reported conflicting effects of formula supplementation on breastfeeding. Flaherman et al [105] (N = 40) found early limited formula supplementation decreased formula use at one week and three months. But the apparent increase in exclusive breastfeeding from such supplementation failed to replicate; one possible explanation for the initial result is chance, likely relating to small sample size. In the later, larger trial (N = 164), Flaherman et al [106] reported the reverse effect: Investigators observed decreased exclusive breastfeeding among infants who had received early limited formula, and the effect reached statistical significance at infant age 12 months and when any breastfeeding (as opposed to exclusive breastfeeding) was considered [107]; breastfeeding duration at 12 months was the planned primary outcome measure according to the clinical trial register (ClinicalTrials.gov).

The authors noted post hoc that the intervention group had lower intended breastfeeding duration on study entry than the control group, potentially explaining the difference. But the study design had blocked on location and method of delivery to account for potentially relevant variation in the randomization procedure, at which time researchers did not consider maternal intent relevant. Inconsistent findings such as these leave open empirical questions about the effects of formula supplementation on breastfeeding, as well as highlighting the potential methodological danger of researcher degrees of freedom influencing results [108]. These trials also raise troubling ethical questions about apparent lack of adequate protection for vulnerable subjects, as the exclusively breastfed neonates studied were identified as having already lost substantial weight, but randomized to receive either very limited or no supplementation; preventable hospitalizations resulted.

Harm prevention is as easy as giving a bottle. Formula lowers bilirubin by inhibiting intestinal reabsorption of it [109], treats hypoglycemia with appropriate protein, fat and carbohydrate supplementation, treats dehydration with additional fluids, and ensures nutrient status. Supplementation with water or sugar water does not reduce hyperbilirubinemia [110,111], treat dehydration with appropriately balanced fluid, or provide nutrients, and may create blood sugar spikes that worsen hypoglycemia later. Thus Rozance et al [31] note "Milk feedings particularly enhance glucose homeostasis." By contrast, treatment options such as phototherapy and exchange transfusions for jaundice, or IV glucose or glucose gel with hospital monitoring for hypoglycemia, are invasive, costly, potentially stressful for neonates and their families, and may incur substantial risks. In infants who are already medically endangered by insufficient milk intake, these interventions may be necessary to limit brain injury and disability, for example by swiftly correcting critically low glucose with oral dextrose in addition to supplementation; again, time matters. But these cases are overwhelmingly preventable through supplementing breastfeeding with formula in response to signs of persistent infant hunger at the latest. Formula-feeding in places with clean water, high literacy, and stable formula access is well-established as safe. Generations of healthy humans have already been formulafed from birth, and formulations of formula have improved since that was the norm with substantial nutritional advances (e.g., the additions of choline and omega-3 fatty acids).

The comparative safety advantage of prelacteal feeding over exclusive breastfeeding may be greater in relatively resource-poor settings. In lower-income countries, starvation effects are likely to also include delayed diagnosis and treatment, resulting in excessive use of belated (ineffective and risky) exchange transfusions [112] for severe hyperbilirubinemia in the same countries disproportionately affected by associated permanent disability and death [113]. As Slusher et al's review [113] detailed, harm associated with severe neonatal jaundice in low- and middle-income countries presents context-specific measurement problems (e.g., limited data). But existing evidence is sufficient to establish that "Acute bilirubin encephalopathy (ABE), exchange transfusions and death are frequent and costly outcomes of severe neonatal jaundice (SNJ) especially in low-income and middle-income countries." Similarly, Cayabyab and Ramanathan's review [114] noted that "Severe hyperbilirubinemia occurs more frequently in infants from low- and middle-income countries (LMIC)," while exclusive breastfeeding should be but is often not recognized as a risk factor. This suggests that, even where formula-feeding may be associated with heightened risks (e.g., due to unclean water and formula access disruption), those risks may be outweighed for affected infants by the risks of neonatal starvation associated with breastfeeding insufficiencies in the absence of safety infrastructure. If public health authorities and NGOs promoting exclusive breastfeeding's benefits without mentioning its risks do so in lower-resourced settings on the basis of explicit, evidencebased calculations showing that, under a different policy regime, more neonates would likely die or be disabled from unhygienically prepared or diluted formula supplementation than die or are disabled from insufficient milk intake associated with breastfeeding, then these calculations have been private; relevant data and analyses should be subjected to public scrutiny, and the implicit premise that some infants must starve in order to save others should be subjected to democratic oversight.

Additional evidence suggests that exclusive breastfeeding promotion in the absence of safety infrastructure addressing common breastfeeding insufficiencies may be associated with increased infant morbidity and mortality in less well-resourced settings. For instance, the PROMISE-EBF trial (Promoting Infant Health and Nutrition in Sub-Saharan Africa: Safety and Efficacy of Exclusive Breastfeeding Promotion in the Era of HIV), conducted from 2006-2011 in Burkina Faso, Uganda, South Africa, and Zambia reported some findings suggestive of possible increased neonatal mortality risks associated with breastfeeding insufficiencies in the context of heightened emphasis on exclusivity in the intervention arm of the trial: Diallo et al [115] reported the highest-ever measured perinatal mortality rate in Burkina Faso. Diallo et al [116] reported maternal nulliparity significantly predicted neonatal death (95% CI 1.5 to 12.1), consistent with a possible link with breastfeeding insufficiencies.

One alternative, not mutually exclusive explanation is that lack of medical care contributed to prolonged labor generating birth trauma resulting in stillbirths and neonatal deaths on days 0-2 of life (T. Tylleskär, personal communication, September 16, 2021). But it is not clear why obstetric neglect would have increased during the trial. Trial data cannot be used to test either hypothesis, because information on causes of death, possible complications resulting from insufficient milk intake, or maternal perceptions of breastfeeding problems were not collected.

Engebretsen et al [117] reported the PROMISE study intervention successfully decreased prelacteal feeding in Burkina Faso. Engebretsen et al [118] reported this intervention was associated with more wasting in Uganda and lower ponderal growth in Uganda and Burkina Faso. Investigators hypothesized these apparent adverse effects may have resulted from misguided public health and medical (including PROMISE) encouragement to mothers to continue exclusively breastfeeding for six months, when infants may need supplementary foods beginning around four to six months to ensure appropriate nutrient and caloric intake. This is consistent with Forsyth's criticisms [119] that prolonged exclusive breastfeeding leads to later child mortality and morbidity, a six-month recommendation is too rigid, and context-specific interdependence of breastmilk, complementary foods, and infant formulas if required should be central to early infant feeding research and policymaking. It is worth noting that the PROMISE team's possibilities were constrained in this context by the current exclusive breastfeeding promotion regime, which since the World Health Assembly's 1981 adoption of the routinely amended International Code of Marketing of Breast-milk Substitutes (the WHO Code) [120] has increasingly discouraged donations of free or low-cost formula and other supplies to healthcare facilities, even in settings with endemic poverty and communicable diseases like HIV that are transmissible through breastfeeding. Thus formula is unavailable in many low-resource settings even when it is medically necessary.

Reported PROMISE results showed no possible infant health benefits to balance the potential risks of lengthening neonatal starvation and later infant under-nutrition periods through the study's exclusive breastfeeding promotion. Tylleskar et al [121] reported the intervention did not significantly affect the prevalence of diarrheal disease. Tumwine et al [122] reported a possible decrease in general cognition scores (95% CI -0.40 to 0.05). Investigators interpreted these findings as null, and hypothesized that they might be explained by the high prevalence of exclusive breastfeeding across treatment and control groups. They might also be partly explained by different subgroup effects; for instance, some infants might have become more vulnerable to diarrheal disease when they received insufficient nutrition/hydration due to breastfeeding insufficiencies, while others might have become less vulnerable when breastfeeding worked early and well.

Unaffiliated with PROMISE, Bhattacharjee et al reported the estimated national exclusive breastfeeding prevalence in Burkina Faso nearly doubled between 2000 and 2017 [123]; this increase coincided with the country's highest-ever measured perinatal mortality rate during PROMISE. Overall, the evidence suggests that exclusive breastfeeding promotion, in the absence of safety infrastructure protecting infants from common breastfeeding insufficiencies, may have contributed to preventable infant mortality associated with lengthier neonatal starvation periods in sub-Saharan Africa, as well as to worse developmental outcomes including growth and cognition. But researchers neither collected data on breastfeeding insufficiencies that would enable relevant analysis, nor mentioned related risks in the study protocol, instead describing breastfeeding unequivocally as safe - a typical representation in current research and policy. That representation ignores evidence that a sizeable minority of mothers will experience breastfeeding insufficiencies likely to cause serious clinical problems in some of their exclusively breastfeed infants; in less well-resourced settings such as these, those infants are relatively highly likely to die or suffer permanent disability as a result. Why, then, would trials such as this still be widely considered ethical?

Current thinking about early infant feeding assumes exclusive breastfeeding benefits infant health without incurring meaningful risks. But that paradigm is based on flawed science and logic. The science is vulnerable to Greenland's criticism that standard categorical analysis neglects to account for within-category

information [124]. Widely recognized potential confounds for exclusive breastfeeding's purported infant health benefits include breastfeeding insufficiencies as well as maternal health and socio-economic status [125-127].

For example, Clavano's compelling 1978 U.S. Senate "Nestlé" hearing testimony [128] on the benefits of breastfeeding according to her research in the Philippines avoided mentioning that, while the shift from formula to breastfeeding in her hospital correlated with dramatic decreases in neonatal morbidity and mortality, it also correlated with a dramatically shortened "starvation period [129]." That period was 8-12 hours for normal babies and 16-24 hours for preterms, gradually shortened to 8, then 6, then 4, and finally 2 hours, for a 6-22 hour shortening of neonatal starvation periods. This does not establish breastfeeding benefits or formula risks. Rather, it might be interpreted as evidence that feeding neonates within the first few hours of birth, instead of waiting up to almost a full day in some cases, benefits their health: Neonatal starvation may carry considerable risks. The research providing sufficient detail to allow the reader to draw that alternate conclusion does not appear in the Congressional record.

Similarly, the largest breastfeeding trial ever conducted, Promotion of Breastfeeding Intervention Trial (PROBIT) [130] - a cluster randomized experiment assigning freshly post-Soviet Belarusian hospitals to Baby Friendly-style treatment or control groups - neglected to collect data on relevant post-randomisation events. This is a problem because women who supplemented their infants with formula sooner rather than later may have done so for clinically relevant reasons including delayed and/or insufficient milk. Delayed onset of lactogenesis II predicts excessive neonatal weight loss, formula supplementation, and earlier breastfeeding cessation [36,40], while insufficient milk has long been among the most commonly cited reasons for early weaning worldwide [131-135]. Thus breastfeeding problems likely systematically biased the formula-fed group in this and other studies to contain more babies who had endured longer starvation or deprivation periods, which may have influenced all later outcomes of interest. Subgroup variation in inadequate nutrition/hydration might explain apparent differences between exclusively breastfed and mixed- or formula-fed infants, including reported differences in growth, infections, allergic diseases, and IQ.

For example, overlapping inverse effect estimates for exclusive breastfeeding and failure to thrive in relation to IQ are consistent with this possibility. Hospital-level randomization to Baby Friendly in PROBIT increased exclusive breastfeeding at 3 months (43.4% versus 6.4%) and subsequently correlated with child Wechsler IQ scores at age 6.5 of an average -1 point decrease to 12.8 point increase [136]. These confidence intervals overlap with inverse estimated changes in Wechsler scale IQ scores at 8 years associated with failure to thrive in the first 2 months according to the Avon Longitudinal Study of Parents and Children [137]. The latter highly statistically significant, linear effect averaged around three points. Both PROBIT and Avon sets of estimated cognitive effects were strongest for verbal IQ.

While IQ is not diagnostic of autism, verbal and other communication problems are typical of it; and three meta-analyses found neonatal jaundice may substantially increase autism risk [9-11]. More broadly, Amin et al [22] review the evidence on unconjugated hyperbilirubinemia and neurobehavioral disorders, and report "Although the association between UHB [unbound hyperbilirubinemia] and cognitive delay is biologically plausible, data regarding the association between UHB and cognitive delay, that is, lower measured intelligence quotient (IQ) relative to same-age peers, are conflicting." Lower IQ is a possible neurodevelopmental harm associated with neonatal jaundice, which in previously healthy, near- and full-term breastfed neonates is usually associated with insufficient milk intake.

IQ effect estimates from PROBIT and Avon also overlap estimates of the so-called Flynn and reverse Flynn effects of societal-level IQ level increases and then decreases [138-140]. Bratsberg et al [141] suggested the Flynn effect was environmentally caused; Lynn et al [142] agreed, proposing that Flynn effect IQ gains probably resulted from improvements in pre-natal and early post-natal nutrition. Future research should examine the relationship between Flynn and reverse Flynn effects and early infant feeding norms, particularly with attention to the possibility that subgroup effects matter. Exclusive breastfeeding promotion may have first caused aggregate societal IQ gains where it reduced average neonatal starvation periods, but then caused aggregate losses as continuing increases in exclusive breastfeeding grew the subgroup of the most adversely impacted neonates - those for whom breastfeeding did not work early or well, but whose mothers complied with ever-increasing pressures to keep doing it anyway. This would result in a parabolic relationship between societal-level IQ changes and exclusive breastfeeding rates. In other words, one might expect two differently valenced effects to appear in sequence as aggregate gains from shorter neonatal starvation periods were replaced over time by aggregate losses from greater exclusive breastfeeding pressure on mothers for whom breastfeeding does not work fast and /or well. The latter increasing pressure would likely work in combination with weaker societal formula-feeding norms over time. Thus changing early infant feeding norms may have produced at least part of the observed pattern of both Flynn and reverse Flynn effects. This appears to be the only proposed explanation for a single causal contributor to both parts of this pattern.

Baby Friendly achieved important reforms including likely shortening average neonatal starvation periods by promoting rooming-in and early breastfeeding initiation. These new (contemporary) norms replaced old (modern) norms including neonates being routinely taken from new mothers without their consent, and

formula-fed - sometimes after lengthy starvation periods - in full hospital nurseries in which they were additionally more vulnerable to the spread of disease and lacking in the one-on-one care that is more likely in a familial context. But in terms of established medical benefits and risks to neonates in particular settings, the effects of Baby Friendly remain largely uncertain. Data on prior starvation periods and related complications do not seem to be widely available; bloc (Soviet versus Western), geographic, country, cultural, hospital, hospital staff, and familial practices were likely heterogeneous. Future research might examine relevant data from former Soviet bloc hospitals in a difference-in-differences analysis, since supplementation was a strong Soviet norm across countries, and base rates of possible complications from insufficient milk intake such as hyperbilirubinemia may have been recorded before and after the shift to Baby Friendly. However, data problems from the chaos of the collapse of formerly Soviet societal structures that went hand in hand with adoption of Western practices like Baby Friendly may preclude this type of analysis.

Bracketing that sort of empirical question, even if we accept that the Baby Friendly shift produced aggregate gains, the evidence shows that it simultaneously lengthened starvation and deprivation periods for some neonates. Lack of safeguards against breastfeeding insufficiencies harmed infants who disproportionately went on to be formula-fed as caretakers acted (against earlier medical advice) on cues that these infants were going hungry. This produced what may look like evidence that breastfeeding benefits children's neurodevelopment, but actually be additional evidence that insufficient nutrition/hydration during the sensitive early postnatal period harms it.

Such flawed science combined with the naturalistic fallacy to promote exclusivity in breastfeeding even when it meant babies went hungry, as Baby Friendly promoted new practices without safety infrastructure or data collection relating to common breastfeeding insufficiencies. Recent research suggests serious additional - albeit much less common - associated risks beyond insufficient milk intake, including from inhospital falls relating to maternal fatigue due to round-the-clock early breastfeeding efforts [143], neonatal collapses relating to prone positioned early breastfeeding in primaparas [144], and co-sleeping harms [145]: What was presumed natural, and thus safe, is neither.

These risks highlight additional possible benefits of old breastfeeding practices over new: Letting mothers rest for the first few hours or days after birth might avoid the documented increase in falls by decreasing the maternal fatigue associated with round-the-clock breastfeeding efforts that appear to be their root cause. Waiting to initiate breastfeeding for the first few hours or days postpartum while supplementing early and often with formula might avoid the documented increase in potentially lethal or permanently disabling neonatal collapse events by protecting more physiologically vulnerable neonates from weakening due to insufficient or absent nutrition/hydration combined with positional suffocation and other physiological stressors. In addition to mitigating more direct and common possible harms from insufficient milk intake reviewed above, feeding hungry neonates formula would also likely reduce these relatively rare but serious events.

Executing the indicated paradigm shift to feeding hungry neonates supplemental milk as a risk-mitigating default would generate a new research agenda. Early, frequent suckling may promote milk production [146]; but sending that signal through expressing, pumping, and suckling may be compatible with or even enhanced by letting mothers rest and neonates drink formula as needed. Future research should compare related interventions to learn more about how to best support safe breastfeeding. Reinstating norms where mothers have access to help with nursery care to rest immediately postpartum while neonates are supplemented early and often with adequate formula is likely to also support separate sleeping arrangements from the beginning; this might decrease risky co-sleeping practices associated with nursing on demand (round-the-clock breastfeeding in response to neonates' hunger cues). Future research should investigate how to best support such safer sleeping practices. Above all, revised early infant feeding guidelines must emphasize informed consent, recognizing the risks and benefits of all options rather than prescribing a one-size-fits-all approach. At the same time, societal decisions about harm prevention always place limits on individual freedom; and the evidence suggests that widespread problems of lack of recognition among parents and medical professionals alike may contribute to common and preventable harm to neonates associated with breastfeeding insufficiencies. Future research should identify best practices in empowering all caregivers to make informed early infant feeding decisions and recommendations that optimize each individual infant's health outcomes, never prioritizing a public health statistic (i.e., exclusive breastfeeding rates) over an individualized clinical judgment - or a misconception over an infant's safety.

Experts must reconsider formula-feeding as an infrastructural innovation to help keep newborns safe, on par with clean water. Neither intervention is natural; both are logical. Reinstating the other infrastructural solutions history offers - a well-regulated wetnursing profession and co-nursing practices - are riskier now due to transmissibility of infectious diseases such as HIV, but could also be explored as possible public health interventions to increase neonates' early breastmilk intake while decreasing risks from breastfeeding insufficiencies. They might have the added advantage of making safe infant feeding more resilient in the face of potential supply chain disruptions from increasingly likely extreme weather events, pandemics, and other forms of instability related to climate change. But recreating such an infrastructure would also take considerably more resources than recommending early, adequate, and often formula supplementation, a

simple solution that applies available evidence to minimize fully preventable harm to neonates now.

Current guidelines including from the American Academy of Pediatrics and International Lactation Consultant Association recommend maximum neonatal weight loss of 7%, a figure based on mean weight loss without accounting for standard deviation [147]. This threshold includes values that risk death and disability in previously healthy, full-term neonates. Hypernatremia has been reported with neonatal weight loss <4.8% [94], and profound hypoglycemia with only 4.5% [148]. In recent experiments, too little or no supplementation in neonates with weight loss ≥5% but <10% of their birthweight at 24-48 hours old [105] or who were in the ≥75th percentile for weight loss at age at 24-72 hours [106] was associated with preventable hospitalizations for hyperbilirubinemia. Chantry, a past President of the Academy of Breastfeeding Medicine, had publicly criticized the appropriateness of this design before Flaherman et al attempted to replicate their earlier results [149]; documents obtained under the Freedom of Information Act show that investigators neither informed their Institutional Review Board of these risks, nor reported the adverse events to the U.S. Department of Health & Human Services, which funded the second trial [150].

Zhao et al [151] recently found breastfed newborns who lost >4.5% of their birthweight in the first 24 hours had significantly lower serum bilirubin when supplemented, and early and often formula supplementation worked best. Hensman et al [152] similarly found delivery by C-section (a likely proxy for formula-feeding) and every single milliliter of formula given for the first three days was protective against readmission of healthy term neonates. Hunt et al [153] reported reducing a medical center's neonatal jaundice readmission rate from 2.6% to .8% through a jaundice management guide that included applying new infant supplementation guidelines by adding standardized newborn weight collection at 24 hours of life, a change they state "improved neonatal care, even for those without jaundice," suggesting that weighing all neonates at 24 hours of life identified more neonates in need of supplementation than could have been identified through jaundice diagnosis alone. Conversely, Grupp-Phelan et al [154] replicated others' finding [1,82,83] that lengthier hospital stays do not matter much, calculating that "One hundred twenty-two infants would have to stay for longer than 30 hours to avoid 1 jaundice readmission." Formula supplementation alone, not more medical care or better monitoring, could prevent most U.S. neonatal readmissions. These findings echo Okawa et al [155], who in 1988 noted that breastfed infants who received insufficient milk had lower fluid and caloric intake, greater weight loss, and potentially associated higher incidence of hyperbilirubinemia and need for phototherapy, while formula supplementation appeared to improve all these outcomes.

More or better measurement is not the answer. Medical monitoring using weight thresholds will always risk preventable harm, because subgroup calculations are complex, and the datasets used to build technology to help calculate these risks are biased toward WEIRD [156] (Western, Educated, Industrialized, Rich, and Democratic) societies. This limitation applies equally to stationary percent thresholds based on mean weight loss, which fail to account for dispersion, and to comparisons of a neonate's weight loss to that of a reference cohort, estimating percentiles of weight loss as a function of time from birth, like the free website Newt (newbornweight.org) does using a cohort of around 160,000 California neonates [157]. For jaundice, a lower threshold of concern is appropriate in the context of: prematurity [158]; low birthweight; systemic infection such as sepsis; birth trauma [113]; C-section; male gender [159]; Asian race due to increased incidence of UGT1A1 [160-162]; African, Sephardic Jewish, Greek, Turkish, Chinese, and Italian race due to increased risk of glucose-6-phosphate dehydrogenase (G-6-PD) deficiency [163]; and darker skin due to melanin reducing visible skin yellowing [164]. Technology assisting these subgroup risk assessments cannot be built using currently existing data and would have to grapple with complex questions including how to code mixed-race or intersex neonates. The simpler and better, default harm-preventing protocol is feeding hungry neonates formula.

Other proposed technology to assist these assessments includes simple devices that measure bilirubin (TSB) [114], which has high sensitivity but low specificity for associated brain injury [22]. Measuring unbound unconjugated bilirubin (UB) is more predictive but more technically difficult, [165] and so unlikely to become part of routine care, particularly in less well-resourced settings that appear to disproportionately bear the burden of increased infant morbidity and mortality from breastfeeding insufficiencies. Moreover, there is still no established safe level of elevated UB vis-a-vis neurodevelopmental harm. The problem of differential and unknown subgroup vulnerabilities persists here, too. Again, formula supplementation presents a simpler, safer alternative.

Available evidence establishes currently estimated thresholds for excessive early infant weight loss as unsafe and poorly conceived, and estimating safer thresholds as theoretically unjustified. Neonatal starvation and later infant under-nutrition have no established benefits, grave possible risks, and easy prevention. Lower thresholds for what constitutes excessive early infant weight loss would still lead to fully preventable harm in previously healthy, near- and full-term neonates. Evidence on differential subgroup vulnerability suggests that this harm would disproportionately affect male neonates, those of Asian and African descent, and those with poorer medical care access - sometimes resulting in death or lifetime disability. These are unacceptable disparities in unacceptable outcomes. A different early infant feeding paradigm is urgently needed.

#### Discussion

In no other advanced civilization have neonates across development and socioeconomic strata routinely risked death and disability as a result of inadequate nutrition/hydration while healthcare professionals actively discouraged supplemental feeding. Rather, before ours, such civilizations had an infrastructure (i.e., wetnursing, shared nursing, and prelacteal feeding) to prevent harm associated with common breastfeeding insufficiencies. Modern societies accidentally destroyed that infrastructure, which modern conditions (e.g., infectious disease risks and restrictions on selling bodily materials or functions) pose challenges to recreating. Then modern societies reintroduced breastfeeding in terms of a new, historically anomalous practice emphasizing exclusivity but lacking in safety infrastructure protecting against breastfeeding insufficiencies, while de-prioritizing sufficient feeding and prevention of infant hunger, dehydration, and even acute starvation.

Before that reintroduction, modern prevention of harm from neonatal starvation entailed switching breastfed babies who developed jaundice to the bottle. That was the clinical practice norm that exclusive breastfeeding promoters replaced without safety data on their new intervention, which they misconceived as natural and thus safe. The absence of any system of public reporting on rates of insufficient feeding complications keeps patients from making informed choices regarding the hospital policies with which they wish to participate. Early, adequate, and often formula supplementation of breastfeeding during the high-risk period immediately postpartum remains the most viable and well-established solution to the perennial and common breastfeeding insufficiencies problem.

While evidence-based, this view departs from current consensus spanning professional medical organizations, national-level public health authorities, and non-governmental organizations as well as myriad civil society interest groups such as lactation consultants and breastfeeding activists. That disconnect situates exclusive breastfeeding promotion in the realm of mainstream medical procedures and public policies without sufficient scientific basis and thus safety data - many of which have been proven to not work or even to backfire. For example, in medicine, formerly common arthroscopic surgery for degenerative knee disease appears to confer no long-term benefits in pain or function [166,167]. In public policy, formerly widespread U.S. teen substance abuse prevention program D.A.R.E. (Drug Abuse Resistance Education) did not work to systematically reduce teen drug use and may have even increased it [168-170]. At best, such cases reflect greater need for evidence-based, public interest oversight in medicine and health policy. At worst, they illustrate the larger crisis in science, beyond statistical methodological concerns like p-hacking (manipulation of significance testing to find positive results) [108] and reproducibility [171], in which rampant fraud and mistakes encouraged and then hidden within the "publish or perish" incentive system undermine the knowledge system that is supposed to underpin medicine and public policy [172-176]. What would each of these possibilities mean for mitigating common and preventable harm to neonates from breastfeeding insufficiencies?

Regarding oversight, there is a double standard in risk mitigation when it comes to breastfeeding. Professional associations, state public health actors, and NGOs treat other serious risks to infants very differently from how they treat risks of common and preventable harm to neonates from breastfeeding insufficiencies. For example, infant botulism and Sudden Infant Death Syndrome (SIDS) are both extremely rare [177, 178], but have been the subjects of extensive preventive efforts by groups like the American Academy of Pediatrics, the WHO, the U.S. Centers for Disease Control and Prevention, and analogous organizations. Parallel efforts to inform expectant and new mothers about the far more common risks of breastfeeding insufficiencies in order to prevent associated harms have not been forthcoming from the same organizations, which instead uncritically promote exclusive breastfeeding today as they have done for decades despite mounting evidence of serious risks. Even formula labels state - incorrectly in the case of breastfeeding insufficiencies - that breastfeeding is best for babies. Against this consensus chorus, efforts to address preventable harm to neonates from breastfeeding insufficiencies as a public interest oversight problem in medicine and health policy have been spearheaded by volunteer organizations like the U.S. Fed Is Best Foundation [179] and U.K. Infant Feeding Alliance [180] (inspired by Fed Is Best) - both of which are led by mothers whose babies suffered accidental starvation at their breasts.

Any of these organizations, from professional associations to NGOs, might lobby their respective country's institutions to review the evidence on early infant feeding. For example, the American Academy of Pediatrics could ask the U.S. Congress to call on the Government Accountability Office (GAO) and National Academy of Medicine (NAM) in this task. GAO reviews relevant federal government activities when there are allegations of waste, fraud, and abuse, and the National Academies review scientific evidence. Both have a history of assembling investigators and committees without conflicts of interest to produce reports that contribute to necessary policy regime changes. By focusing on the national level, these reviews could be both comprehensive and context-sensitive. They might lead to changes in guidelines which conflict with available evidence. No organization has yet publicly called on such institutions for these services. Thus, targeted grassroots lobbying efforts may be one answer to the policy problem of insufficient evidentiary oversight of early infant feeding policies and practices.

Addressing the crisis in science starts with the same step. A comprehensive review of the existing evidence would audit study quality, clarifying where apparent mistakes and/or possible fraud may have compromised

the integrity of the publication record, estimating risks and benefits of different early infant feeding paradigms, and highlighting likely biases and gaps in the literature. It would note that, to date, no large-scale breastfeeding trials have been conducted that include data on relevant post-randomization events including breastfeeding problems. It would suggest a future research agenda.

The missing gold standard evidence on breastfeeding's benefits and risks is experimental. Breastfeeding proponents argue it would be unethical to conduct an experiment assigning consenting women to breastfeed or formula-feed their infants, because the benefits of breastfeeding are so well-established. But critics question the quality of that evidence, pointing to lack of basis for causal inferences and to the potential for selection bias and confounding to explain correlational effects. Meanwhile, the evidence this article reviewed on preventable harm to neonates associated with breastfeeding insufficiencies suggests that it would also be unethical to conduct an experiment assigning neonates to exclusive breastfeeding within the current paradigm versus an alternative paradigm that returns to prelacteal feeding. These competing claims threaten to create a sort of stagnant King Solomon dilemma in which both "mothers" refuse to cut the child, leaving the truth contested.

If this dilemma is valid and irresolvable, scientific institutions charged with interpreting the available evidence should say so and explain what that means for research ethics. Should exclusive breastfeeding versus prelacteal feeding paradigms be compared head-to-head anyway, with adequate informed consent and safeguards, for the betterment of society? Should exclusive formula- versus breastfeeding be similarly compared? Or is the evidence on common and preventable harm to neonates already sufficient to justify a paradigm shift swinging the pendulum back to prelacteal feeding as the norm? If practitioners and researchers should then adhere to new standards for minimizing neonatal starvation/deprivation and later infant under-nutrition periods, what should those standards be?

In the context of these questions, Congressional requestors might task GAO with evaluating whether recent federally funded research appears to have violated federal law protecting human subjects, constituting fraud (e.g., by concealing information about risks in informed consent protocols that were required to communicate that information), waste, and/or abuse. This would help illustrate bright lines that future science should not cross. They might also task NAM with articulating basic principles and suggestions for more ethically and methodologically rigorous future research on early infant feeding.

The case for such research proceeding in spite of ethical concerns is pragmatic: There is such a marked disconnect between the evidence on common and preventable harm to neonates from breastfeeding insufficiencies, and current consensus promoting exclusive breastfeeding, that a trial comparing current practice to an alternative paradigm might be necessary to produce the sort of additional, gold-standard evidence enabling causal inferences that may be required to generate broad acceptance of the indicated paradigm shift in early infant feeding. As long as it looks as though healthier children were breastfeed and mothers who breastfed are healthier - although this could be for many possible reasons other than straightforward causality, e.g., because healthier mothers and babies are more likely to have breastfeeding success, and / or babies who suffer longer starvation periods due to breastfeeding insufficiencies are more likely to persist in citing correlational evidence as if it were proof of causation, and recommending exclusive breastfeeding for its purported (possible but uncertain) benefits while ignoring its (similarly possible but uncertain) risks.

A large, well-designed, multi-country trial comparing exclusive breastfeeding versus prelacteal feeding paradigms, and /or exclusive breastfeeding versus formula-feeding groups, could generate novel data including on the effects of relevant post-randomization events such as delayed and insufficient milk, providing vital new insights into the possible roles of neonatal starvation and deprivation in driving outcomes previously attributed to infant feeding mode. Researchers should carefully consider whether and how to block on the most important possible maternal and infant confounds in an attempt to approximately equalize mother-infant dyads with more and less successful breastfeeding across study groups. Potential maternal confounds include primaparity, exhaustion, BMI / metabolic conditions, health status more generally, socio-economic status, and breast abnormalities (such as minimal development during adolescence and/or pregnancy, and inverted nipples); infant confounds include gender, race, and prematurity. Primaparity and prematurity seem most predictive of relevant outcomes of breastfeeding insufficiencies and jaundice vulnerability, respectively. Approximating equalization in this way tends to decrease statistical power while increasing model precision, and would thus make the most sense with a relatively large and diverse sample; but some criticize this approach for its potential to introduce selection bias, recommending simple over stratified randomization for sample sizes over 200 [181, 182]. Thus, simple randomization across diverse trial contexts might best balance the need to generate accurate and credible estimates with the need to measure racial and other subgroup effects.

This sort of trial has the potential to enable more accurate and credible analyses than ever before on breastfeeding's effects on child and maternal health, which may include risks and benefits on both sides. This knowledge is of great public health importance. But the ethical implications of the sort of research that might create it are deeply fraught, and require advanced institutional oversight that seems to have been lacking in the field before. Whether a trial like this is conducted or not, available evidence on fully

preventable harm to previously healthy neonates from breastfeeding insufficiencies supports greater protections for this particularly vulnerable population in research and practice.

Moreover, there is ample precedent for evidence-based policy shifts without randomized controlled trials in the history of medicine. For example, when Hungarian physician Ignaz Semmelweis had sufficient theoretical and empirical basis to suspect that doctor handwashing might substantially reduce maternal mortality, in 1847 he implemented the policy that made sense to prevent harm (doctor handwashing), and then analyzed how the change affected maternal deaths after the fact (substantial death reduction) [183]. Germ theory was not yet fully developed or widely accepted; the evidence base for the change had been limited, but sufficient to apply the preventive principle to act to avoid possible risk when the stakes are high. The resulting proof was persuasive enough to change practice eventually. But that change did not come fast enough to prevent Semmelweis from suffering tremendous social and professional harm as colleagues - who his research suggested were responsible for large numbers of preventable deaths - opposed him. When he did not shut up, they ultimately had him committed to an insane asylum where guards beat him and he died, probably from a gangrenous wound sustained during the beating.

Shifting back from exclusive breastfeeding to an updated prelacteal feeding paradigm presents an analogous case in which the evidence supports immediate policy change to prevent harm, but institutions and experts have incentives to resist the indicated change. Except in this case, there is apparently no Semmelweis in the field working head-on against resistance to the indicated paradigm shift, in the name of science and preventing harm to neonates. And in this case, perverse incentives other than healthcare professionals' own cognitive dissonance and motivated reasoning (e.g., to believe that they help people rather than harming them) may amplify that resistance: Hospital systems stand to make substantially more money from the risky current paradigm than they would from the safer alternate.

Under the current system, hospitals profit from insurance claims for rehospitalized newborns who receive inpatient treatment for complications of insufficient milk. Recommending supplementation with sufficient milk guided by infant hunger cues, rather than discouraging such supplementation, would prevent the majority of these hospitalizations. This would frequently decrease hospital revenue, displeasing administrators.

That is what happened recently at the Isala Hospital in Zwolle, the Netherlands. There, Austie et al [184] replicated earlier results from Harris et al [185] and Hegarty et al [186] showing oral dextrose or glucose reduces hypoglycemia. They reduced the need for IV glucose by half. That cost the hospital nearly 60,000 euros annually. It likely would have cost even more to simply instruct parents to feed neonates formula while establishing safe breastfeeding instead, potentially preventing more medical interventions - oral dextrose/glucose, relevant measurements before and after, and associated consultations - from becoming necessary.

To address the possibility that hospitals respond to such perverse incentives by maintaining protocols that pose demonstrated risks of preventable harm to newborns, future research might experiment with policy interventions changing those incentives. For instance, health insurance companies might issue a notice that they will refuse to reimburse hospitals for neonatal readmissions within 30 days of birth for fully preventable complications relating to insufficient milk intake in breastfed neonates, such as jaundice, hypoglycemia, and hypernatremia. State or federal legislators might even mandate such a shift. A state-level policy experiment would have the added benefit of generating data that could be compared with data from other states.

## Conclusions

Since the 1970s, evidence has accumulated in the medical literature of common and fully preventable harm to neonates resulting from breastfeeding insufficiencies under the new, historically anomalous exclusive breastfeeding paradigm of early infant feeding. Proponents of this new paradigm tended to lack generations of direct knowledge transmission about safe breastfeeding. They misconceived their intervention as natural and thus safe, and so failed (in good faith) to collect safety data that would have identified these risks. Previous advanced civilizations recognized the common problem of breastfeeding insufficiencies and solved it with safety infrastructure: a well-organized wetnursing profession, shared nursing practices, and prelacteal feeding norms. Modern societies accidentally destroyed that infrastructure, and cannot now easily rebuild it due to contemporary challenges including HIV transmission risk. Early, adequate, and often formula supplementation is the best infrastructural solution to the common breastfeeding insufficiencies problem in the contemporary context. Evidence is insufficient to establish that this alternate paradigm of early infant feeding would necessarily decrease breastfeeding rates, that decreasing exclusive breastfeeding rates would do more harm than starving some neonates as the current paradigm does, or that such decreases would cause harm at all.

Current early infant feeding guidelines conflict with available evidence on possible risks of breastfeeding insufficiencies. Early insufficient nutrition/hydration has possible long-term effects including neurodevelopmental consequences such as attention deficit hyperactivity disorder, autism, cerebral palsy, cognitive and developmental delay, epilepsy, hearing impairment, kernicterus, language disorder, mood disorders, lower IQ, and specific learning disorder. Responding to this mounting evidence of possible harm,

recent medical reform efforts have tended to focus on using more measurement, medical intervention, and technologies within the exclusive breastfeeding paradigm instead of proposing the indicated paradigm shift. But the science supports a simpler solution: application of the precautionary principle to feed hungry neonates the most appropriate available supplemental milk to avoid preventable harm including death and permanent disability. Bringing medical research and practice, public health policy, and societal understandings of safe breastfeeding in line with the scientific evidence presents challenges that likely require political institutional solutions to bring both democratic and expert oversight to bear on medicine and health policy in the public interest.

## **Additional Information**

#### Disclosures

**Conflicts of interest:** In compliance with the ICMJE uniform disclosure form, all authors declare the following: **Payment/services info:** All authors have declared that no financial support was received from any organization for the submitted work. **Financial relationships:** All authors have declared that they have no financial relationships at present or within the previous three years with any organizations that might have an interest in the submitted work. **Other relationships:** Vera Wilde, PhD, became interested in the scientific evidence on breastfeeding after her healthy, full-term son suffered excessive weight loss due to insufficient milk.

## References

- Escobar GJ, Greene JD, Hulac P, et al.: Rehospitalisation after birth hospitalisation: patterns among infants of all gestations. Arch Dis Child. 2005, 90:125-31. 10.1136/adc.2003.039974
- Young PC, Korgenski K, Buchi KF: Early readmission of newborns in a large health care system . Pediatrics. 2013, 131:e1538-44. 10.1542/peds.2012-2634
- Owa JA, Osinaike AI: Neonatal morbidity and mortality in Nigeria. Indian J Pediatr. 1998, 65:441-9. 10.1007/BF02761140
- Okechukwu AA, Achonwa A: Morbidity and mortality patterns of admissions into the Special Care Baby Unit of University of Abuja Teaching Hospital, Gwagwalada, Nigeria. Niger J Clin Pract. 2009, 12:389-94.
- Udo JJ, Anah MU, Ochigbo SO, Etuk IS, Ekanem AD: Neonatal morbidity and mortality in Calabar, Nigeria: a hospital-based study. Niger J Clin Pract. 2008, 11:285-9.
- Diala UM, Wennberg RP, Abdulkadir I, et al.: Patterns of acute bilirubin encephalopathy in Nigeria: a multicenter pre-intervention study. J Perinatol. 2018, 38:873-80. 10.1038/s41372-018-0094-y
- Le Ray I, Wang C, Almqvist C, et al.: Neonatal jaundice, attention deficit hyperactivity disorder and familial effects: a Swedish register study with sibling analysis. Acta Paediatr. 2021, 110:473-9. 10.1111/apa.15475
- Wei CC, Chang CH, Lin CL, Chang SN, Li TC, Kao CH: Neonatal jaundice and increased risk of attentiondeficit hyperactivity disorder: a population-based cohort study. J Child Psychol Psychiatry. 2015, 56:460-7. 10.1111/jcpp.12303
- 9. Amin SB, Smith T, Wang H: Is neonatal jaundice associated with Autism Spectrum Disorders: a systematic review. J Autism Dev Disord. 2011, 41:1455-63. 10.1007/s10803-010-1169-6
- Jenabi E, Bashirian S, Khazaei S: Association between neonatal jaundice and autism spectrum disorders among children: a meta-analysis. Clin Exp Pediatr. 2020, 63:8-13. 10.3345/kjp.2019.00815
- 11. Kujabi ML, Petersen JP, Pedersen MV, Parner ET, Henriksen TB: Neonatal jaundice and autism spectrum disorder: a systematic review and meta-analysis. Pediatr Res. 2021, 10.1038/s41390-020-01272-x
- Suvanand S, Kapoor SK, Reddaiah VP, Singh U, Sundaram KR: Risk factors for cerebral palsy. Indian J Pediatr. 1997, 64:677-85. 10.1007/BF02726124
- Bringas-Grande A, Fernández-Luque A, García-Alfaro C, Barrera-Chacón M, Toledo-González M, Domínguez-Roldá JM: Cerebral palsy in childhood: 250 cases report. Rev Neurol. 2002, 35:812-7.
- 14. Ayanniyi O, Abdulsalam KS: Profile of children with cerebral palsy attending outpatient physiotherapy clinics in southwest Nigeria. Afr J Physiother Rehabil Sci. 2015, 7:32-39. 10.4314/ajprs.v7i1-2.6
- Chen MH, Su TP, Chen YS, et al.: Is neonatal jaundice associated with autism spectrum disorder, attention deficit hyperactivity disorder, and other psychological development? A nationwide prospective study. Res Autism Spectr Disord. 2014, 8:625-32. 10.1016/j.rasd.2014.03.006
- 16. Cansu A, Serdaroğlu A, Yüksel D, et al.: Prevalence of some risk factors in children with epilepsy compared to their controls. Seizure. 2007, 16:338-44. 10.1016/j.seizure.2007.02.003
- 17. Maimburg RD, Olsen J, Sun Y: Neonatal hyperbilirubinemia and the risk of febrile seizures and childhood epilepsy. Epilepsy Res. 2016, 124:67-72. 10.1016/j.eplepsyres.2016.05.004
- Olusanya BO, Akande AA, Emokpae A, Olowe SA: Infants with severe neonatal jaundice in Lagos, Nigeria: incidence, correlates and hearing screening outcomes. Trop Med Int Health. 2009, 14:301-10. 10.1111/j.1365-3156.2009.02223.x
- Saluja S, Agarwal A, Kler N, Amin S: Auditory neuropathy spectrum disorder in late preterm and term infants with severe jaundice. Int J Pediatr Otorhinolaryngol. 2010, 74:1292-7. 10.1016/j.ijporl.2010.08.007
- 20. Koziol LF, Budding DE, Chidekel D: Hyperbilirubinemia: subcortical mechanisms of cognitive and behavioral dysfunction. Pediatr Neurol. 2013, 48:3-13. 10.1016/j.pediatrneurol.2012.06.019
- K. Kinney D, Yurgelun-Todd DA, Tohen M, and Tramer S: Pre- and perinatal complications and risk for bipolar disorder: a retrospective study. J Affect Disord. 1998, 50:117-24. 10.1016/S0165-0327(98)00015-9
- Amin SB, Smith T, Timler G: Developmental influence of unconjugated hyperbilirubinemia and neurobehavioral disorders. Pediatr Res. 2019, 85:191-7. 10.1038/s41390-018-0216-4
- Musapasaoglu H, Agildere AM, Teksam M, Tarcan A, Gurakan B: Hypernatraemic dehydration in a neonate: brain MRI findings. Br J Radiol. 2008, 81:e57-60. 10.1259/bjr/28766369
- 24. Rosenbloom AL: Permanent brain damage from hypernatremic dehydration in breastfed infants: patient

reports. Clin Pediatr. 2004, 43:855-7. 10.1177/000992280404300911

- Unal S, Arhan E, Kara N, Uncu N, Aliefendioğlu D: Breast-feeding-associated hypernatremia: retrospective analysis of 169 term newborns. Pediatr Int. 2008, 50:29-34. 10.1111/j.1442-200X.2007.02507.x
- Bolat F, Oflaz MB, Güven AS, et al.: What is the safe approach for neonatal hypernatremic dehydration? A retrospective study from a neonatal intensive care unit. Pediatr Emerg Care. 2013, 29:808-13.
  10.1097/PEC.0b013e3182983bac
- Kerstjens JM, Bocca-Tjeertes IF, de Winter AF, Reijneveld SA, Bos AF: Neonatal morbidities and developmental delay in moderately preterm-born children. Pediatrics. 2012, 130:e265-72. 10.1542/peds.2012-0079
- Koh TH, Aynsley-Green A, Tarbit M, Eyre JA: Neural dysfunction during hypoglycaemia. Arch Dis Child. 1988, 63:1353-8. 10.1136/adc.63.11.1353
- Lucas A, Morley R, Cole TJ: Adverse neurodevelopmental outcome of moderate neonatal hypoglycaemia. BMJ. 1988, 297:1304-8. 10.1136/bmj.297.6659.1304
- Wickström R, Skiöld B, Petersson G, Stephansson O, Altman M: Moderate neonatal hypoglycemia and adverse neurological development at 2-6 years of age. Eur J Epidemiol. 2018, 33:1011-20. 10.1007/s10654-018-0425-5
- Rozance PJ, Hay WW Jr: Describing hypoglycemia--definition or operational threshold?. Early Hum Dev. 2010, 86:275-80. 10.1016/j.earlhumdev.2010.05.002
- Cornblath M, Hawdon JM, Williams AF, Aynsley-Green A, Ward-Platt MP, Schwartz R, Kalhan SC: Controversies regarding definition of neonatal hypoglycemia: suggested operational thresholds . Pediatrics. 2000, 105:1141-5. 10.1542/peds.105.5.1141
- 33. Hay WW Jr, Raju TN, Higgins RD, Kalhan SC, Devaskar SU: Knowledge gaps and research needs for understanding and treating neonatal hypoglycemia: workshop report from Eunice Kennedy Shriver National Institute of Child Health and Human Development. J Pediatr. 2009, 155:612-7. 10.1016/j.jpeds.2009.06.044
- Anderson S, Shakya KN, Shrestha LN, Costello AM: Hypoglycaemia: a common problem among uncomplicated newborn infants in Nepal. J Trop Pediatr. 1993, 39:273-7. 10.1093/tropej/59.5.273
- Osier FH, Berkley JA, Ross A, Sanderson F, Mohammed S, Newton CR: Abnormal blood glucose concentrations on admission to a rural Kenyan district hospital: prevalence and outcome. Arch Dis Child. 2003, 88:621-5. 10.1136/adc.88.7.621
- Neifert M, DeMarzo S, Seacat J, Young D, Leff M, Orleans M: The influence of breast surgery, breast appearance, and pregnancy-induced breast changes on lactation sufficiency as measured by infant weight gain. Birth. 1990, 17:31-8. 10.1111/j.1523-536x.1990.tb00007.x
- Chen DC, Nommsen-Rivers L, Dewey KG, Lönnerdal B: Stress during labor and delivery and early lactation performance. Am J Clin Nutr. 1998, 68:335-44. 10.1093/ajcn/68.2.335
- Chapman DJ, Pérez-Escamilla R: Identification of risk factors for delayed onset of lactation. J Am Diet Assoc. 1999, 99:450-4. 10.1016/S0002-8223(99)00109-1
- Dewey KG, Nommsen-Rivers LA, Heinig MJ, Cohen RJ: Risk factors for suboptimal infant breastfeeding behavior, delayed onset of lactation, and excess neonatal weight loss. Pediatrics. 2003, 112:607-19. 10.1542/peds.112.3.607
- Nommsen-Rivers LA, Chantry CJ, Peerson JM, Cohen RJ, Dewey KG: Delayed onset of lactogenesis among first-time mothers is related to maternal obesity and factors associated with ineffective breastfeeding. Am J Clin Nutr. 2010, 92:574-84. 10.3945/ajcn.2010.29192
- Lawn JE, Cousens S, Zupan J, and Lancet Neonatal Survival Steering Team: 4 million neonatal deaths: When? Where? Why?. Lancet. 2005, 365:891-900. 10.1016/S0140-6736(05)71048-5
- Lehtonen L, Gimeno A, Parra-Llorca A, Vento M: Early neonatal death: a challenge worldwide. Semin Fetal Neonatal Med. 2017, 22:153-60. 10.1016/j.siny.2017.02.006
- UNICEF, World Health Organization, Joint United Nations Programme on HIV/AIDS, and United Nations Population Fund: HIV and Infant Feeding: Guidelines for Decision-Makers. World Health Organization, Geneva; 2003.
- Welbourn HF, Debeer G: Trial of a kit for artificial feeding in tropical village homes. J Trop Med Hyg. 1964, 67:155-9.
- Lang S, Lawrence CJ, Orme RL: Cup feeding: an alternative method of infant feeding. Arch Dis Child. 1994, 71:365-9. 10.1136/adc.71.4.365
- Taylor SN: ABM clinical protocol #29: iron, zinc, and vitamin D supplementation during breastfeeding . Breastfeed Med. 2018, 13:398-404. 10.1089/bfm.2018.29095.snt
- Wickes IG: A history of infant feeding: Part I. Primitive peoples: ancient works: renaissance writers . Arch Dis Child. 1953, 28:151-8. 10.1136/adc.28.138.151
- Wickes IG: A history of infant feeding: Part II. Seventeenth and eighteenth centuries. Arch Dis Child. 1953, 28:232-40. 10.1136/adc.28.139.232
- Wickes IG: A history of infant feeding: Part III: eighteenth and nineteenth century writers . Arch Dis Child. 1953, 28:332-40. 10.1136/adc.28.140.332
- Wickes IG: A history of infant feeding: Part IV—nineteenth century continued . Arch Dis Child. 1953, 28:416-22. 10.1136/adc.28.141.416
- Stevens EE, Patrick TE, Pickler R: A history of infant feeding. J Perinat Educ. 2009, 18:32-9. 10.1624/105812409X426314
- 52. Wieschhoff H: Artificial stimulation of lactation in primitive cultures . Bull Hist Med. 1940, 8:1403-15.
- Abdel-Rahman ME, El-Heneidy A, Benova L, Oakley L: Early feeding practices and associated factors in Sudan: a cross-sectional analysis from multiple Indicator cluster survey. Int Breastfeed J. 2020, 15:41. 10.1186/s13006-020-00288-7
- Agho KE, Ogeleka P, Ogbo FA, Ezeh OK, Eastwood J, Page A: Trends and predictors of prelacteal feeding practices in Nigeria (2003-2013). Nutrients. 2016, 8:462. 10.3390/nu8080462
- 55. Ahmed FU, Rahman ME, Alam MS: Prelacteal feeding: influencing factors and relation to establishment of lactation. Bangladesh Med Res Counc Bull. 1996, 22:60-4.
- 56. Ashraf RN, Jalil F, Khan SR, Zaman S, Karlberg J, Lindblad BS, Hanson LA: Early child health in Lahore,

Pakistan: V. Feeding patterns. Acta Paediatr. 1993, 82:47-61. 10.1111/j.1651-2227.1993.tb12906.x

- Asim M, Ahmed ZH, Hayward MD, Widen EM: Prelacteal feeding practices in Pakistan: a mixed-methods study. Int Breastfeed J. 2020, 15:53. 10.1186/s13006-020-00295-8
- Badruddin SH, Inam SN, Ramzanali S, Hendricks K: Constraints to adoption of appropriate breast feeding practices in a squatter settlement in Karachi, Pakistan. J Pak Med Assoc. 1997, 47:63-8.
- Boccolini CS, Pérez-Escamilla R, Giugliani ER, Boccolini Pde M: Inequities in milk-based prelacteal feedings in Latin America and the Caribbean: the role of cesarean section delivery. J Hum Lact. 2015, 31:89-98. 10.1177/0890334414559074
- Hossain MM, Radwan MM, Arafa SA, Habib M, DuPont HL: Prelacteal infant feeding practices in rural Egypt . J Trop Pediatr. 1992, 38:317-22. 10.1093/tropej/38.6.317
- Hossain MM, Reves RR, Radwan MM, Habib M, DuPont HL: The timing of breastfeeding initiation and its correlates in a cohort of rural Egyptian infants. J Trop Pediatr. 1995, 41:354-9. 10.1093/tropej/41.6.354
- Kaushal M, Aggarwal R, Singal A, Shukla H, Kapoor SK, Paul VK: Breastfeeding practices and health-seeking behavior for neonatal sickness in a rural community. J Trop Pediatr. 2005, 51:366-76. 10.1093/tropej/fmi035
- Kavle JA, Ahoya B, Kiige L, Mwando R, Olwenyi F, Straubinger S, Gathi CM: Baby-Friendly Community Initiative-From national guidelines to implementation: a multisectoral platform for improving infant and young child feeding practices and integrated health services. Matern Child Nutr. 2019, 15:e12747. 10.1111/mcn.12747
- Rahmartani LD, Carson C, Quigley MA: Prevalence of prelacteal feeding and associated risk factors in Indonesia: evidence from the 2017 Indonesia Demographic Health Survey. PLoS One. 2020, 15:e0243097. 10.1371/journal.pone.0243097
- Sellen DW: Infant and young child feeding practices among African pastoralists: the Datoga of Tanzania. J Biosoc Sci. 1998, 30:481-99. 10.1017/s0021932098004817
- 66. Srivastava SP, Sharma VK, Kumar V: Breast feeding pattern in neonates . Indian Pediatr. 1994, 31:1079-82.
- 67. Eriksson K, Niemesh GT, Thomasson M: Revising infant mortality rates for the early twentieth century United States. Demography. 2018, 55:2001-24. 10.1007/s13524-018-0723-2
- Lee KS: Infant mortality decline in the late 19th and early 20th centuries: the role of market milk . Perspect Biol Med. 2007, 50:585-602. 10.1353/pbm.2007.0051
- Currier RW, Widness JA: A brief history of milk hygiene and its impact on infant mortality from 1875 to 1925 and implications for today: a review. J Food Prot. 2018, 81:1713-22. 10.4315/0362-028X.JFP-18-186
- Bhatia A, Krieger N, Subramanian SV: Learning from history about reducing infant mortality: contrasting the centrality of structural interventions to early 20th-century successes in the United States to their neglect in current global initiatives. Milbank Q. 2019, 97:285-345. 10.1111/1468-0009.12376
- Kramer HD: The germ theory and the early public health program in the United States . Bull Hist Med. 1948, 22:233-47.
- Gilmore HE, Rowland TW: Critical malnutrition in breast-fed infants. Three case reports . Am J Dis Child. 1978, 132:885-7. 10.1001/archpedi.1978.02120340061011
- Roddey OF Jr, Martin ES, Swetenburg RL: Critical weight loss and malnutrition in breast-fed infants. Am J Dis Child. 1981, 135:597-9. 10.1001/archpedi.1981.02130310003002
- Rowland TW, Zori RT, Lafleur WR, Reiter EO: Malnutrition and hypernatremic dehydration in breast-fed infants. JAMA. 1982, 247:1016-7.
- Thullen JD: Management of hypernatremic dehydration due to insufficient lactation. Clin Pediatr. 1988, 27:370-2. 10.1177/000992288802700803
- Muller M: The Baby Killer: A War on Want [NGO] investigation into the promotion and sale of powdered baby milks in the third world. (1974). Accessed: 09/29/2021: http://archive.babymilkaction.org/pdfs/babykiller.pdf.
- Neifert MR, Seacat JM: Lactation insufficiency: a rational approach. Birth. 1987, 14:182-90. 10.1111/j.1523-536x.1987.tb01489.x
- Maisels MJ, Newman TB: Kernicterus in otherwise healthy, breast-fed term newborns. Pediatrics. 1995, 96:730-3.
- Hansen TW: Kernicterus in term and near-term infants--the specter walks again. Acta Paediatr. 2000, 89:1155-7. 10.1080/080352500750027484
- Ebbesen F: Recurrence of kernicterus in term and near-term infants in Denmark . Acta Paediatr. 2000, 89:1213-7. 10.1080/080352500750027592
- Okolie F, South-Paul JE, Watchko JF: Combating the hidden health disparity of Kernicterus in Black Infants: a review. JAMA Pediatr. 2020, 174:1199-205. 10.1001/jamapediatrics.2020.1767
- Edmonson MB, Stoddard, JJ, Owens LM: Hospital readmission with feeding-related problems after early postpartum discharge of normal newborns. JAMA J Am Med Assoc. 1997, 278:299-303. 10.1001/jama.1997.03550040055037
- Paul IM, Lehman EB, Hollenbeak CS, Maisels MJ: Preventable newborn readmissions since passage of the Newborns' and Mothers' Health Protection Act. Pediatrics. 2006, 118:2349-58. 10.1542/peds.2006-2043
- Flaherman V, Schaefer EW, Kuzniewicz MW, Li SX, Walsh EM, Paul IM: Health care utilization in the first month after birth and its relationship to newborn weight loss and method of feeding. Acad Pediatr. 2018, 18:677-84. 10.1016/j.acap.2017.11.005
- Kemper K, Forsyth B, McCarthy P: Jaundice, terminating breast-feeding, and the vulnerable child. Pediatrics. 1989, 84:773-8.
- Cooper WO, Atherton HD, Kahana M, Kotagal UR: Increased incidence of severe breastfeeding malnutrition and hypernatremia in a metropolitan area. Pediatrics. 1995, 96:957-60.
- Laing IA, Wong CM: Hypernatraemia in the first few days: is the incidence rising?. Arch Dis Child. 2002, 87:F158-62. 10.1136/fn.87.3.f158
- Moritz ML, Manole MD, Bogen DL, Ayus JC: Breastfeeding-associated hypernatremia: are we missing the diagnosis?. Pediatrics. 2005, 116:e343-7. 10.1542/peds.2004-2647
- Reilev M, Børch K, Pryds OA: Neonatal hypernatraemic dehydration--why increasing incidence?. Ugeskr Laeger. 2007, 169:1227-31.

- Moritz ML, Ayus JC: Preventing neurological complications from dysnatremias in children. Pediatr Nephrol. 2005, 20:1687-700. 10.1007/s00467-005-1933-6
- 91. United Nations Children's Fund (UNICEF) and World Health Organization: Implementation Guidance on Counselling Women to Improve Breastfeeding Practices. United Nations Children's Fund, New York; 2021.

 Neifert MR: Prevention of breastfeeding tragedies. Pediatr Clin North Am. 2001, 48:273-97. 10.1016/s0031-3955(08)70026-9

- Futatani T, Shimao A, Ina S, et al.: Capillary Blood Ketone Levels as an Indicator of Inadequate Breast Milk Intake in the Early Neonatal Period. J Pediatr. 2017, 191:76-81. 10.1016/j.jpeds.2017.08.080
- Ferrández-González M, Bosch-Giménez V, López-Lozano J, Moreno-López N, Palazón-Bru A, Cortés-Castell E: Weight loss thresholds to detect early hypernatremia in newborns. J Pediatr. 2019, 95:689-95. 10.1016/j.iped.2018.06.005
- Shan KH, Wang TM, Lin MC: Association between rooming-in policy and neonatal hyperbilirubinemia. Pediatr Neonatol. 2019, 60:186-91. 10.1016/j.pedneo.2018.06.002
- Maisels MJ, Newman TB: Predicting hyperbilirubinemia in newborns: the importance of timing. Pediatrics. 1999, 103:493-5. 10.1542/peds.103.2.493
- 97. Fay DL, Schellhase KG, Suresh GK: Bilirubin screening for normal newborns: a critique of the hour-specific bilirubin nomogram. Pediatrics. 2009, 124:1203-5. 10.1542/peds.2009-0190
- Bhutani VK, Johnson L, Sivieri EM: Predictive ability of a predischarge hour-specific serum bilirubin for subsequent significant hyperbilirubinemia in healthy term and near-term newborns. Pediatrics. 1999, 103:6-14. 10.1542/peds.103.1.6
- De Carvalho M, Robertson S, Klaus M: Fecal bilirubin excretion and serum bilirubin concentrations in breast-fed and bottle-fed infants. J Pediatr. 1985, 107:786-90. 10.1016/s0022-3476(85)80418-2
- Buchmayer S, Johansson S, Johansson A, Hultman CM, Sparén P, Cnattingius S: Can association between preterm birth and autism be explained by maternal or neonatal morbidity?. Pediatrics. 2009, 124:e817-25. 10.1542/peds.2008-3582
- Kellams A, Harrel C, Omage S, Gregory C, Rosen-Carole C: ABM clinical protocol #3: supplementary feedings in the healthy term breastfed neonate, revised 2017. Breastfeed Med. 2017, 12:188-98.
  10.1089/bfm.2017.29038.ajk
- Wight NE: ABM clinical protocol #1: guidelines for glucose monitoring and treatment of hypoglycemia in term and late preterm neonates, revised 2021. Breastfeed Med. 2021, 16:353-65.
  10.1089/bfm.2021.29178.new
- Thornton PS, Stanley CA, De Leon DD, et al.: Recommendations from the pediatric endocrine society for evaluation and management of persistent hypoglycemia in neonates, infants, and children. J Pediatr. 2015, 167:238-45. 10.1016/j.jpeds.2015.03.057
- Hofvander Y: Breastfeeding and the Baby Friendly Hospitals Initiative (BFHI): organization, response and outcome in Sweden and other countries. Acta Paediatr. 2005, 94:1012-6. 10.1111/j.1651-2227.2005 tb02058 x
- Flaherman VJ, Aby J, Burgos AE, Lee KA, Cabana MD, Newman TB: Effect of early limited formula on duration and exclusivity of breastfeeding in at-risk infants: an RCT. Pediatrics. 2013, 131:1059-65. 10.1542/peds.2012-2809
- Flaherman VJ, Narayan NR, Hartigan-O'Connor D, Cabana MD, McCulloch CE, Paul IM: The effect of early limited formula on breastfeeding, readmission, and intestinal microbiota: a randomized clinical trial. J Pediatr. 2018, 196:84-90.e1. 10.1016/j.jpeds.2017.12.073
- Flaherman VJ, Cabana MD, McCulloch CE, Paul IM: Effect of early limited formula on breastfeeding duration in the first year of life: a randomized clinical trial. JAMA Pediatr. 2019, 173:729-35.
  10.1001/jamapediatrics.2019.1424
- Simmons JP, Nelson LD, Simonsohn U: False-positive psychology: undisclosed flexibility in data collection and analysis allows presenting anything as significant. Psychol Sci. 2011, 22:1359-66.
  10.1177/0956797611417632
- Gartner LM, Lee KS, Moscioni AD: Effect of milk feeding on intestinal bilirubin absorption in the rat . J Pediatr. 1983, 103:464-71. 10.1016/S0022-3476(83)80429-6
- de Carvalho M, Hall M, Harvey D: Effects of water supplementation on physiological jaundice in breast-fed babies. Arch Dis Child. 1981, 56:568-9. 10.1136/adc.56.7.568
- Nicoll A, Ginsburg R, Tripp JH: Supplementary feeding and jaundice in newborns. Acta Paediatr Scand. 1982, 71:759-61. 10.1111/j.1651-2227.1982.tb09515.x
- Mabogunje CA, Olaifa SM, Olusanya BO: Facility-based constraints to exchange transfusions for neonatal hyperbilirubinemia in resource-limited settings. World J Clin Pediatr. 2016, 5:182-90. 10.5409/wjcp.v5.i2.182
- Slusher TM, Zamora TG, Appiah D, et al.: Burden of severe neonatal jaundice: a systematic review and metaanalysis. BMJ Paediatr Open. 2017, 1:e000105, 10.1136/bmjpo-2017-000105
- Cayabyab R, Ramanathan R: High unbound bilirubin for age: a neurotoxin with major effects on the developing brain. Pediatr Res. 2019, 85:183-90. 10.1038/s41390-018-0224-4
- 115. Diallo AH, Meda N, Zabsonré E, Sommerfelt H, Cousens S, Tylleskär T: Perinatal mortality in rural Burkina Faso: a prospective community-based cohort study. BMC Pregnancy Childbirth. 2010, 10:45. 10.1186/1471-2393-10-45
- Diallo AH, Meda N, Ouédraogo WT, Cousens S, Tylleskar T: A prospective study on neonatal mortality and its predictors in a rural area in Burkina Faso: can MDG-4 be met by 2015?. J Perinatol. 2011, 31:656-63. 10.1038/jp.2011.6
- 117. Engebretsen IM, Nankabirwa V, Doherty T, et al.: Early infant feeding practices in three African countries: the PROMISE-EBF trial promoting exclusive breastfeeding by peer counsellors. Int Breastfeed J. 2014, 9:19. 10.1186/1746-4358-9-19
- Engebretsen IM, Jackson D, Fadnes LT, et al.: Growth effects of exclusive breastfeeding promotion by peer counsellors in sub-Saharan Africa: the cluster-randomised PROMISE EBF trial. BMC Public Health. 2014, 14:633. 10.1186/1471-2458-14-633

- Forsyth S: Should there be a comprehensive independent review of infant feeding policymaking? . Ann Nutr Metab. 2020, 76:201-6. 10.1159/000508455
- World Health Organization: International Code of Marketing of Breast-milk Substitutes . World Health Organization, Geneva; 1981.
- 121. Tylleskär T, Jackson D, Meda N, et al.: Exclusive breastfeeding promotion by peer counsellors in sub-Saharan Africa (PROMISE-EBF): a cluster-randomised trial. Lancet. 2011, 378:420-7. 10.1016/S0140-6736(11)60738-1
- 122. Tumwine JK, Nankabirwa V, Diallo HA, et al.: Exclusive breastfeeding promotion and neuropsychological outcomes in 5-8 year old children from Uganda and Burkina Faso: results from the PROMISE EBF cluster randomized trial. PLoS One. 2018, 13:e0191001. 10.1371/journal.pone.0191001
- Bhattacharjee NV, Schaeffer LE, Marczak LB, et al.: Mapping exclusive breastfeeding in Africa between 2000 and 2017. Nat Med. 2019, 25:1205-12. 10.1038/s41591-019-0525-0
- Greenland S: Dose-response and trend analysis in epidemiology: alternatives to categorical analysis . Epidemiology. 1995, 6:356-65. 10.1097/00001648-199507000-00005
- 125. Wolf JB: Is breast best?: Taking on the breastfeeding experts and the new high stakes of motherhood . NYU Press, New York; 2010.
- 126. Barston S: Bottled up: how the way we feed babies has come to define motherhood, and why it shouldn't . University of California Press, Oakland; 2012.
- 127. Jung C: Lactivism: how feminists and fundamentalists, hippies and yuppies, and physicians and politicians made breastfeeding big business and bad policy. Basic Books, New York; 2015.
- 128. United States Senate: Hearing before the Subcommittee on Health and Scientific Research of the Committee on Human Resources: Marketing and Promotion of Infant Formula in the Developing Nations. U.S. Government Printing Office, Washington, D.C.; 1978.
- Clavano NR: Mode of feeding and its effect on infant mortality and morbidity. J Trop Pediatr. 1982, 28:287-93. 10.1093/tropej/28.6.287
- Kramer MS, Chalmers B, Hodnett ED, et al.: Promotion of Breastfeeding Intervention Trial (PROBIT): a randomized trial in the Republic of Belarus. JAMA. 2001, 285:413-20. 10.1001/jama.285.4.413
- Post RH: Breast cancer, lactation, and genetics. Biodemography Soc Biol. 1966, 13:1-29. 10.1080/19485565.1966.9987639
- WHO Collaborative Study on Breast-Feeding and World Health Organization: Contemporary patterns of breast-feeding: Report on the WHO Collaborative Study on Breast-feeding. World Health Organization, Geneva; 1981.
- Gussler JD, Briesemeister LH: The insufficient milk syndrome: a biocultural explanation . Med Anthropol. 1980, 4:145-74. 10.1080/01459740.1980.9965867
- Gatti L: Maternal perceptions of insufficient milk supply in breastfeeding. J Nurs Scholarsh. 2008, 40:355-63. 10.1111/j.1547-5069.2008.00234.x
- Gianni ML, Bettinelli ME, Manfra P, et al.: Breastfeeding difficulties and risk for early breastfeeding cessation. Nutrients. 2019, 11:2266. 10.3390/nu11102266
- Kramer MS, Aboud F, Mironova E, et al.: Breastfeeding and child cognitive development: new evidence from a large randomized trial. Arch Gen Psychiatry. 2008, 65:578-84. 10.1001/archpsyc.65.5.578
- Emond AM, Blair PS, Emmett PM, Drewett RF: Weight faltering in infancy and IQ levels at 8 years in the Avon Longitudinal Study of Parents and Children. Pediatrics. 2007, 120:e1051-8. 10.1542/peds.2006-2295
- 138. Teasdale TW, Owen DR: A long-term rise and recent decline in intelligence test performance: the Flynn Effect in reverse. Personal Individ Differ. 2005, 39:837-43. 10.1016/j.paid.2005.01.029
- Dutton E, Lynn R: A negative Flynn effect in Finland, 1997-2009. Intelligence. 2013, 41:817-20. 10.1016/j.intell.2013.05.008
- Pietschnig J, Gittler G: A reversal of the Flynn effect for spatial perception in German-speaking countries: evidence from a cross-temporal IRT-based meta-analysis (1977-2014). Intelligence. 2015, 53:145-53. 10.1016/j.intell.2015.10.004
- Bratsberg B, Rogeberg O: Flynn effect and its reversal are both environmentally caused . Proc Natl Acad Sci U S A. 2018, 115:6674-8. 10.1073/pnas.1718793115
- Lynn R: What has caused the Flynn effect? Secular increases in the development quotients of infants . Intelligence. 2009, 37:16-24. 10.1016/j.intell.2008.07.008
- Gomez-Pomar E, Blubaugh R: The Baby Friendly Hospital Initiative and the ten steps for successful breastfeeding. a critical review of the literature. J Perinatol. 2018, 38:623-32. 10.1038/s41372-018-0068-0
- 144. Pejovic NJ, Herlenius E: Unexpected collapse of healthy newborn infants: risk factors, supervision and hypothermia treatment. Acta Paediatr. 2013, 102:680-8. 10.1111/apa.12244
- Feldman-Winter L, Goldsmith JP: Safe sleep and skin-to-skin care in the neonatal period for healthy term newborns. Pediatrics. 2016, 138:e20161889. 10.1542/peds.2016-1889
- 146. Fok D, Aris IM, Ho JH, et al.: Early initiation and regular breast milk expression reduces risk of lactogenesis II delay in at-risk Singaporean mothers in a randomised trial. Singapore Med J. 2019, 60:80-8. 10.11622/smedj.2018067
- 147. Noel-Weiss J, Courant G, Woodend AK: Physiological weight loss in the breastfed neonate: a systematic review. Open Med. 2008, 2:e99-e110.
- Seske LM, Merhar SL, Haberman BE: Late-onset hypoglycemia in term newborns with poor breastfeeding. Hosp Pediatr. 2015, 5:501-4. 10.1542/hpeds.2015-0086
- Chantry CJ, Dewey KG, Peerson JM, Wagner EA, Nommsen-Rivers LA: In-hospital formula use increases early breastfeeding cessation among first-time mothers intending to exclusively breastfeed. J Pediatr. 2014, 164:1339-45.e5. 10.1016/j.jpeds.2013.12.035
- 150. U.S. Department of Health & Human Services (HHS), Health Resources and Services Administration (HRSA), Freedom of Information Act (FOIA) Request Case Number 21F164 - Early Limited Formula for Treating Lactation Concerns (ELF-TLC) clinical trial. (2021). Accessed: 09/29/2021: https://verawil.de/wpcontent/uploads/2021/09/09-08-21 HRSA-FOIA-ELF-trial.pdf.
- 151. Zhao LL, Lee EP, Kuo RN, Yang SS, Huang SC, Wu HP: Effect of early supplemental formula intervention on

body weight and hyperbilirubinemia in neonates during 72 h after birth. Front Pediatr. 2021, 9:10.3389/fped.2021.625536

- Hensman AM, Erickson-Owens DA, Sullivan MC, Quilliam BJ: Determinants of neonatal readmission in healthy term infants: results from a nested case-control study. Am J Perinatol. 2021, 38:1078-87. 10.1055/s-0040-1702936
- Hunt L, Ramos M, Helland Y, Lamkin K: Decreasing neonatal jaundice readmission rates through implementation of a jaundice management guide. BMJ Open Qual. 2020, 9:10.1136/bmjoq-2020-IHI.19
- Grupp-Phelan J, Taylor JA, Liu LL, Davis RL: Early newborn hospital discharge and readmission for mild and severe jaundice. Arch Pediatr Adolesc Med. 1999, 153:1283-8. 10.1001/archpedi.153.12.1283
- Okawa K, Takada S, Sakai M, Kayama F, Mizutani K, Mori H: Neonatal hyperbilirubinemia of inadequately breast-fed infants and the effect of formula supplementation. Nihon Sanka Fujinka Gakkai Zasshi. 1988, 40:1372-6.
- Henrich J, Heine SJ, Norenzayan A: The weirdest people in the world? . Behav Brain Sci. 2010, 33:61-83. 10.1017/S0140525X0999152X
- Flaherman VJ, Schaefer EW, Kuzniewicz MW, Li SX, Walsh EM, Paul IM: Early weight loss nomograms for exclusively breastfed newborns. Pediatrics. 2015, 135:e16-23. 10.1542/peds.2014-1532
- Bhutani VK, Wong RJ, Stevenson DK: Hyperbilirubinemia in preterm neonates. Clin Perinatol. 2016, 43:215-32. 10.1016/j.clp.2016.01.001
- Bergmann AU, Thorkelsson T: Incidence and risk factors for severe hyperbilirubinemia in term neonates. Laeknabladid. 2020, 106:139-43. 10.17992/lbl.2020.03.473
- Zhou YY, Lee LY, Ng SY, Hia CP, Low KT, Chong YS, Goh DL: UGT1A1 haplotype mutation among Asians in Singapore. Neonatology. 2009, 96:150-5. 10.1159/000209851
- Sato H, Uchida T, Toyota K, et al.: Association of neonatal hyperbilirubinemia in breast-fed infants with UGT1A1 or SLCOs polymorphisms. J Hum Genet. 2015, 60:35-40. 10.1038/jhg.2014.98
- 162. Sato H, Uchida T, Toyota K, et al.: Association of breast-fed neonatal hyperbilirubinemia with UGT1A1 polymorphisms: 211G>A (G71R) mutation becomes a risk factor under inadequate feeding. J Hum Genet. 2013, 58:7-10. 10.1038/jhg.2012.116
- Golden WC: The African-American neonate at risk for extreme hyperbilirubinemia: a better management strategy is needed. J Perinatol. 2017, 37:321-2. 10.1038/jp.2017.1
- 164. Brits H, Adendorff J, Huisamen D, Beukes D, Botha K, Herbst H, Joubert G: The prevalence of neonatal jaundice and risk factors in healthy term neonates at National District Hospital in Bloemfontein. Afr J Prim Health Care Fam Med. 2018, 10:e1-6. 10.4102/phcfm.v10i1.1582
- Watchko JF: Measurement of circulating unbound bilirubin: will it ever be a part of routine neonatal care? J Pediatr. 2016, 173:6-7. 10.1016/j.jpeds.2016.03.044
- 166. Brignardello-Petersen R, Guyatt GH, Buchbinder R, et al.: Knee arthroscopy versus conservative management in patients with degenerative knee disease: a systematic review. BMJ Open. 2017, 7:e016114. 10.1136/bmjopen-2017-016114
- 167. Patashnik EM, Gerber AS, Dowling CM: Unhealthy Politics: The Battle over Evidence-Based Medicine . Princeton University Press, Princeton, New Jersey ; 2017.
- Ennett ST, Tobler NS, Ringwalt CL, Flewelling RL: How effective is drug abuse resistance education? A metaanalysis of Project DARE outcome evaluations. Am J Public Health. 1994, 84:1394-401. 10.2105/aiph.84.9.1394
- West SL, O'Neal KK: Project D.A.R.E. outcome effectiveness revisited. Am J Public Health. 2004, 94:1027-9. 10.2105/ajph.94.6.1027
- Pan W, Bai H: A multivariate approach to a meta-analytic review of the effectiveness of the D.A.R.E. program. Int J Environ Res Public Health. 2009, 6:267-77. 10.3390/ijerph6010267
- 171. Baker M: 1,500 scientists lift the lid on reproducibility . Nature. 2016, 533:452-4. 10.1038/533452a
- Feinstein AR: "Clinical Judgment" revisited: the distraction of quantitative models. Ann Intern Med. 1994, 120:799-805. 10.7326/0003-4819-120-9-199405010-00012
- 173. Altman DG: The scandal of poor medical research . BMJ. 1994, 308:283-4. 10.1136/bmj.308.6924.283
- 174. Feinstein AR, Horwitz RI: Problems in the "Evidence" of "Evidence-Based Medicine". Am J Med. 1997, 103:529-35. 10.1016/S0002-9343(97)00244-1
- 175. Grimes DR, Bauch CT, Ioannidis JP: Modelling science trustworthiness under publish or perish pressure. R Soc Open Sci. 2018, 5:171511. 10.1098/rsos.171511
- Smith, R: BMJ: Time to assume that health research is fraudulent until proven otherwise? . (2021). Accessed: 09/29/2021: https://blogs.bmj.com/bmj/2021/07/05/time-to-assume-that-health-research-is-fraudulentuntil-proved-otherwise/.
- 177. Drivenes B, Krause TG, Andersson M, et al.: Infant botulism in Denmark from 1995 to 2015. Dan Med J. 2017, 64:A5404.
- SIDS Sudden Infant and Early Childhood Death: The Past, the Present and the Future . Duncan JR, Byard RW (ed): University of Adelaide Press, Adelaide; 2018.
- The Fed Is Best Foundation. Baby-Friendly Complications: Information for Hospitals . (2020). Accessed: 09/29/2021: https://fedisbest.org/information-for-hospitals/.
- 180. Infant Feeding Alliance: Not NICE, Not Evidence . (2021). Accessed: 09/29/2021:
- https://www.infantfeedingalliance.org.uk/2021/05/05/not-nice-not-evidence-based/.
- Schulz KF, Grimes DA: Generation of allocation sequences in randomised trials: chance, not choice. Lancet. 2002, 359:515-9. 10.1016/S0140-6736(02)07683-3
- Hewitt CE, Torgerson DJ: Is restricted randomisation necessary? . BMJ. 2006, 332:1506-8. 10.1136/bmj.332.7556.1506
- Semmelweis JF: The Etiology, Concept, and Prophylaxis of Childbed Fever. Carter KC (ed): University of Wisconsin, Madison, Wisconsin; 1983.
- Austie FM, van Unen HJ, Smit-Wu MN, Bekhof J: Oral glucose in neonates with an increased risk of neonatal hypoglycaemia halves the number of neonates receiving intravenous glucose. Ned Tijdschr Geneeskd. 2021, 165:D5466.

- 185. Harris DL, Weston PJ, Signal M, Chase JG, Harding JE: Dextrose gel for neonatal hypoglycaemia (the Sugar Babies Study): a randomised, double-blind, placebo-controlled trial. Lancet. 2013, 382:2077-83. 10.1016/S0140-6736(13)61645-1
- Hegarty JE, Harding JE, Gamble GD, Crowther CA, Edlin R, Alsweiler JM: Prophylactic oral dextrose gel for newborn babies at risk of neonatal hypoglycaemia: a randomised controlled dose-finding trial (the PrehPOD Study). PLoS Med. 2016, 13:e1002155. 10.1371/journal.pmed.1002155

From:	Perrine, Cria G. (CDC/ONDIEH/NCCDPHP)	
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То:	Voetsch, Karen P. (CDC/ONDIEH/NCCDPHP);Flores-Ayala, Rafael C.	
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Cc:	Nelson, Jennifer M. (CDC/ONDIEH/NCCDPHP)	
Subject:	Baby-Friendly LA webinar	

Hi all, Trish left me a voicemail yesterday afternoon with a little more follow up about the LA webinar for one of the Perinatal Quality Collaboratives, and the info we heard about the BFUSA staff member saying up front that they were not going to address the safety issues. It was Jennifer Matranga who gave the webinar, so she is one of Trish's clinical staff who is equipped to answer these types of questions. However, the webinar organizers gave her only 10 minutes to present on the operational requirements of Baby-Friendly designation. The organizers told her there may be some safety questions, to which Jen said she'd be happy to discuss them, but the organizers told her there wasn't time and they wanted her to focus on just the operational issues. (b)(5)

(b)(5) This is another reason that more resources on safety (toolkit, one-pagers, recorded webinars), that could be used to refer people to would be helpful.

Cria

From:	Olson, Christine (CDC/ONDIEH/NCCDPHP)	
Sent:	Wed, 18 Jan 2017 22:28:56 -0500	
То:	Nelson, Jennifer M. (CDC/DDNID/NCCDPHP/DNPAO)	
Subject:	BFHI Talking Points_v2.cko	
Attachments:	BFHI Talking Points_v2.cko.docx	

Some additional thoughts . . . .

From: Grossniklaus, Daurice (CDC/DDNID/NCCDPHP/DNPAO) Sent: Thu, 22 Jul 2021 20:51:37 +0000 Ayers, Diane G. (CDC/DDNID/NCCDPHP/DNPAO); Perrine, Cria G. To: (CDC/DDNID/NCCDPHP/DNPAO);MacGowan, Carol (CDC/DDNID/NCCDPHP/DNPAO);Nelson, Jennifer M. (CDC/DDNID/NCCDPHP/DNPAO);Kahin, Sahra A. (CDC/DDNID/NCCDPHP/DNPAO);O'Connor, Lauren (CDC/DDNID/NCCDPHP/DNPAO) (CTR);Anstey, Erica Hesch (CDC/DDNID/NCCDPHP/DNPAO) (CTR);Boundy, Ellen (CDC/DDNID/NCCDPHP/DNPAO) Cc: Flores-Ayala, Calixto Rafael (CDC/DDNID/NCCDPHP/DNPAO);Hamner, Heather (CDC/DDNID/NCCDPHP/DNPAO) **BFUSA - GEC release** Subject: Attachments: Baby Friendly GEC Final.pdf

All,

I wanted to share that Baby-Friendly released the 6<sup>th</sup> edition of their Baby Friendly Guidelines and Evaluation Criteria today. Please share as appropriate.

Thank you,

Daurice


## THE BABY-FRIENDLY HOSPITAL INITIATIVE

## Guidelines and Evaluation Criteria

SIXTH EDITION



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The 2018 UNICEF/WHO Protecting, Promoting and Supporting Breastfeeding in Facilities Providing Maternity and Newborn Services: the revised Baby-Friendly Hospital Initiative.

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BFUSA EXPERT PANEL MEMBERS: See Appendix G We would also like to express our deep gratitude to the following professional organizations for their thoughtful review and comments:

Academy of Breastfeeding Medicine (ABM) American Academy of Family Physicians (AAFP) American Academy of Pediatrics (AAP) American College of Nurse Midwives (ACNM) American College of Obstetricians and Gynecologists (ACOG) Association of Women's Health Obstetric and Neonatal Nurses (AWHONN) United States Lactation Consultant Association (USLCA)



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## INTRODUCTION

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**BABY-FRIENDLY HOSPITAL INITIATIVE (BFHI)** was established in 1991 by the United Nations Children's Fund (UNICEF) and the World Health Organization (WHO). The BFHI is a global program to support the implementation of the *Ten Steps to Successful Breastfeeding (the Ten Steps)* and the *International Code of Marketing of Breast-milk Substitutes (the International Code)* in maternity facilities. "The core purpose of the BFHI is to ensure that mothers and newborns receive timely and appropriate care before and during their stay in a facility providing maternity and newborn services, to enable the establishment of optimal feeding of newborns, which promotes their health and development. Given the proven importance of breastfeeding, the BFHI protects, promotes and supports breastfeeding while enabling timely and appropriate care and feeding of newborns who are not *(yet or fully)* breastfed."<sup>1</sup>

An important philosophy of the Initiative is that "families must receive quality and unbiased information about infant feeding. Facilities providing maternity and newborn services have a responsibility to promote breastfeeding, but they must also respect the mother's preferences and provide her with the information needed to make an informed decision about the best feeding option for her and her infant. The facility needs to support mothers to successfully feed their newborns in the manner they choose."<sup>1</sup>

In 2015, WHO and UNICEF embarked on a process to review the most current scientific evidence pertaining to each of the Ten Steps and update the implementation guidance for the BFHI. Their goal was to reinvigorate the BFHI with the aim of worldwide adoption of the Ten Steps in all facilities providing birthing services.

#### The results of their work were published in two separate key documents:

GUIDELINE: Protecting, promoting and supporting breastfeeding in facilities providing maternity and newborn services<sup>2</sup> This is a review of the evidence for each individual step of the Ten Steps. It is NOT a review the evidence for the combined impact of multiple steps.

IMPLEMENTATION GUIDANCE: Protecting, promoting and supporting breastfeeding in facilities providing maternity and newborn services: the revised BABY-FRIENDLY HOSPITAL INITIATIVE<sup>1</sup> (2018 Implementation Guidance)

## **INTRODUCTION** continued

The 2018 Implementation Guidance established global standards for each of the Ten Steps while calling on nations to customize the materials to address specific national goals. BFUSA engaged in a robust process to revise the Initiative for the US. An immediate and thorough review of the two key documents was conducted. A document was developed comparing the new guidance and standards with the existing US Guidelines and Evaluation Criteria (GEC) to determine if any immediate changes could be implemented. It was determined that adjustments to the requirements for Step 9 were warranted. Therefore, revised versions of the US GEC were published in July 2018 and December 2019.

In the meantime, an expert panel consisting of individuals with widespread knowledge and experience with implementing the BFHI standards was convened for a face-to-face meeting in August 2018. Based on its review of the updated evidence, the new implementation guidance, and the comparison with the existing standards, the panel recommended revisions to customize the global guidance for applicability to the US. These revisions were incorporated into updated documents and submitted to the expert panel, the BFUSA Board of Directors, Clinical Committee and several key national professional health organizations for further input. Those organizations included: Academy of Breastfeeding Medicine, American Academy of Family Physicians, American Academy of Pediatrics, American College of Obstetricians and Gynecologists, American College of Nurse Midwives, Association of Women's Health, Obstetric and Neonatal Nurses and the United States Lactation Consultant Association.

The expert panel was reconvened in July 2019 to review the comments received in the latest review stage and assist with finalizing the guidance, standards and evaluation criteria for the US. The last component of the process was the incorporation of "Performance indicators demonstrating staff competency to implement" based on WHO and UNICEF's Competency Verification Toolkit: Ensuring Competency of Direct Care Providers to Implement the Baby-Friendly Hospital Initiative released on August 5, 2020.<sup>3</sup>

## **REVISIONS TO THE TEN STEPS TO SUCCESSFUL BREASTFEEDING**

An important component of the effort to reinvigorate the BFHI by WHO and UNICEF was a review of the evidence for each of the Ten Steps to Successful Breastfeeding. Upon completing this task, the WHO and UNICEF then evaluated the actual wording for each Step. They concluded that the theme of each Step was appropriate but some of the phrasing needed to be changed to better align with the evidence.

Several noteworthy changes include: the incorporation of the International Code of Marketing of Breast-milk Substitutes and monitoring procedures into Step 1 and a shift in the focus of Step 2 from an emphasis on a specific number of hours of training to competency verification.

It is also worth pointing out that the steps are now divided into critical management procedures and key clinical practices. The chart to the right compares the 2018 revised version to the original 1989 Ten Steps.

TEN STEPS TO SUCCESSFUL BREASTFEEDING		
REVISED IN 2018	ORIGINAL	
<ul> <li>CRITICAL MANAGEMENT PROCEDURES</li> <li>1 A. Comply fully with the International Code of Marketing of Breast-milk Substitutes and relevant World Health Assembly resolutions.</li> <li>1 B. Have a written infant feeding policy that is routinely communicated to staff and parents.</li> <li>1 C. Establish ongoing monitoring and data-management systems.</li> <li>2. Ensure that staff have sufficient knowledge, competence and skills to support breastfeeding.</li> </ul>	<ol> <li>Have a written breastfeeding policy that is routinely communicated to all health care staff.</li> <li>Train all health care staff in the skills necessary to implement this policy.</li> <li>Inform all pregnant women about the benefits and management of breastfeeding.</li> <li>Help mothers initiate breastfeeding within one hour of birth.</li> <li>Show mothers how to breastfeed and how to maintain lactation, even if they are separated from their infants.</li> </ol>	
<ul> <li>KEY CLINICAL PRACTICES</li> <li>3. Discuss the importance and management of breast-feeding with pregnant women and their families.</li> <li>4. Facilitate immediate and uninterrupted skin-to-skin contact and support mothers to initiate breastfeeding as soon as possible after birth.</li> <li>5. Support mothers to initiate and maintain breastfeeding and manage common difficulties.</li> <li>6. Do not provide breastfed newborns any food or fluids other than breast-milk, unless medically indicated.</li> <li>7. Enable mothers and their infants to remain together and to practice rooming-in 24 hours a day.</li> <li>8. Support mothers to recognize and respond to their infants' cues for feeding.</li> <li>9. Counsel mothers on the use and risks of feeding bottles, artificial nipples (teats) and pacifiers.</li> <li>10. Coordinate discharge so that parents and their infants have timely access to ongoing support and care.</li> </ul>	<ul> <li>6. Give infants no food or drink other than breast-milk, unless medically indicated.</li> <li>7. Practice rooming-in – allow mothers and infants to remain together 24 hours a day.</li> <li>8. Encourage breastfeeding on demand.</li> <li>9. Give no pacifiers or artificial nipples to breastfeeding infants.</li> <li>10. Foster the establishment of breastfeeding support groups and refer mothers to them on discharge from the hospital or birth center.</li> </ul>	

## DOCUMENT CONTENT AND FORMAT

It is the goal of BFUSA to implement a program for the US that remains as closely aligned with the global initiative as possible, while at the same time, addressing the US needs and circumstances. As such, within the Guidelines and Evaluation Criteria section, as much specific language as possible was used from the 2018 (WHO/UNICEF) Implementation Guidance. (NOTE: some words were changed from the European to American spelling and some small amounts of text containing guidance unrelated to US hospitals were removed in order to avoid confusion.) Where necessary, additional US language within the implementation for each step were added in *italics*.

The document is organized according to the 2018 Ten Steps to Successful Breastfeeding. It must be noted that "while each of the Ten Steps contributes to improving the support for breastfeeding, optimal impact on breastfeeding practices, and thereby on maternal and child well-being, is only achieved when all Ten Steps are implemented as a package."<sup>1</sup> This entire document should be read with this point in mind.

#### Each step consists of the following sections:

- THE STEP NUMBER AND NAME
- RATIONALE
- IMPLEMENTATION GUIDANCE
- CONSIDERATIONS FOR SAFE IMPLEMENTATION
- PERFORMANCE INDICATORS DEMONSTRATING STAFF COMPETENCY TO IMPLEMENT
- STANDARDS
- CRITERIA FOR EVALUATION
- REFERENCES ARE FOUND AT THE END OF THE DOCUMENT

It is also important to point out that the BFHI is typically focused on the healthy term infant, however, in the US many late preterm infants are cared for on the postpartum floor. Therefore, some guidance and standards are relevant to their care. In some cases, the 2018 Implementation Guidance specifies if a standard applies to term infants or preterm infants. BFUSA felt it was more appropriate to remove the "term" and "preterm" language from the standard. Instead, the standard applies to where the mother, baby, or both are being cared for. In addition, a NICU Toolkit offering a comprehensive set of clinical practice recommendations geared towards increasing the use of breastfeeding and human milk in neonatal intensive care management has been developed.

## This toolkit will be posted to www.babyfriendllyusa.org by the end of summer 2021.

### DESCRIPTION OF SECTIONS INCLUDED IN EACH STEP

STEP NAME AND NUMBER: appears exactly as it is worded in the 2018 BFHI Implementation Guidance.

**RATIONALE:** offers insight into the purpose of the step and appears in this document exactly as it is worded in the 2018 BFHI Implementation Guidance.

**IMPLEMENTATION GUIDANCE:** provides critical information to support the standards which facilities should strive to achieve for all patients. This language is predominantly taken from the 2018 Implementation Guidance, with some adjustments in *italics* for applicability to the US. (NOTE: some words were changed from the European to American spelling and some small amounts of text containing guidance unrelated to US hospitals were removed in order to avoid confusion.) US CONSIDERATIONS FOR SAFE IMPLEMENTATION: are suggested documents, policies, and/or protocols from either a recognized national/ international medical professional organization or US governmental department, WHO or UNICEF that may assist facilities with the safe implementation of the step.

#### PERFORMANCE INDICATORS DEMONSTRATING STAFF COMPETENCY

**TO IMPLEMENT:** are the knowledge, skills and attitudes that are necessary for staff to properly implement the step. They are mostly drawn from the WHO/UNICEF Competency Verification Toolkit titled "Ensuring Competency of Direct Care Providers to Implement the Baby-Friendly Hospital Initiative", however six Performance Indicators were developed specifically for the United States.

**STANDARDS:** are predominantly taken from the 2018 Implementation Guidance, with some adjustments in *italics* for applicability to the US.

**CRITERIA FOR EVALUATION:** are the specific quantifiable measures used by Baby Friendly USA (BFUSA) assessors to determine the birthing facility's conformity with the BFHI.

## IMPORTANCE OF BREASTFEEDING

Human milk provided by direct breastfeeding is the biologically normal way to feed an infant. There are very few true contraindications to breastfeeding and scientific evidence overwhelmingly indicates that it is nutritionally superior, offers substantial immunological and health benefits, facilitates mother-baby bonding, and should be promoted and supported to ensure the best health for women and their children. Breastfeeding is the single most powerful and well-documented preventative modality available to health care providers to reduce the risk of common causes of infant morbidity. Significantly lower rates of diarrhea, otitis media, lower respiratory tract infections, Type 1 and Type 2 diabetes, childhood leukemia, necrotizing enterocolitis, and Sudden Infant Death Syndrome occur among those who were breastfed.<sup>4, 5</sup> Breastfeeding also supports the healthy development of an infant's gut microbiome<sup>6</sup> and is shown to be inversely associated with overweight risk.<sup>7</sup>

Women who breastfeed have a lower risk of Type 2 diabetes, hypertension and breast and ovarian cancers.<sup>4, 8, 9</sup> Evidence suggests that reduction in the risk of cardiovascular and other related diseases may be added to the benefits of breastfeeding for women.<sup>10, 11</sup> The American Academy of Pediatrics, the American College of Obstetricians and Gynecologists, the Centers for Disease Control and Prevention, and the World Health Organization all recommend exclusive breastfeeding for about 6 months and continued breastfeeding while adding complimentary foods for one year and beyond.

Despite the significant gains made during the past few years, the initiation, duration, and exclusivity of breastfeeding continue to lag

behind the national objectives, and racial disparities persist. In 2017, approximately 84% of all women initiated breastfeeding; however, only 74% of non-Hispanic black women and 77% of women with incomes below the poverty line initiated breastfeeding.<sup>12</sup>

While causes of this trend are multifactorial and complex, health care practices have been shown to play a fundamental role in impacting breastfeeding initiation, exclusivity, and duration. Unsupportive practices during the perinatal period can disrupt the unique and critical link between the prenatal education and the community postpartum support provided after discharge from the birthing facility. Conversely, supportive practices positively impact breastfeeding outcomes. The Ten Steps to Successful Breastfeeding, which form the foundation of the Baby-Friendly Hospital Initiative, are a package of evidence-based practices shown to improve breastfeeding outcomes. Studies have shown that the more steps a mother reports experiencing, the more likely she is to meet her breastfeeding goals.<sup>13,14</sup>

## CULTURAL HUMILITY AND RESPECT: ADDRESSING THE DIVERSE NEEDS OF PATIENTS

The Guidelines and Evaluation Criteria will directly affect all birthing individuals, pregnant women, mothers, and their infants and children. The practices described in this document apply equally to parents who may not identify as "women" or "mothers", including transgender and non-binary parents. The terms "mother" and "breastfeeding" are used throughout this document, reflecting the fact that the biological norm is female persons who give birth to infants and feed them at the breast. However, BFUSA wants to emphasize that we are respectful and mindful of the many different family types that exist in the US in which these terms do not necessarily represent the circumstances or norms of the family. This includes, but is not limited to, situations such as surrogacy, chest-feeding, or other circumstances in which persons who give birth to infants do not identify as "women" or "mothers," including transgender and nonbinary parents who may experience difficultly accessing culturally safe care.

We also want to highlight that different racial and ethnic groups have unique cultural norms that may affect a family's decision-making process. Achieving equity in breastfeeding is a key objective of the BFHI. This requires that leadership create an environment that enables and supports the availability of and access to quality breastfeeding support for all patients equally. It also requires that practitioners address the needs of diverse populations through breastfeeding counselling, safeguard privacy, and respect each individual's right to make informed and autonomous decisions.

Our expectation is that all families will be embraced and supported equally and that all patients will be provided the highest standard of individualized infant feeding care. Staff should engage in meaningful conversations with families — especially those with unique circumstances — to ensure the health professionals in charge have a clear understanding of each family's specific wishes and fully support each family's unique birth plan.

## GUIDELINES AND EVALUATION CRITERIA FOR FACILITIES SEEKING TO ATTAIN AND SUSTAIN BABY-FRIENDLY® DESIGNATION

**1**. Well-constructed, comprehensive policies effectively guide staff to deliver evidence-based care.

2. Well-trained staff provide quality, evidence-based care.

3. Monitoring of practice is required to ensure adherence to policy and sustained standard of care.

4. The mother and her family should be protected within the health care setting from false or misleading product promotion and/or advertising which interferes with or undermines informed decisions regarding infant health care practices.

5. Facility staff should be protected from product promotion and/or advertising which may impact their professional activities and judgment.

6. Breastfeeding has been recognized by scientific authorities as the optimal method of infant feeding and should be the norm within all maternal and child health care facilities.

7. Facilities should follow the most scientifically sound, respectful, safe and effective procedural approaches to supporting breastfeeding and human lactation in the birthing environment.

8. The health care delivery environment should facilitate informed health care decisions on the part of the mother and her family. It should not be either restrictive or punitive.

9. The health care delivery environment should be culturally respectful and mindful of the diverse needs of the patients.

**10.** When a mother has chosen not to breastfeed, when supplementation of breastfeeding is medically indicated, or when supplementation is a decision by the breastfeeding mother (after appropriate conversations and education), it is crucial that safe and appropriate methods of formula preparation, handling, storage, and feeding are taught to the parents.

**11.** Recognition as a Baby–Friendly institution should have both national and international credibility and prestige, so that it is marketable to the community, increases demand, and thereby improves motivation among facilities to participate in the Initiative.

**12**. Participation of any facility in the U.S. BFHI is entirely voluntary and is available to any institution providing birthing services.

**13**. Each participating facility assumes full responsibility for assuring that its implementation of the BFHI is consistent with all of its safety protocols.

The Baby-Friendly USA Guidelines and Evaluation Criteria and the assessment and accreditation processes are predicated on the following tenets:



## **FACILITY POLICIES**



## Step 1 includes three critical management procedures:

**STEP 1A** Application of the International Code of Marketing of Breast-milk Substitutes

**STEP 1B** Development of written policies

## **STEP 1C** Operation of monitoring and data-management systems

# <sup>STEP</sup>

Comply fully with the International Code of Marketing of Breast-milk Substitutes and relevant World Health Assembly resolutions.

## RATIONALE:

Families are most vulnerable to the marketing of breast-milk substitutes during the entire prenatal, perinatal, and postnatal period when they are making decisions about infant feeding. The WHA *(World Health Assembly)* has called upon health workers and health-care systems to comply with the International Code of Marketing of Breast-milk Substitutes<sup>15, 16</sup> and subsequent relevant WHA resolutions<sup>17</sup> (the *International* Code), in order to protect families from commercial pressures and influences. Additionally, health professionals themselves need protection from commercial influences that could affect their professional activities and judgement. Compliance with the *International* Code is important for facilities providing maternity and newborn services, since the promotion of breast-milk substitutes is one of the largest undermining factors for breastfeeding.<sup>18</sup>

Companies marketing breast-milk substitutes, feeding bottles and *artificial nipples* [including pacifiers] are repeatedly found to violate the International Code.<sup>19, 20</sup> It is expected that the sales of breast-milk substitutes will continue to increase globally, which is detrimental for children's survival and well-being.<sup>21, 22</sup> This situation means that ongoing concerted efforts will be required to protect, promote and support breastfeeding, including in facilities providing maternity and newborn services.<sup>1</sup>

## IMPLEMENTATION GUIDANCE:

THE INTERNATIONAL CODE<sup>15, 16</sup> lays out clear responsibilities of healthcare systems to not promote infant formula, feeding bottles or *artificial nipples [including pacifiers]* and to not be used by manufacturers and distributers of products under the scope of the *International* Code for this purpose. This includes the provision that all facilities providing maternity and newborn services must acquire any breast-milk substitutes, feeding bottles or *artificial nipples [including pacifiers]* they require through normal procurement channels and not receive free or subsidized supplies.<sup>23</sup> Furthermore, staff of facilities providing maternity and newborn services should not engage in any form of promotion or permit the display of any type of advertising of breast-milk substitutes, *feeding bottles*, and/or infant feeding supplies *[pacifier promotion must meet the requirements specified in Criterion 9.2.1]* including the



display or distribution of any equipment or materials bearing the brand of manufacturers of breast-milk substitutes, or discount coupons, and they should not routinely give samples of infant formula to mothers to take home.<sup>1</sup>

#### In line with the WHO GUIDANCE ON ENDING THE INAPPROPRIATE PROMOTION OF FOODS FOR INFANTS AND YOUNG CHILDREN,

published in 2016 and endorsed by the WHA,<sup>24</sup>, health workers and health systems should avoid conflicts of interest with companies that market foods for infants and young children. Health-professional meetings should never be sponsored by industry *covered by the International Code* and industry covered by the *International Code* should not participate in parenting education.<sup>4</sup>

### **US CONSIDERATIONS FOR SAFE IMPLEMENTATION:**

Health professionals and institutions should avoid activities with commercial influences that could affect their professional activities and judgement. Below are a few examples:

#### AVOIDANCE OF CONFLICTS OF INTEREST

POTENTIAL CONFLICT	Allowing companies that manufacture and/or market breast-milk substitutes, feeding bottles and artificial nipples [including pacifiers] to sponsor and/or host trainings, events, meetings, and scientific seminars on breastfeeding.
POTENTIAL HARM	Associating the name of the respected health facility with a company implies facility endorsement of that company and/or its products. This may unintentionally sway health professionals to recommend products to patients that are not specific to their needs.
REQUIREMENT	Criterion 1A.3.1 requires that no items bear product images or product logos of companies that produce breast-milk substitutes, feeding bottles and artificial nipples [including pacifiers] or names of products covered under the International Code unless specific to the pregnant woman's, mother's or infant's needs or conditions. Criterion 1A.4.4 calls for the facility to have a policy that describes how the facility and its staff members: do not receive support/sponsorship for events/meetings.

POTENTIAL CONFLICT	Health professionals attending trainings sponsored by companies that manufacture and/or market breast-milk substitutes, feeding bottles and artificial nipples [including pacifiers].
POTENTIAL HARM	Receipt of meals and/or free registration to meetings creates a potential obligation to favor that company's products over other products.
REQUIREMENT	Criterion 1A.4.4 calls for the facility have a policy that describes how the facility and its staff members do not receive free gifts.
POTENTIAL CONFLICT	Receipt of awards and gifts by the staff or facility from companies that manufacture and/or market breast-milk substitutes, feeding bottles and artificial nipples [including pacifiers].
POTENTIAL HARM	It associates a company's name with a respected staff member setting that staff member up as "role model" for others. This may imply the staff member's endorsement of a product or company.
REQUIREMENT	Criterion 1A.4.4 calls for the facility have a policy that describes how the facility and its staff members do not receive free gifts, [Examples include meals, conference fees].

## US CONSIDERATIONS FOR FACILITIES THAT COORDINATE WITH OUTSIDE AGENCIES THAT ALSO DISCUSS INFANT FEEDING WITH MOTHERS AND THEIR SUPPORT SYSTEMS:

All facilities are encouraged to coordinate services with other community programs that provide counseling, support, and education on breastfeeding. Some facilities have developed processes that begin coordinating services during the birth hospitalization. While these services offer many benefits to families, hospitals should coordinate efforts to minimize interruptions to mothers during the hospital stay. This will allow maximum opportunity for mothers to recover from birth, bond with their babies and learn their feeding cues. Outside agencies interacting with mothers in the hospital setting should have sufficient training to support exclusive breastfeeding. Procedures should be established between the facility and the outside agency as to how the outside agency should respond and support the breastfeeding mothers who requests formula from them while in the hospital setting. **Compliance with the International Code is essential in protecting mothers who are still making decisions about infant feeding.** 

**REFER TO APPENDIX C: PERFORMANCE INDICATORS TO MEASURE EACH COMPETENCY** for the comprehensive list of required knowledge, skills, and attitudes. (All performance indicators apply to direct care staff. Specific performance indicators for which knowledge competency applies to direct care providers are marked with an ')



WHO/UNICEF PERFORMANCE INDICATORS DEMONSTRATING COMPETENCY TO IMPLEMENT STEP 1A	VERIFICATION METHOD
'1. List at least 3 products that are covered by the Code.	Question or case study
'2. Describe at least 3 ways a direct care provider/direct care staff member protects breastfeeding in practice.	Question or case study
*3. Describe at least 1 way a direct care provider/direct care staff member should respond if offered information provided by manufacturers and/or distributors of products within the scope of the Code.	Question or case study
'4. Describe at least 1 type of financial or material inducement that might be offered to a direct care provider/direct care staff member by a manufacturer and/or distributor of products within the scope of the Code.	Question or case study
'5. Describe at least 1 harm of a direct care provider/direct care staff member accepting financial or material inducements.	Question or case study
6. Explain at least 2 ways that the facility and any affiliated prenatal services ensure that there is no promotion of infant formula, feeding bottles, or artificial nipples in any part of facilities providing maternity and newborn services, or by any of the direct care providers/direct care staff.	Question or case study



## THE FOLLOWING STANDARDS APPLY

WHO/UNICEF STANDARD	US CRITERION FOR EVALUATION
1A.1 All infant formula, feeding bottles and artificial nipples [including pacifiers] used in the facility have been purchased through normal procurement channels and not received through free or subsidized supplies.	A review of records will confirm: Criterion 1A.1.1 A review of records [invoices and proofs of payment] indicates that infant formula, feeding bottles and artificial nipples [including pacifiers] used in the facility have been purchased at a fair market price through normal procurement channels and not received through free or subsidized supplies or rebates that drop the price below the fair market price.

US CRITERION FOR EVALUATION
Interviews with direct care nursing staff and direct care providers will confirm:
Criterion 1A.2.1 At least 80% of health professionals who provide prenatal, delivery, postpartum, and/or well newborn
units can explain at least two elements of the International Code.
A. Direct care nursing staff, AND
B. Direct care providers with privileges

WHO/UNICEF STANDARD	US CRITERION FOR EVALUATION
1A.3 The facility [including affiliated	A review and/or observation of items will confirm:
prenatal services] has no display of	
products covered under the International	Criterion 1A.3.1 A review of submitted and/or observed items in the facility [including affiliated prenatal services] will
Code or items with logos of companies	confirm that no items bear product images or product logos of companies that produce breast-milk substitutes, feeding
that produce breast-milk substitutes,	bottles and artificial nipples [including pacifiers] or names of products covered under the International Code unless specific
feeding bottles and artificial nipples	to the pregnant woman's, mother's or infant's needs or conditions. (For example, information about how to safely use a
[including pacifiers], or names of products	needed product such as a formula or a specialty bottle would be acceptable to give to a mother or infant needing that
covered under the International Code.	specific product. Marketing information for such products would not be acceptable.)
	A. In the affiliated prenatal clinic/service, AND
	B. In the birthing facility
	continued

WHO/UNICEF STANDARD	US CRITERION FOR EVALUATION
1A.3 The facility [including affiliated prenatal services] has no display of	A review and/or observation of items will confirm:
products covered under the International	Criterion 1A.3.2 A review of submitted and/or observed items displayed and/or distributed to pregnant women, mothers,
Code or items with logos of companies	or staff in the facility [including affiliated prenatal services] will confirm all items are free of messages that promote or
that produce breast-milk substitutes,	advertise breast-milk substitutes, feeding bottles, and artificial nipples or other infant feeding supplies.
feeding bottles and artificial nipples	A. In the affiliated prenatal clinic/service, AND
[including pacifiers], or names of products covered under the International Code.	B. In the birthing facility
	Criterion 1A.3.3 A review of submitted and/or observed items in the facility [including affiliated prenatal services] will
	confirm that any items displayed or distributed to pregnant women and mothers are free of messages that promote or
	advertise the use of pacifiers, except safe sleep and SUIDS/SIDS risk reduction materials which must contain additional
	language to promote breastfeeding. [See criterion 9.2.1]
	A. In the affiliated prenatal clinic/service, AND
	B. In the birthing facility
	Observation will confirm:
	Criterion 1A.3.4 Observations will confirm that infant formula is kept out of view of patients and the general public.
	A. In the affiliated prenatal clinic/service, AND
	B. In the birthing facility
	Observation will confirm: Criterion 1A.3.4 Observations will confirm that infant formula is kept out of view of patients and the general public. A. In the affiliated prenatal clinic/service, AND B. In the birthing facility

#### CLARIFICATION: CRITERION 1A.3.3' PACIFERS AND SUIDS/SIDS REDUCTION INFORMATION

BFUSA acknowledges the evidence pertaining to pacifier use related to SUIDS/SIDS risk reduction.<sup>25</sup> Safe sleep and SUIDS/SIDS risk reduction information is important for parents to receive during the birth hospital stay.<sup>26,27</sup> This education may be compatibly provided to parents by using safe sleep materials that also promote breastfeeding. SEE STANDARD 9.2 FOR ADDITIONAL GUIDANCE.

# 1A

STEP

#### WHO/UNICEF STANDARD

#### 1A.4 The facility has a policy that describes how it abides by the *International* Code, including procurement of breast-milk substitutes, not accepting support or gifts from producers or distributors of products covered by the *International* Code and not giving samples of breast-milk substitutes, feeding bottles or artificial nipples [including pacifiers] to mothers.

#### US CRITERIA FOR EVALUATION

The facility has a policy that describes how it abides by the International Code, including:

Criterion 1A.4.1 How the facility procures infant feeding products.

**Criterion 1A.4.2** How the facility [including affiliated prenatal services] protects pregnant women, mothers, and their families by not allowing the receipt or distribution of:

- Marketing materials
- Samples
- Gift packs
- Coupons

that include breast-milk substitutes, feeding bottles, artificial nipples, and pacifiers, or other infant feeding supplies.

**Criterion 1A.4.3** How the facility [including affiliated prenatal services] protects pregnant women, mothers and their families by preventing direct contact or indirect contact with the manufacturers and/or distributors of breast-milk substitutes, feeding bottles, artificial nipples, and pacifiers.

- Direct contact [examples include providing infant feeding hotline numbers staffed by company employees/contractors]
- Indirect contact [examples include use of mechanisms to collect mothers' names and provide to companies/contractors through photographers and special discharge programs]

**Criterion 1A.4.4** How the facility [including affiliated prenatal services] protects itself and its staff members from marketing by manufacturers or distributors of breast-milk substitutes, bottles, nipples, pacifiers or other infant feeding supplies, by precluding the receipt of:

- Free gifts [Examples include meals, conference fees]
- Information that is not scientific, factual, and unbiased
- Materials [Examples include posters, magazines]
- Promotional items
- Equipment
- Money
- Support for breastfeeding education
- Support/sponsorship for events/meetings

All other interactions with these manufacturers/distributors are in compliance with the facility's vendor/ethics policy.

# 1B

Have a written infant feeding policy that is routinely communicated to staff and parents.

## RATIONALE:

Policy drives practice. *Health professionals* and institutions are required to follow established policies. The clinical practices articulated in the Ten Steps need to be incorporated into facility policies, to guarantee that appropriate care is equitably provided to all mothers and babies and is not dependent on the *routines and/or* preferences of each *direct* care provider. Written policies are the vehicle for ensuring patients receive consistent, evidence-based care, and are an essential tool for *direct care* staff accountability. Policies help to sustain practices over time and communicate a standard set of expectations for all health workers.<sup>1</sup>

## IMPLEMENTATION GUIDANCE:

Facilities providing maternity and newborn services should have a clearly written breastfeeding policy that is routinely communicated to staff and parents.<sup>2</sup> A facility breastfeeding policy may stand alone as a separate document, be included in a broader infant feeding policy, or be incorporated into a number of other policy documents *or protocols*. However organized, the policy should include guidance on how each of the clinical and care practices should be implemented, to ensure that they are applied consistently to all mothers. The policy should also spell out how the management procedures should be implemented, preferably via specific processes that are institutionalized.<sup>1</sup>

## US CONSIDERATIONS FOR SAFE IMPLEMENTATION:

Orient all direct care staff and direct care providers who are impacted by the infant feeding policy as soon as possible, no later than 12 weeks post hire.

In order to have safe, effective and sustained improvement in practices, infant feeding policies in facilities providing maternity and newborn services need to cover all established standards of practice, be fully implemented and regularly communicated to direct care staff and direct care providers.<sup>2</sup> Frequency of communication to staff must occur, minimally, every 2 years.

REFER TO APPENDIX C: PERFORMANCE INDICATORS TO MEASURE EACH COMPETENCY for the comprehensive list of

required knowledge, skills, and attitudes. (All performance indicators apply to direct care staff. Specific performance indicators for which knowledge competency applies to direct care providers are marked with an \*)

WHO/UNICEF PERFORMANCE INDICATORS DEMONSTRATING COMPETENCY TO IMPLEMENT STEP 1A	VERIFICATION METHOD	
'7. Describe at least 2 elements that are in the facility's infant feeding policy.	Question or case study	
'8. <b>Explain</b> at least 3 ways that the infant feeding policy affects a direct care provider's/direct care staff member's work in <i>providing safe</i> , equitable and appropriate care.	Question or case study	

## THE FOLLOWING STANDARDS APPLY

WHO/UNICEF STANDARD	US CRITERION FOR EVALUATION
1B.5 The health facility has a written infant feeding policy that addresses the implementation of all eight key clinical practices of the Ten Steps, <i>International</i> Code implementation, and regular competency assessment.	A review of the policy will confirm: Criterion 1B.5.1 The facility will have comprehensive, evidence-based, written maternity care and infant feeding policies that address all Ten Steps, protect breastfeeding, and which includes adherence to the International Code.
1B.6 A review of all clinical protocols or standards related to breastfeeding and infant feeding used by the maternity services indicates that they are in line with BFHI standards and current evidence-based guidelines.	A written description will confirm: Criterion 1B.6.1 The Director of Maternity will provide a written description of how all the clinical protocols or standards related to breastfeeding and infant feeding used by the maternity services are reviewed and aligned with BFHI standards and current evidence-based guidelines.

WHO/UNICEF STANDARD	US CRITERION FOR EVALUATION
1B.7 Observations in the facility confirm	Observations will confirm:
that a summary of the policy is visible to pregnant women, mothers and their families.	Criterion 1B.7.1 Observations in the facility and affiliated prenatal services confirm that The Ten Steps to Successful Breastfeeding (WHO/UNICEF revised 2018) will be visible to pregnant women, mothers and their families. The Ten Steps poster locations include the waiting room and/or admission areas of the following units: A. Labor and delivery unit B. Postpartum unit C. Affiliated prenatal services D. Ultrasound, screening/lab, prenatal testing areas E. Newborn nursery/observation area/procedure room F. Neonatal intensive care unit G. Emergency room This information will be displayed in the language(s) most commonly understood by patients. A review of materials will confirm: Criterion 1B 7.2 A review of the content of the Ten Steps posters will verify alignment to the Ten Steps Poster Guide requirements [4-D Pathway document].
1B.8 Clinical staff [Health professionals] who provide prenatal, delivery and/or newborn care can explain at least two elements of the infant feeding policy that influence their role in the facility.	Interviews with direct care nursing staff and direct care provider will confirm: Criterion 1B. 8.1 At least 80% of health professionals who provide prenatal, delivery, postpartum, and/or well newborn care can explain at least two elements of the infant feeding policy that influence their role in providing safe, equitable and appropriate care. [PI 8] A. Direct care nursing staff, AND B. Direct care providers with privileges Criterion 1B.8.2 At least 80% of health professionals who provide prenatal, delivery, postpartum, and/or well newborn care will confirm that they are aware of the facility's maternity care and infant feeding policies and know where the policies are kept or posted. A. Direct care nursing staff, AND B. Direct care nursing staff, AND B. Direct care nursing staff, AND Criterion 1B.8.2 At least 80% of health professionals who provide prenatal, delivery, postpartum, and/or well newborn care will confirm that they are aware of the facility's maternity care and infant feeding policies and know where the policies are kept or posted. A. Direct care nursing staff, AND B. Direct care providers with privileges continued

#### WHO/UNICEF STANDARD

1B.8 Clinical staff [Health professionals] who provide prenatal, delivery and/or newborn care can explain at least two elements of the infant feeding policy that influence their role in the facility.

#### US CRITERION FOR EVALUATION

#### A review of materials will confirm:

**Criterion 1B.8.3** A designated health professional will provide a written description that includes a summary of how and when health professionals are made aware of the infant feeding policy including:

A. A Process and timeline to orient direct care staff and direct care providers who provide prenatal, delivery and/or newborn care in the implementation of the infant feeding policy, AND

B. A Process and frequency for routine communication of all direct care staff and direct care providers who provide prenatal, delivery and/or newborn care. Considerations for routine communication may include:

- A review of high-risk/safety-related procedural steps, and/or
- Updates regarding revisions, and/or
- Review of practical skills, and/or
- Quality improvement efforts when monitoring data indicates one or more policy practices are not being fully adhered to.

#### **US STANDARD**

1B.9 All forms of patient educational materials related to infant feeding (booklets, applications, videos, text, etc.) and a written description of the content of the education, will be made available at assessment. A review of these materials must demonstrate current evidence-based guidance, include all of the required topics listed in Appendix A, and align with both the facility's infant feeding policy and the Ten Steps to Successful Breastfeeding.

#### CRITERION FOR EVALUATION

A review of educational materials will confirm:

*Criterion 1B.9.1* Prenatal Education: All forms of patient educational materials related to infant feeding (booklets, applications, videos, text, etc.) and a written description of the content of the education provided to pregnant women during the prenatal period [including both affiliated prenatal services and in-house programs], will be made available at assessment. A review of these materials must:

A. Demonstrate current evidence-based guidance, AND

B. Include all of the required topics listed in Appendix A, AND

C. Align with both the facility's infant feeding policy and the Ten Steps to Successful Breastfeeding.

**Criterion 1B.9.2** Postpartum Breastfeeding Education: All forms of educational materials related to infant feeding (booklets, applications, videos, text, etc.) and/or a description of the content of the education, provided to postpartum breastfeeding mothers during the birth hospitalization will be made available at assessment. A review of these materials must:

- A. Demonstrate current evidence-based guidance, AND
- B. Include all of the required topics listed in Appendix A, AND
- C. Align with both the facility's infant feeding policy and the Ten Steps to Successful Breastfeeding.

continued

# <sup>STEP</sup>

#### US STANDARD

#### CRITERION FOR EVALUATION

1B.9 All forms of patient educational materials related to infant feeding (booklets, applications, videos, text, etc.) and a written description of the content of the education, will be made available at assessment. A review of these materials must demonstrate current evidence-based guidance, include all of the required topics listed in Appendix A, and align with both the facility's infant feeding policy and the Ten Steps to Successful Breastfeeding.

### A review of educational materials will confirm:

**Criterion 1B.9.3** Postpartum Infant Formula Feeding Education: All forms of educational materials related to infant feeding (booklets, applications, videos, text, etc.) and/or a description of the content of the education, provided to formula feeding mothers during the birth hospitalization will be made available at assessment. A review of these materials must:

- A. Demonstrate current evidence-based guidance, AND
- B. Include all of the required topics listed in Appendix A, AND

C. Align with both the facility's infant feeding policy and the Ten Steps to Successful Breastfeeding.



# <sup>STEP</sup>

Establish ongoing monitoring and data-management systems.

## RATIONALE:

Facilities providing maternity and newborn services need to integrate recording and monitoring of the clinical practices related to breastfeeding into their quality-improvement/ monitoring systems.<sup>1</sup>

## IMPLEMENTATION GUIDANCE:

IMPLEMENTATION: A fundamental principle of the BFHI is that monitoring of practices is required to confirm adherence to policies and evidence-based care. Indicators for facility-based monitoring of the required key clinical practices are listed in APPENDIX B: INDICATORS FOR FACILITY MONITORING KEY CLINICAL PRACTICES. The monitoring data for certain indicators will be collected from medical records and reported on the Facility Data Sheet located in the BFUSA portal. Specific guidance on numerator and denominator inclusions and exclusions are found in the instructions for each indicator on the Facility Data Sheet. Two of the indicators, early initiation of breastfeeding and exclusive breastfeeding, are considered "sentinel indicators". A sentinel indicator captures an essential element that serves as a bellwether in a complex change process. "Sentinel indicators are placed at critical points in a system map to help monitor and inform the mutually influencing relationship between the program and its context."28,29 Facilities should routinely track all required indicators for each mother-infant pair. Recording of information on the indicators should be incorporated into the medical charts and extracted into relevant reports and/or dashboards.<sup>1</sup> The monitoring data for indicators not included on the Facility Data Sheet will be collected through audits and/or surveys, also located in the BFUSA portal.

Each facility must form a multi-disciplinary committee, which must consist of some direct care providers and direct care staff, to guide the work towards implementation of these Guidelines and Evaluation Criteria. This committee will retain a key post-designation role which will include monitoring the required key clinical practices to ensure sustainability and should meet to review progress at least every 6 months. During concentrated periods of implementation of a practice and/or quality improvement, monthly review is needed.

The purpose of the review is to continually track the values of these indicators, to determine whether established targets are met, and, if not, plan and implement corrective actions. In addition, *mother's surveys and/or audits are to be used* for additional verification purposes or periodic checks.<sup>1</sup>

Once acceptable levels of compliance have been achieved, the frequency of data collection on these additional indicators can be reduced, for example to annually. However, if the level of the sentinel indicators falls below 80% (or below national standards), it will be important to assess both the clinical practices and all management procedures, to determine where the *breakdown is* and what needs to be done to achieve the required standards.<sup>1</sup>

## US CONSIDERATIONS FOR SAFE IMPLEMENTATION:

Quality improvement can be defined as "systematic and continuous actions that lead to measurable improvement in health care services and the health status of targeted patient groups."<sup>22</sup> Sustaining practices requires facilities to build systems to monitor key clinical Indicators. Key principles of sustaining safe, evidence-based practices include cyclical quality improvement methodologies, active participation of a multi-disciplinary committee, engaged administrative leaders, meeting consistently over time, and external assessment.<sup>1</sup>

As facilities strive to achieve the metrics described in these Guidelines and Evaluation Criteria, it is important they do so while continuing to focus on providing individualized, culturally sensitive care equitably provided to all mothers and babies.

## SUSTAINING PRACTICES





REFER TO APPENDIX C: PERFORMANCE INDICATORS TO MEASURE EACH COMPETENCY for the comprehensive list of

required knowledge, skills, and attitudes. (All performance indicators apply to direct care staff. Specific performance indicators for which knowledge competency applies to direct care providers are marked with an ')

WHO/UNICEF PERFORMANCE INDICATORS DEMONSTRATING COMPETENCY TO IMPLEMENT STEP 1C	VERIFICATION METHOD
'9. Explain at least 2 reasons why monitoring of hospital practices is important to ensure quality of care.	Question or case study
'10. Explain at least 2 ways practices are monitored in this facility.	Question or case study

## THE FOLLOWING STANDARDS APPLY

WHO/UNICEF STANDARD	US CRITERION FOR EVALUATION
1C.10 The facility has a protocol for an ongoing monitoring and data- management system to comply with the eight key clinical practices.	A review of the policy will confirm: Criterion 1C.10.1 A review of the infant feeding policy and any related protocols includes a description of how the facility will routinely collect and track clinical practice indicators in order to report and improve on quality of care involving the data to evaluate the 8 key clinical practice steps [Steps 3-10].
1C.11 Clinical staff <i>(direct care providers and direct care staff)</i> at the facility meet at least every 6 months to review implementation of the system.	The nursing director/manager will confirm:         Criterion 1C.11.1 The Nursing Director/Manager will confirm that the multi-disciplinary committee,         which must consist of some direct care providers and direct care staff, meets at least every 6 months, ideally every         3 months, for monitoring purposes that include:         A. Analyzing the key clinical practice indicator data to determine if targets are met, AND         B. Defining corrective actions to improve quality of care, if needed.         NOTE: "During concentrated periods of quality improvement, monthly review may be needed." Facilities should consider         ways to provide constructive feedback to direct care providers and direct care staff and support for practice improvement         when monitoring data indicate practices are not fully implemented.

COMPETENCY ASSESSMENT- SELECTED PERFORMANCE INDICATORS	US CRITERION FOR EVALUATION
1C.12 Health professionals who provide prenatal, delivery and/or newborn care will demonstrate their competence regarding the facility's monitoring systems.	The nursing director/manager will confirm: Criterion 1C.12. 1 At least 80% of health professionals who provide prenatal, delivery, postpartum, and/or well newborn care will be able to explain at least 2 reasons why monitoring of hospital practices is important to ensure quality of care. [PI 9] A. Direct care nursing staff, AND B. Direct care providers with privileges



Ensure that staff have sufficient knowledge, competence and skills to support breastfeeding.

## RATIONALE:

Timely and appropriate care for all mothers can only be accomplished if staff have the knowledge, skills and *attitudes* to carry it out. Training of health staff enables them to develop effective skills, give consistent messages, and implement policy standards. Staff cannot be expected to implement a practice or educate a patient on a topic for which they have received no training.<sup>1</sup>

## IMPLEMENTATION GUIDANCE:

**COMPETENCY REQUIREMENTS:** Health professionals who provide infant feeding services must be competent in the knowledge, skills and attitudes to implement the Ten Steps to Successful Breastfeeding.

**TABLE 1** (on the next page) provides thehigh-level competency framework in which16 specific management and supportcompetencies are organized intoseven unique domains. The domains beginwith critical management procedures thathealth professionals need to participate in



to create such needed environments. Foundational skills include effective communication and counseling that transversally apply throughout clinical competencies. They then progress through the various perinatal stages along the continuum of care and services, from the prenatal period until discharge from the site of birth.<sup>3</sup> VERIFICATION OF THE 16 COMPETENCIES IS THE PRIMARY FOCUS ON ENSURING SAFE, EVIDENCE-BASED, COMPASSIONATE CARE.

DOMAINS	COMPETENCIES NECESSARY FOR IMPLEMENTING THE TEN STEPS TO SUCCESSFUL BREASTFEEDING
<b>DOMAIN 1</b> : Critical management procedures to Support the Ten Steps (Step 1A, 1B, and 1C)	01. <b>Implement</b> the Code in a health facility 02. <b>Explain</b> a facility's infant feeding policies and monitoring systems
<b>DOMAIN 2</b> : Foundational skills: communicating in a credible and effective way (All Steps)	03. <b>Use</b> listening and learning skills whenever engaging in a conversation with a mother 04. <b>Use</b> skills for building confidence and giving support whenever engaging in a conversation with a mother
DOMAIN 3: Prenatal period (Step 3)	05. Engage in antenatal conversation about breastfeeding
<b>DOMAIN 4:</b> Birth and immediate postpartum (Step 4)	06. <b>Implement</b> immediate and uninterrupted skin-to-skin 07. <b>Facilitate</b> breastfeeding within the first hour, according to cues
<b>DOMAIN 5</b> : Essential issues for a breastfeeding mother (Steps 3, 5, 6, 7, 8, 9)	<ul> <li>08. Discuss with a mother how breastfeeding works</li> <li>09. Assist mother getting her baby to latch</li> <li>10. Help a mother respond to feeding cues</li> <li>11. Help a mother manage milk expression</li> </ul>
<b>DOMAIN 6:</b> Helping mothers and babies with special needs (Steps 5, 6, 7, 8, 9)	<ul> <li>12. Help a mother to breastfeed a low-birth-weight or sick baby</li> <li>13. Help a mother whose baby needs fluids other than breast milk</li> <li>14. Help a mother who is not feeding her baby directly at the breast</li> <li>15. Help a mother prevent or resolve difficulties with breastfeeding</li> </ul>
DOMAIN 7: Care at discharge (Step 10)	16. Ensure seamless transition after discharge

**PERFORMANCE INDICATORS:** Performance indicators are a subset of the competencies that provide measurable guidance to evaluate each competency listed in **TABLE 1**. Each performance indicator represents only one action, so only one action verb is used.<sup>3</sup> Performance indicators have been included in their relative steps throughout this document. Appendix C includes a comprehensive list of all performance indicators. All performance indicators apply to direct care staff. Specific performance indicators for which knowledge competency applies to direct care providers are marked with an **\***. **TABLE 2** provides an example from Domain 5, Competency 9, Assist mother getting her baby to latch.

DOMAIN	COMPETENCY	PERFORMANCE INDICATORS	MEASURABLE ACTIONS
Essential issues for a breastfeeding	09. Assist mother getting her baby to latch	32. <b>Evaluate</b> a full breastfeeding session observing at least 5 points.	Observation
mother		33. Demonstrate at least 3 aspects of how to help a mother achieve a comfortable and safe position for breastfeeding within the first 6 hours after birth and later as needed during the hospital stay.	Observation
		34. <b>Demonstrate</b> how to help a mother achieve an effective and comfortable latch, noting at least 5 points.	Observation

**TRAINING, ASSESSMENT, AND VERIFICATION OF COMPETENCIES:** Health professionals need to know what to explain to a mother, why it is important, how to do what is necessary and how to do it respecting the mother's concerns and circumstances. **STEP 2** focuses on verification of the performance indicators [Appendix C] to ensure that health professionals are competent in supporting breastfeeding, especially during the first few days of the birth hospitalization. Ideally, the responsibility for assessing, training, and verifying the competencies of health professionals should reside with the pre-service education system [professional degree programs]. However, if this has not occurred and staff training is deficient in this area, facilities providing maternity and newborn services will need to take corrective measures to strengthen that capacity, such as by offering courses at the facility or requiring that staff to take courses elsewhere. While some material can be taught through didactic lectures (including electronic resources), some supervised clinical experience with assessing of competencies is necessary. It is important to focus not on a specific curriculum but on the knowledge and skills obtained.<sup>1</sup> **TABLE 3** describes 2 options for implementing Step 2 competency-based training.

#### TABLE 3: FACILITY OPTIONS FOR COMPETENCY-BASED TRAINING.

OPTION 1: COMPETENCY-BASED TRAINING SPECIFIC TO IDENTIFIED NEEDS	OPTION 2: COMPETENCY-BASED TRAINING FOR ALL HEALTH PROFESSIONALS
<b>1. Assess</b> the competencies of each health professional to identify specific training needs.	<b>1. Provide</b> competency-based training program [internal or external] for all health professionals.
2. Provide competency-based training specific to needs identified.	2. Verify all health professionals are competent.
3. Verify each health professional is competent.	3 Demodiate as pooled
4. Remediate as needed.	<b>5. Remediate</b> as needed.

HEALTH PROFESSIONAL ROLES REQUIRING COMPETENCY-BASED TRAINING: All direct care staff and direct care providers

[physicians, midwives, physician's assistants, and advanced practice registered nurses] who provide education, assessment, support, intervention, assistance and/or follow-up with regards to infant feeding must have required competencies verified and completed training on identified areas needing improvement, within 6 months of hire. Typically, this will involve the following units/services including: Affiliated Prenatal Services, Labor and Delivery Unit, Postpartum Unit, Newborn Unit. NOTE: Steps 1-10 include unit/care-based competency and training requirements specific to staff/provider roles.

**OTHER ROLES** with anticipated workplace exposure to mothers and babies should have training and competency verification in accordance with their roles. Examples of other positions that may need training include:

- Administrative Leaders/Managers
- Purchasing Agent
- Pharmacists
- Anesthesiologists
- Outside agencies that make inpatient visits



## US PRE-DESIGNATION, ASSESSMENT, AND POST-DESIGNATION CONSIDERATIONS

The 4-D Pathway, consisting of 4 pre-designation and 2 post-designation phases was developed to guide facilities through the designation process. Facilities have specific tasks to complete in each phase and are provided with a variety of tools and resources to assist with their implementation of the Baby-Friendly USA Guidelines and Evaluation Criteria.

## The 4-D Pathway to Baby-Friendly Designation



STEP

• D1: DISCOVERY PHASE: The Discovery Phase is a time for facilities to learn about the processes and requirements for becoming Baby-Friendly designated. The Discovery Phase toolkit provides a self-appraisal tool to help facilities identify which requirements are already in place and which ones still need additional work.

D2: DEVELOPMENT PHASE: The Development Phase provides

 a template titled, DIRECT CARE STAFF AND DIRECT CARE
 PROVIDER COMPETENCY VERIFICATION AND TRAINING PLAN
 to assist facilities in developing a comprehensive plan for verifying
 competencies and helping health professionals gain the knowledge,
 skills and attitudes necessary to competently implement the
 facility's infant feeding policy in a safe and effective manner.

• D3: DISSEMINATION PHASE: The Dissemination Phase involves the verifying of competencies and implementation of training plans that address identified gaps in knowledge and skills, for all direct care staff and direct care providers.

• **D4: DESIGNATION PHASE:** The Designation Phase is the time for facilities to reverify competencies for those areas where additional training was provided.

• EXTERNAL ASSESSMENT: During the Assessment, interviews with health professionals will include facility-based direct care nursing staff and privileged direct care providers. Evaluation of performance indicators at assessment will include a selection of knowledge-based questions and skills-based demonstrations specific to the interviewee's role and responsibilities. Baby-Friendly USA has aligned competency-based assessment tools of health "professionals with the WHO/UNICEF Competency Verification Toolkit: Ensuring Competency of Direct Care Providers to Implement the Baby-Friendly Hospital Initiative released on August 5, 2020."

#### ANNUAL QUALITY IMPROVEMENT-SUSTAINABILITY PHASE:

During the first-year post-designation facilities must develop an Ongoing Competency Evaluation, Training and Verification Plan similar to the one prepared during the Development Phase. (A template for this plan will be provided by Baby-Friendly USA) In-service training must take place minimally every 2 years. The facility will determine the number of hours and content of this training for each staff and provider role. Competency assessment and in-service training must also take place on specific topics when monitoring data indicates one or more practices are not being fully adhered to.

• RE-DESIGNATION YEAR 1 PHASE: Facilities entering the Re-Designation Year 1 Phase will complete assigned competency assessments and audits to ensure that practices have been sustained. If the results of either reveal practices have slipped, targeted training must be completed to address identified knowledge and/or skills gaps for each direct care provider and direct care staff member.



## **US CONSIDERATION FOR SAFE IMPLEMENTATION:**

Facilities are encouraged to review the American Academy of Pediatrics' "Clinical Report: Safe Sleep and Skin-to-Skin Care in the Neonatal Period for Healthy Term Newborns" for suggested safe skin-to-skin care and rooming-in practices.<sup>25</sup> Staff should receive training that supports safe implementation of these practices.

Sufficient knowledge, skills and attitudes to support breastfeeding are essential for the provision of safe, evidence-based, compassionate care. In addition, how information is communicated is equally important. Direct care providers and staff should engage in meaningful conversations that ENCOURAGES the patient and family members.

E MPATHIZE	<b>E</b> – Empathize while listening and engaging in the conversation.
N ON-JUDGMENTAL	N — Be Non-judgmental by respecting each individual's experiences with breastfeeding, current infant feeding goals, and/or cultural and social considerations.
<b>C</b> ONFIRM	C = Confirm you understand the specific circumstances, issues and/or concerns.
O PEN-ENDED QUESTIONS	infant formula feeding and/or specific maternity care practices applicable to the conversation. For example, "What have you heard about breastfeeding?" "What do you know about infant
U SE COMPETENT SKILLS	formula?" U – Use competent skills to assess any potential or current concerns or challenges.
R esponsive care	R – Responsive care that provides anticipatory guidance [including suitable options] and/or addresses the specific concerns and circumstances.
<b>A</b> FFIRM	A – Affirm successes and the desire to do what is right for the baby.
<b>G</b> IVE EVIDENCE-BASED INFORMATION	G — Give evidenced based, scientific, unbiased, and factual information in a sensitive manner that emphasizes the protections provided by breastfeeding/maternity care practices to enable an informed decision.
E mpower	E — Empower each individual to make the decision that is right for her/his circumstances.
S UPPORT	S — Support informed decisions by providing an individualized plan that encourages a mother to have a safe, responsive, caring, and nurturing relationship with her baby.

**REFER TO APPENDIX C: PERFORMANCE INDICATORS TO MEASURE EACH COMPETENCY** for the comprehensive list of required knowledge, skills, and attitudes. (All performance indicators apply to direct care staff. Specific performance indicators for which knowledge competency applies to direct care providers are marked with an ')

PERFORMANCE INDICATORS DEMONSTRATING COMPETENCY TO IMPLEMENT THE STEP	VERIFICATION METHOD
Foundational skills: communicating in a credible and effective way	
'11. Demonstrate at least 3 aspects of listening and learning skills when talking with a pregnant woman/mother.	Observation
<sup>1</sup> 2. <b>Demonstrate</b> at least 3 ways to adapt communication style and content when talking with a mother.	Observation
13. Demonstrate at least 2 ways to encourage a mother to share her views, taking time to understand and consider these views.	Observation
*14. <b>Demonstrate</b> at least 3 aspects of building confidence and giving support when talking with a mother.	Observation

## THE FOLLOWING STANDARDS APPLY

#### WHO/UNICEF STANDARD 2.1 Health professionals who provide

prenatal, delivery and/or newborn care

report they have received pre-service

or in-service training on breastfeeding

during the previous 2 years.

#### **US CRITERION FOR EVALUATION**

Interviews with health professionals will confirm:

**Criterion 2.1.1** At least 80% of health professionals who provide prenatal, delivery and/or newborn care can describe what pre-service or in-service training on breastfeeding they have received during the previous 2 years.

- A. Direct care nursing staff, AND
- B. Direct care providers with privileges

Considerations for in-service sessions may include:

- Initial competency evaluation, training and verification, AND/OR
- Ongoing competency training and verification with a focus on changing evidence, high-risk performance indicators, and a refresher for common practical skills, AND/OR
- Ongoing competency training and verification with a focus on quality improvement efforts when monitoring data indicates one or more practices are not being fully adhered to.


WHO/UNICEF STANDARD	US CRITERION FOR EVALUATION
2.2 Health professionals who provide prenatal, delivery and/or newborn care report receiving competency assessments in breastfeeding in the previous 2 years.	<ul> <li>Interviews with health professionals will confirm:</li> <li>Criterion 2.2.1 At least 80% of health professionals who provide prenatal, delivery and/or newborn care can describe what type of competency assessments in breastfeeding they have received during the previous 2 years. <ul> <li>A. Direct care nursing staff, AND</li> <li>B. Direct care providers with privileges</li> </ul> </li> <li>Considerations for competency assessments in breastfeeding may involve: <ul> <li>Initial competency assessments of performance indicators to ensure direct care staff and direct care providers have the necessary knowledge, skills, and attitudes to deliver compassionate, safe, and evidence-based care according to their defined roles and the infant feeding policy, AND/OR</li> <li>Ongoing competency assessments to evaluate job performance and identify gaps to sustain and ensure the delivery of consistent and safe care practices, AND/OR</li> <li>Ongoing competency assessments aligned with quality improvement efforts regarding specific monitoring indicators.</li> </ul> </li> </ul>
2.3 Health professionals who provide <i>pre-natal</i> , delivery and/or newborn care are able to correctly answer three out of four questions on breastfeeding knowledge and skills to support breastfeeding.	<b>BFUSA external assessment will confirm:</b> During the external assessment, direct care providers and direct care staff who provide prenatal, delivery and/or newborn care will be asked questions relating to performance indicators pertinent to their role in the care of patients. The specific performance indicators to be discussed are identified in each step under the heading of COMPETENCY ASSESSMENT- SELECTED PERFORMANCE INDICATORS.
US STANDARD	CRITERION FOR EVALUATION
2.4 Facilities providing maternity and newborn services have the responsibility for assessing, training, and verifying the required competencies ensuring that all health professionals who provide education, assessment, support, intervention, assistance and/or follow-up with regards to infant feeding have the appropriate knowledge, skills and attitudes to provide safe, evidence- based care.	A review of the competency verification and training plan will confirm: Criterion 2.4.1 The head of maternity services will be able to identify the health professional(s) responsible for all aspects of planning, implementing, and verifying direct care staff's and direct care provider's competencies. Criterion 2.4.2 A copy of the <u>Direct Care Staff and Direct Care Provider Competency Verification and Training Plan</u> [BFUSA materials] will be available for review and analysis demonstrating a comprehensive plan for assessing, training, and verifying the competencies for all required health professionals.



Discuss the importance and management of breastfeeding with pregnant women and their families.

#### RATIONALE:

All pregnant women must have basic information about breastfeeding, in order to make informed decisions. A review of 18 qualitative studies indicated that mothers generally feel that infant feeding is not discussed enough in the *prenatal* period and that there is not enough discussion of what to expect with breastfeeding.<sup>14</sup>Mothers want more

practical information about breastfeeding. Pregnancy is a key time to inform women about the importance of breastfeeding, support their decision-making and pave the way for their understanding of the maternity care practices that facilitate its success. Mothers also need to be informed that birth practices have a significant impact on the establishment of breastfeeding.<sup>1</sup>

#### IMPLEMENTATION GUIDANCE:

Where facilities provide prenatal care [see the Affiliated Prenatal Services Questionnaire in Appendix D], pregnant women and their families should be counseled about the benefits and



management of breastfeeding.<sup>2</sup> In many settings, prenatal care is predominantly provided through primary health-care clinics or by community health workers. If facilities providing maternity and newborn services do not have authority over these care providers *[as defined by the Affiliated Prenatal Services Questionnaire]*, they should work with them to ensure that mothers and families are fully informed about the importance of breastfeeding and know what to expect when they deliver at the facility. In other cases, the facility directly provides prenatal care services or offers classes for pregnant women. In this case, provision of breastfeeding information and counseling is the direct responsibility of the facility.<sup>1</sup>

Breastfeeding education should include information on the importance of breastfeeding and the risks of giving formula or other breast-milk substitutes, along with national and healthprofessional recommendations for infant feeding. Practical skills such as positioning and attachment, on-demand feeding, and recognizing feeding cues are a necessary component of *prenatal* counseling. Families should be presented with up-to-date information on best practices in facilities providing maternity and newborn services regarding skin-to-skin contact, initiation of breastfeeding, supplementation protocols and rooming-in. Women also need to be informed about possible challenges they might encounter (such as engorgement, or a perception of not producing enough milk) and how to address them.<sup>1</sup>

*Prenatal* breastfeeding counseling must be tailored to the individual needs of the woman and her family, addressing any concerns and questions they have. This counseling needs to be sensitively given and consider the social and cultural context of each family.<sup>1</sup>

Wherever possible, conversations on breastfeeding should begin with the first or second *prenatal* visit, so that there is time to discuss any challenges, if necessary. This is particularly important in settings where women have few *prenatal* visits and/or initiate their visits late in their pregnancy. Additionally, women who deliver prematurely may not have adequate opportunities to discuss breastfeeding if the conversations are delayed until late in pregnancy.<sup>1</sup> Information on breastfeeding should be provided in multiple ways. According to the U.S. Department of Health & Human Services, over a third of adults have below basic health literacy, verbal communication as a primary teaching tool with patients is recommended. Printed or online information that is in a language mothers understand [usually recommended at or below a 5th grade reading level] is one way to ensure that all relevant topics are covered. However, there is no assurance that all women will read this information, and it may not directly address the key questions they have. Interpersonal counseling, either one-on-one or in small groups, is important to allow women to discuss their feelings, doubts and questions about infant feeding.<sup>1</sup>

The information must be provided free of conflicts of interest. As stipulated in the "Guidance on ending inappropriate promotion of foods for infants and young children",<sup>24</sup> companies that market foods for infants and young children should not "directly or indirectly provide education to parents and other caregivers on infant and young child feeding in health facilities".<sup>1</sup>

Women at increased risk for preterm delivery or birth of a sick infant (e.g. pregnant adolescents, *women with* high-risk pregnancies, known congenital anomalies) must begin discussions with knowledgeable providers as soon as feasible concerning the special circumstances of feeding a premature, low-birth-weight or sick baby.<sup>1, 30</sup>

# US CONSIDERATIONS FOR SAFE IMPLEMENTATION:

Engaging pregnant women in a conversation about creating a safe environment for both breastfeeding and sleep is extremely important as this is a time when many parents are preparing these settings. The American Academy of Pediatrics', "SIDS and Other Sleep-Related Infant Deaths: Updated 2016 Recommendations for a Safe Infant Sleeping Environment" and the "Clinical Report: Safe Sleep and Skin-to-Skin Care in the Neonatal Period for Healthy Term Newborns", provide recommendations regarding the education that should be provided to reduce the risk of SIDS and sleep-related suffocation, asphyxia, and entrapment among infants.<sup>25,26</sup> While providing the education on safe sleep practices, mothers should gain an understanding that sleepiness is a hormonally-driven, physiological response to breastfeeding. This normal response can lead to a mother, unintentionally, falling asleep while breastfeeding. Mothers should also understand that other factors such as exhaustion, fatigue, and pain medications can make falling asleep while breastfeeding common. Families should be offered information about how to create a safe sleep environment for breastfeeding and what hazardous situations are with open, honest, non-judgmental discussions to inform their decisions.

**REFER TO APPENDIX A: PATIENT EDUCATION TOPICS** for the comprehensive list of all required education topics for all pregnant mothers.

**REFER TO APPENDIX C: PERFORMANCE INDICATORS TO MEASURE EACH COMPETENCY** for the comprehensive list of required knowledge, skills, and attitudes. (All performance indicators apply to direct care staff. Specific performance indicators for which knowledge competency applies to direct care providers are marked with an ')

WHO/UNICEF PERFORMANCE INDICATORS DEMONSTRATING COMPETENCY TO IMPLEMENT STEP 3	VERIFICATION METHOD
15. <b>Engage</b> in a conversation with a pregnant woman on 3 aspects of the importance of breastfeeding.	Observation
*16. Assess at least 3 aspects of a pregnant woman's knowledge about breastfeeding in order to fill the gaps and correct inaccuracies.	Observation
17. Engage in a conversation with a pregnant woman about at least 4 care practices a mother/infant dyad will experience at the birthing facility that will support breastfeeding.	Observation
<sup>•</sup> 29. <b>Engage</b> in a conversation with a pregnant woman regarding at least 3 reasons why effective exclusive breastfeeding is important.	Observation



# THE FOLLOWING STANDARDS APPLY ONLY FOR FACILITIES WITH AFFILIATED PRENATAL SERVICES:

[See Affiliated Prenatal Services Questionnaire in Appendix D]

WHO/UNICEF STANDARD	US CRITERION FOR EVALUATION
3.1 Mothers who received prenatal care at the facility report having received prenatal counseling on breastfeeding.	<ul> <li>Affiliated services: interviews with pregnant women in the third trimester who have had at least 2 visits at an affiliated prenatal service will confirm:</li> <li>Criterion 3.1.1 At least 80% of pregnant women will report that a staff member/provider at the affiliated prenatal services:         <ul> <li>A. Assessed their understanding of breastfeeding and the specific maternity care practices that support it, AND</li> <li>B. Entered into a meaningful conversation [see Step 2] with them on the required WHO/UNICEF prenatal conversation topics provided in Appendix A either one-on-one or in small groups, or by following up to education provided through another learning mode [videos, podcasts, texts] based on their specific needs.</li> </ul> </li> </ul>
	NOTE: if mothers have questions about infant formula, their issues, concerns and circumstances will be discussed on an individual basis.

#### US CLARIFICATION: PRENATAL EDUCATION AND MEANINGFUL CONVERSATIONS

While education may be provided by a variety of different learning modes including videos, podcasts, texts, etc., meaningful prenatal breastfeeding conversations must be tailored to the individual needs of the woman and her family, addressing any concerns and questions they have. This counseling needs to be sensitively given and consider the social and cultural context of each family.<sup>1</sup> "The Guideline: Counseling of Women to Improve Breastfeeding Practices" states that the "aim of breastfeeding counseling is to empower women to breastfeed, while respecting their personal situations and wishes."<sup>18</sup> As you enter into conversations with pregnant women, consider incorporating appropriate components of the following acronym, E.N.C.O.U.R.A.G.E.S as you enter into meaningful conversations [see Step 2].

WHO/UNICEF STANDARD	US CRITERION FOR EVALUATION
3.2 Mothers who received prenatal care at the facility [affiliated prenatal services] are able to adequately describe what was discussed about two of the required WHO/ UNICEF prenatal conversation topics provided in Appendix A.	Affiliated prenatal services: interviews with pregnant women in the third trimester who have had at least 2 visits at an affiliated prenatal service will confirm: Criterion 3.2.1 At least 80% of pregnant women who received prenatal care at the affiliated prenatal services are able to adequately describe two topics from required WHO/UNICEF prenatal conversation topics provided in Appendix A.

# THE FOLLOWING STANDARDS OF CARE APPLY FOR ALL FACILITIES WITH AND WITHOUT AFFILIATED PRENATAL SERVICES:

US STANDARD	CRITERION FOR EVALUATION
3.3 All facilities should foster the development of and coordinate services with programs to promote consistent education about breastfeeding that is made available to pregnant women.	A written description will confirm: Criterion 3.3.1 A written description will confirm how the facility has fostered the development of and coordinated services with in-house programs and/or community-based projects to promote consistent education about breastfeeding that is made available to all pregnant women.

#### US CLARIFICATION: PRENATAL EDUCATION AND RETURNING TO WORK

Pregnant women who know they will be returning to work and/or school often ask questions about their options for continuation of breastfeeding and/or breast-milk feeding. While it is appropriate to answer these questions and to provide basic information about maintaining lactation when direct breastfeeding is not possible or desired, it is important that prenatal breastfeeding education focus on building mothers' knowledge, skills, and confidence in their ability to breastfeed. As needed, more in-depth, education on breast pumps, milk storage, and handling can be given.

Prenatal education that discusses pumping and bottle use must only be given in the context of discussing infant feeding options when mother and baby are separated [e.g., mother going back to school or work], to help mothers initiate or maintain lactation [Step 5], and to support exclusive breastfeeding. Prenatal education on pumping and bottle use must address the following points:

- Bottle use should be delayed until breastfeeding is well-established.
- Possible negative consequences of bottle use on the success of breastfeeding.

COMPETENCY	US CRITERION FOR EVALUATION	
ASSESSMENT-SELECTED		
PERFORMANCE INDICATORS		
3.4 Health professionals who provide care	re Interviews with direct care nursing staff and direct care providers will confirm:	
to pregnant women will be competent in		
engaging in a prenatal conversation about	Criterion 3.4.1. At least 80% of direct care pursing staff who provide labor 6 delivery care will be able to describe how	
breastjeeaing.	they engage in a conversation with a pregnant woman on 2 aspects of the importance of breastfeeding. [PI 15]	
	<b>Criterion 3.4.2</b> At least 80% of <b>direct care nursing staff who provide labor &amp; delivery care</b> will be able to describe how to assess at least 2 aspects of a pregnant woman's knowledge about breastfeeding in order to fill the gaps and correct inaccuracies. [PI 16]	
	<b>Criterion 3.4.3</b> At least 80% of <b>direct care nursing staff who provide labor &amp; delivery care</b> will be able to describe how they engage in a conversation with a pregnant woman about at least 2 care practices a mother/infant dyad will experience at the birthing facility that will support breastfeeding. [PI 17]	
	<b>Criterion 3.4.4</b> At least 80% of <b>direct care nursing staff who provide labor &amp; delivery care</b> will be able to describe how they engage in a conversation with a pregnant woman regarding at least 2 reasons why effective exclusive breastfeeding is important. [PI 29]	
	DIRECT CARE PROVIDERS Criterion 3.4.5 At least 80% of direct care providers with privileges to provide care to pregnant women in the labor and delivery unit will be able to describe how they engage in a conversation with a pregnant woman on 2 aspects of the importance of breastfeeding. [PI 15]	
	Criterion 3.4.6 At least 80% of direct care providers with privileges to provide care to pregnant women in the labor and delivery unit will be able to describe how to assess at least 2 aspects of a pregnant woman's knowledge about breastfeeding in order to fill the gaps and correct inaccuracies. [PI 16]	
	<b>Criterion 3.4.7</b> At least 80% of <b>direct care providers with privileges to provide care to pregnant women in the labor and</b> <b>delivery unit</b> will be able to describe how they engage in a conversation with a pregnant woman regarding at least 2 reasons why effective exclusive breastfeeding is important. [PI 29]	



Facilitate immediate and uninterrupted skin-to-skin contact and support mothers to initiate breastfeeding as soon as possible after birth.

#### RATIONALE:

Immediate skin-to-skin contact and early initiation of breastfeeding are two closely linked interventions that need to take place in tandem for optimal benefit. Immediate and uninterrupted skin-to-skin contact facilitates the newborn's natural rooting reflex that helps to imprint the behavior of looking for the breast and suckling at the breast.

Additionally, immediate skin-to-skin contact helps populate the newborn's microbiome and prevents hypothermia. Early suckling at the breast will trigger the production of breast-milk and accelerate lactogenesis. Many mothers stop breastfeeding early or believe they cannot breastfeed because of insufficient milk, so establishment of a milk supply is critically important for success with breastfeeding. In addition, early initiation of breastfeeding has been proven to reduce the risk of infant mortality.<sup>1, 31</sup>

## **IMPLEMENTATION GUIDANCE:**

Early and uninterrupted skin-to-skin contact between mothers and infants should

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be facilitated and encouraged as soon as possible after birth. Skin-to-skin contact is when the infant is placed prone on the mother's abdomen or chest with no clothing separating them. It is recommended that skin-to-skin contact begins immediately, regardless of method of delivery. It should be uninterrupted for at least 60 minutes <sup>1</sup> or longer if the mother wishes and/or if the infant needs more time to complete a breastfeed. To clarify, immediately after birth, an infant may be on the abdomen until the cord is clamped and cut. Then the infant moves his/herself or is moved to the chest, atop the sternum. Initiation of breastfeeding is typically a direct consequence of uninterrupted skin-to-skin contact, as it is a natural behavior for most babies to slowly squirm or crawl toward the breast *[this may take up to an hour].* Mothers may be supported to help the baby to the breast if desired. Mothers should be helped in understanding how to support the baby and how to make sure the baby is able to self-attach and suckle at the breast. All mothers should be supported to initiate breastfeeding as soon as possible after birth, within the first hour after delivery *[unless there are medically justifiable reasons].*<sup>1,2</sup> *This first breastfeed should be allowed to continue until the baby indicates that the breastfeed is completed. This may take up to another hour. The initial period of skin-to-skin contact until completion of the first feeding may take up to 2 hours.* 

It should be noted that the milk a newborn consumes immediately after birth is colostrum, which is highly nutritious and contains important antibodies and immune-active substances. The amount of colostrum a newborn will receive in the first few feedings is very small. Early suckling is important for stimulating milk production and establishing the maternal milk supply. The amount of milk ingested is a relatively unimportant factor.<sup>1, 2</sup> During immediate skin-to-skin contact, and for at least the first 2 hours after delivery, sensible vigilance and safety precautions should be taken so that health professionals can observe for, assess and manage any signs of distress *in infants*. Mothers who are sleepy or under the influence of anesthesia or drugs will require closer observation.<sup>1</sup> When mothers are not fully awake and responsive, a health professional should accompany the mother, to prevent the baby from being hurt accidentally.

Immediate skin-to-skin care and initiation of breastfeeding is feasible following a cesarean section with local/regional anesthesia (epidural).<sup>32</sup> After a cesarean section with general anesthesia, skin-to-skin contact and initiation of breastfeeding can begin when the mother is sufficiently alert to hold the infant. Mothers or infants who are medically unstable following delivery may need to delay the initiation of breastfeeding. However, even if mothers are not able to initiate breastfeeding during the first hour after birth, they should still be supported to provide skin-to-skin contact and to breastfeed as soon as they are able (responsive and alert).<sup>1, 32, 33</sup> Routine procedures (e.g. assessment, vital signs, security steps, APGAR scoring) should be done with the infant skin-to-skin with the mother. Procedures that are painful or may require separation from skin-to-skin (e.g., eye ointment, weights, vitamin K, bathing) should be delayed until the completion of first feeding or after the initial first hour of skin-to-skin contact (if formula feeding).<sup>13</sup> To diminish pain, where feasible, painful procedures should be conducted while in skin-to-skin contact. Procedures requiring separation of the mother and infant (bathing, for example) should be delayed until after this initial period of skin-to-skin contact and should be conducted, whenever possible, at the mother's bedside. Staff should be vigilant during this time and support mothers to look for signs that their babies are ready to feed and offer help if necessary.

Preterm infants may be able to root, attach to the breast and suckle.<sup>34</sup> As long as the infant is stable, with no evidence of severe apnea, desaturation or bradycardia, preterm infants can start breastfeeding. However, early initiation of effective breastfeeding may be difficult for these infants if the suckling reflex is not yet established and/or the mother has not yet begun plentiful milk secretion. Early and frequent milk expression is critical to stimulating milk production and secretion for preterm infants who are not yet able to suckle. Transition to direct and exclusive breastfeeding should be the aim whenever possible<sup>35</sup> and is facilitated by prolonged skin-to-skin contact.

# US CONSIDERATIONS FOR SAFE IMPLEMENTATION:

Facilities are encouraged to review the "American Academy of Pediatrics' Clinical Report: Safe Sleep and Skin-to-Skin Care in the Neonatal Period for Healthy Term Newborns"<sup>25</sup> and the WHO/UNICEF "Competency Verification Tool Kit Examiners Resource<sup>3"</sup> for suggested safe skin-to-skin care practices.

**REFER TO APPENDIX A: PATIENT EDUCATION TOPICS** for the comprehensive list of all required education topics for postpartum mothers.

**REFER TO APPENDIX C: PERFORMANCE INDICATORS TO MEASURE EACH COMPETENCY** for the comprehensive list of required knowledge, skills, and attitudes. (All performance indicators apply to direct care staff. Specific performance indicators for which knowledge competency applies to direct care providers are marked with an ')

WHO/UNICEF PERFORMANCE INDICATORS DEMONSTRATING COMPETENCY TO IMPLEMENT STEP 4	VERIFICATION METHOD
'18. <b>Explain</b> at least 3 reasons why immediate and uninterrupted skin-to-skin is important for the mother.	Question or case study
'19. <b>Explain</b> at least 3 reasons why immediate and uninterrupted skin-to-skin is important for the infant.	Question or case study
20. Demonstrate at least 3 points of how to routinely implement immediate, uninterrupted and safe skin-to-skin between mother and infant, regardless of method of birth.	Observation
*21. <b>Demonstrate</b> at least 3 safety aspects to assess when mother and baby are skin-to-skin during the first 2 hours postpartum, regardless of method of birth.	Observation
<sup>•</sup> 22. List at least 3 reasons why skin-to-skin should NOT be <i>delayed or</i> interrupted.	Question or case study
<sup>•</sup> 23. <b>Explain</b> at least 2 reasons when skin-to-skin could be <i>delayed or</i> interrupted for medically justifiable reasons.	Question or case study
24. "WHERE APPLICABLE" <b>Explain</b> how to maintain skin-to-skin during transfer of mother and infant to another room or other recovery area.	Question or case study
*25. <b>Engage</b> in a conversation with a mother including at least 3 reasons why suckling at the breast in the first hour is important, when the baby is ready.	Observation
26. <b>Demonstrate</b> at least 3 aspects of safe care of the newborn in the first 2 hours post-birth.	Observation
27. Describe to a mother at least 3 pre-feeding behaviors babies show before actively sucking at the breast.	Observation

# THE FOLLOWING STANDARDS APPLY:

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4.1 Mothers report that their babies were placed in skin-to-skin contact with them immediately after birth and that this contact lasted 1 hour or more, unless there were documented medically justifiable reasons for delayed contact.

#### US CRITERION FOR EVALUATION

#### Interviews with mothers will confirm:

*Criterion 4.1.1* Following a vaginal birth, at least 80% of mothers will confirm:

- A. That their infants were placed in skin-to-skin contact with them immediately after birth, unless there were documented medically justifiable reasons for delayed contact, AND
- B. The initial period of skin-to-skin contact continued uninterrupted for at least 1 hour [longer, if needed, to allow a breastfeeding infant to complete a feeding], unless there were documented medically justifiable reasons to interrupt contact.

Criterion 4.1.2 Following a cesarean birth, at least 80% of mothers will confirm:

- A. That their infants were placed in skin-to-skin contact with them when safe and feasible [minimally, following a cesarean delivery, skin-to-skin should begin in the recovery area as soon as mother is responsive and alert], unless there were documented medically justifiable reasons for delayed contact, AND
- B. The initial period of skin-to-skin contact continued uninterrupted for at least 1 hour [longer, if needed, to allow a breastfeeding infant to complete a feeding], unless there were documented medically justifiable reasons to interrupt contact.

**Criterion 4.1.3** At least 80% of mothers will confirm that in the event of delayed or interrupted skin-to-skin contact for medically justifiable reasons, skin-to-skin was initiated/re-established when safe and medically feasible.

#### **Documentation:**

Criterion 4.1.4 If necessary, a review of the medical record will provide documentation of skin-to-skin contact including:

- A. Time of delivery,
- B. Time skin-to-skin was implemented,
- C. Time of completion/duration of skin-to-skin contact, and
- D. Any reasons for delay/interruption of skin-to-skin contact

#### Observations of births will confirm:

Criterion 4.1.5 Observations of vaginal births, if necessary and/or available, show:

- A. That infants are placed skin-to-skin with their mothers immediately after birth, unless there were medically justifiable reasons for delayed contact, AND
- B. The initial period of skin-to-skin contact continued uninterrupted for at least 1 hour [longer, if needed, to allow a breast-feeding infant to complete a feeding], unless there were medically justifiable reasons to interrupt contact.

continued

WHO/UNICEF STANDARD	US CRITERION FOR EVALUATION
4.1 Mothers report that their babies were placed in skin-to-skin contact with them	Observations of birth will confirm:
immediately after birth and that this	Criterion 4.1.6 Observations of cesarean births, if necessary and/or available, show:
contact lasted 1 hour or more, unless	A. That infants are placed in skin-to-skin contact with their mothers when safe and feasible [minimally, following a
there were documented medically	cesarean delivery, skin-to-skin should begin in the recovery area as soon as mother is responsive and alert],
justifiable reasons for delayed contact.	unless there were medically justifiable reasons for delayed contact, AND
	B. The initial period of skin-to-skin contact continued uninterrupted for at least 1 hour [longer, if needed, to allow a breastfeeding infant to complete a feeding], unless there were medically justifiable reasons to interrupt contact.

#### U.S. CLARIFICATION: MEDICALLY JUSTIFIABLE REASONS FOR-DELAYED/INTERRUPTED SKIN-TO-SKIN CONTACT

Healthcare Professionals must use their clinical judgement. Mothers or infants that are not stable may require that immediate skin-to-skin contact be postponed. Interruptions may be necessary to address any procedure that cannot be postponed until the completion of the first feeding. In the event that a mother and/or infant are separated for medical reasons, skin-to-skin contact will be initiated as soon as the mother and infant are stabilized/reunited. Any delays or interruptions of skin-to-skin contact should be clearly documented in the medical record.

To be clear, routine procedures (e.g., assessment, vital signs, security steps, APGAR scoring) should be done with the infant skin-to-skin with the mother. Procedures that are painful or may require separation from skin-to-skin (e.g. eye ointment, weights, vitamin K, bathing) should be delayed until the completion of first feeding or after the initial first hour of skin-to-skin contact [if formula feeding].



#### WHO/UNICEF STANDARD

4.2 Mothers report that their babies were put [supported or self-attached] to the breast within 1 hour after birth, unless there were documented medically justifiable reasons.

**NOTE:** Early Initiation of Breastfeeding: According to WHO, infants should be put to the breast within 1 hour of birth. This practice gives infants the opportunity to feed at the mother's breast. Early initiation of breastfeeding does not require that the infant attached/suckled at the breast or that milk was transferred from breast to infant. It represents the practice of putting an infant in skin-to-skin contact and allowing an infant to slowly crawl toward the breast or supporting mothers to help the baby to the breast, if desired. Putting the baby to breast within the first hour is related to a number of positive outcomes including reduced mortality and exclusive breastfeeding.36

#### US CRITERION FOR EVALUATION

Interviews with breastfeeding mothers will confirm:

**Criterion 4.2.1** At least 80% of breastfeeding mothers will report that they were supported to initiate breastfeeding with their babies as soon as possible after birth, within the first one to two hours after delivery, unless there were documented medically justifiable reasons. NOTE: Supporting the initiation of breastfeeding is defined as placing the baby on the mother's chest (skin-to-skin) for breastfeeding, pointing out infant feeding readiness cues and gently coaching the mother to allow baby to move and attach to the breast.

**Criterion 4.2.2** At least 80% of breastfeeding mothers will confirm that they were encouraged to look for signs that their infants were ready to feed during this first one to two hours of contact.

**BFUSA CLARIFICATION/INTERPRETATION:** BFUSA supports the practice of "putting infants to the breast" within 1 hour of birth. Due to the effect of various birth medications, some infants do not show readiness to feed until the end of the first hour and/or well into the second hour, even though they have been in uninterrupted skin-to-skin contact with their mothers. Therefore, for the purposes of evaluating the initiation of breastfeeding with a latch or attempts to latch, criterion 4.2.1 will focus on the initiation of the first feeding within the first 2 hours after birth.

#### Documentation:

**Criterion 4.2.3** If necessary, a review of the medical record will provide documentation of the initiation of breastfeeding including:

- A. Time of delivery
- B. Time of initiation of breastfeeding
- C. Any medically justifiable reasons for delay of initiation of breastfeeding

#### Observations of breastfeeding infants will confirm:

**Criterion 4.2.4** Observations, if necessary and/or available, confirm that breastfeeding mothers are supported to initiate breastfeeding with their infants as soon as possible after birth, within the first one to two hours after delivery, unless there are medically justifiable reasons. NOTE: Supporting the initiation of breastfeeding is defined as placing the baby on the mother's chest (immediate and uninterrupted skin-to-skin) for breastfeeding, pointing out infant feeding readiness and gently coaching the mother to allow baby to move and attach to the breast.

*Criterion 4.2.5* Observations, if necessary and/or available, show that at least 80% of breastfeeding mothers are shown how to recognize the signs that infants are ready to feed during this first hour of contact.

COMPETENCY ASSESSMENT-SELECTED PERFORMANCE INDICATORS	US CRITERION FOR EVALUATION
4.3 Health professionals who provide	Interviews with direct care nursing staff and direct care providers will confirm:
labor & delivery and/or immediate	
newborn care will be competent to safely	DIRECT CARE NURSING STAFF
implement immediate and uninterrupted	Criterion 4.3.1 At least 80% of direct care nursing staff who provide labor & delivery and/or immediate newborn care
skin-to-skin contact and facilitate	will be able to demonstrate or explain at least 3 points of how to routinely implement immediate, uninterrupted and safe
breastfeeding within the first hour,	skin-to-skin between a mother and infant regardless of method of birth. [PI 20]
according to cues.	
	Criterion 4.3.2 At least 80% of direct care nursing staff who provide labor & delivery and/or immediate newborn care
	will correctly respond to 1 of the randomly selected performance indicators listed below:
	A. Demonstrating or explaining at least 3 safety aspects to assess when a mother and baby are skin-to-skin during the
	first 2 hours postpartum, regardless of method of birth. [PI 21]
	B. Demonstrating or explaining at least 3 aspects of safe care of the newborn in the first 2 hours post-birth. [PI 26]
	Criterion 4.3.3 At least 80% of direct care nursing staff who provide labor & delivery and/or immediate newborn care
	will correctly respond to 1 of the randomly selected performance indicators listed below:
	A. Describing at least 2 pre-feeding behaviors babies show before actively sucking at the breast. [PI 27]
	B. Describing at least 2 reasons why suckling at the breast in the first hour is important, when the baby is ready. [PI 25]
	DIRECT CARE PROVIDERS
	Criterion 4.3.4 At least 80% of direct care providers with privileges to provide labor & delivery and/or immediate newborn
	care will be able to list at least 2 reasons why skin-to-skin should not be delayed or interrupted. [PI 22]
	Criterion 4.3.5 At least 80% of direct care providers with privileges to provide labor & delivery and/or immediate newborn care will be able to explain at least 2 reasons when skin-to-skin could be delayed or interrupted for medically justifiable reasons. [PI 23]
	<b>Criterion 4.3.6</b> At least 80% of <b>direct care providers with privileges to provide labor &amp; delivery and/or immediate newborn</b> <b>care</b> will be able to describe at least 2 points to include in a conversation with a mother concerning why suckling at the breast in the first hour is important, when the baby is ready. [PI 25]



Support mothers to initiate and maintain breastfeeding and manage common difficulties.

#### RATIONALE:

While breastfeeding is a natural human behavior, most mothers need practical help in learning how to breastfeed. Even experienced mothers encounter new challenges with breastfeeding a newborn. Postnatal breastfeeding counseling and support has been shown to increase rates of breastfeeding up to 6 months of age.<sup>37</sup> Early adjustments to positioning

and attachment can prevent breastfeeding problems at a *future* time. Frequent coaching and support helps build maternal confidence.<sup>1</sup>

#### IMPLEMENTATION GUIDANCE:

Mothers should receive practical support to enable them to initiate and maintain breastfeeding and manage common breastfeeding difficulties.<sup>2</sup> Practical support includes providing emotional and motivational support, imparting information and teaching concrete skills to enable mothers to breastfeed successfully. The stay in the facility providing maternity and newborn services is a unique opportunity to



discuss and assist the mother with questions or problems related to breastfeeding and to build confidence in her ability to breastfeed.<sup>1</sup>

All mothers should receive individualized attention, but first-time mothers and mothers who have not breastfed before will require extra support. However, even mothers who have had another child might have had a negative breastfeeding experience and need support to avoid previous problems. Mothers delivering by cesarean section and obese mothers should be given additional help with positioning and attachment.<sup>1</sup>

A number of topics should be included in teaching mothers to breastfeed. It is essential to demonstrate good positioning and attachment at the breast, which are crucial for stimulating the production of breast-milk and ensuring that the infant receives enough milk. Direct observation of a feed is necessary to ensure that the infant is able to attach to and suckle at the breast and that milk transfer is happening. *Competent direct care staff will observe at least one feed every shift.*<sup>38</sup> Additionally, facility direct care staff need to educate mothers on the *importance of direct breastfeeding*, *prevention of pathologically* engorged breasts, ways to ensure and maintain a good milk supply, prevention of cracked and sore nipples, and evaluation of milk intake.<sup>1</sup>

Mothers should be coached on how to express breast-milk as a means of maintaining lactation in the event of their being separated temporarily from their infants.<sup>2</sup> There is not sufficient evidence that one method of expression (hand expression, manual pump or electric pump) is more effective than another,<sup>39</sup> and thus any method(s) may be taught, depending on the mother's context. However, hand expression does have the advantage of being available no matter where the mother is and of allowing the mother to relieve pressure or express milk when a pump is not available *or during an emergency where there may be power outages. It is reasonable for all mothers to be taught hand expression during the birth hospitalization.* Pumps can potentially have more microbial contamination if they cannot easily be cleaned. Mothers also need to be supported for collection and storage of expressed milk.<sup>1</sup> Practical support for preterm, including late preterm newborns is particularly critical, in order to establish and maintain the production of breast-milk. Many mothers of preterm infants have health problems of their own and need motivation and extra support for milk expression. *Robust and older* late preterm infants are generally able to exclusively breastfeed at the breast, but are at greater risk of jaundice, hypoglycemia and feeding difficulties than full-term infants, and thus require increased vigilance.<sup>40</sup> Mothers of twins (multiples) also need extra support, especially for positioning and attachment.<sup>1</sup>

Conversations with mothers should include information on the importance of direct breastfeeding. However, some mothers will make an informed decision to exclusively pump and feed their expressed breast-milk to their infants. If this is the case, they should be advised to pump and feed their infants expressed breast-milk at least 8 times in 24 hours.

# US CONSIDERATIONS FOR SAFE IMPLEMENTATION:

General guidance regarding facilitating milk production and maintaining milk supply may include (NOTE: This guidance must be individualized.)

• Direct breastfeeding: Ensure good positioning and correct attachment with observable efficient suckling patterns at the breast. Practice responsive feeding with no limits on frequency and duration of feedings. Avoid non-medically indicated supplemental feeds, pacifiers, and artificial nipples.

 Breastfeeding and formula feeding combined [Mixed-feeding – Maternal request]: Establish exclusive direct breastfeeding for several weeks with supplementation introduced at a later date. The mother must be knowledgeable regarding the importance of expressing breast-milk after formula is introduced.

 Temporary medically-indicated supplementation: Supplement, when possible, at the breast. Avoid pacifiers and artificial nipples.
 Establish expression of breast-milk when supplements are offered.

• Exclusively breast-milk feeding, preterm infants, and infants that cannot breastfeed due to illness or separation: Express breast-milk regularly, at least 8 times in 24 hours, with stretches not longer than 4 hours. Mothers may describe hand expression, manual pumping or electric pumping.

 Preterm infants, particularly those being cared for on the regular postpartum unit must receive individualized care, including close observation, due to their immaturity. These infants are less alert, have less stamina, are often hypotonic, and have greater difficulty with latch, suck and swallow.<sup>41</sup> Mothers of late preterm infants are at a greater risk of delayed lactogenesis.<sup>40</sup>Management strategies to support these couplets include developing an adequate milk volume and ensuring that these infants are adequately fed.<sup>40</sup> Mothers should be assisted to start expressing their milk within the first 6 hours after birth [preferably within 1-2 hours after birth and completion of initial skin-to-skin contact]. In order to initiate and establish the mother's milk supply, regular expression using hand expression may be necessary to stimulate the breasts.<sup>40</sup> Many of these infants may not effectively transfer milk during breastfeeding, so supplementation with the mother's own milk, pasteurized donor human milk or infant formula may be necessary following attempted breastfeeds with appropriate lactation support.41

**REFER TO APPENDIX A: PATIENT EDUCATION TOPICS** 

for the comprehensive list of all required education topics for postpartum mothers.

**REFER TO APPENDIX C: PERFORMANCE INDICATORS TO MEASURE EACH COMPETENCY** for the comprehensive list of required knowledge, skills, and attitudes. (All performance indicators apply to direct care staff. Specific performance indicators for which knowledge competency applies to direct care providers are marked with an ')

WHO/UNICEF PERFORMANCE INDICATORS DEMONSTRATING COMPETENCY TO IMPLEMENT STEP 5	VERIFICATION METHOD
28. Describe at least 6 essential issues that every breastfeeding mother should know or demonstrate.	Question or case study
'30. Engage in a conversation with a mother regarding 2 elements related to infant feeding patterns in the first 36 hours of life.	Observation
'31. Describe to a mother at least 4 signs of adequate transfer of milk in the first few days.	Observation
32. Evaluate a full breastfeeding session observing at least 5 points.	Observation
*33. <b>Demonstrate</b> at least 3 aspects of how to help a mother achieve a comfortable and safe position for breastfeeding within the first 6 hours after birth and later as needed during the hospital stay.	Observation
'34. Demonstrate how to help a mother achieve an effective and comfortable latch, noting at least 5 points.	Observation
40. <b>Demonstrate</b> to a mother how to hand express breast-milk, noting 8 points.	Observation
43. Help a mother achieve a comfortable and safe position for breastfeeding with her preterm, late preterm, or weak infant at the breast, noting at least 4 points.	Observation
*44. Engage in a conversation with a mother of a preterm, late preterm, or low-birth-weight infant not sucking effectively at the breast, including at least 5 points.	Observation
57. <b>Engage</b> in a conversation with a mother regarding at least 4 different ways to facilitate breastfeeding in order to prevent or resolve most common conditions of the lactating breasts (sore nipples, engorgement, mother who thinks she doesn't have enough milk, infants who have difficulty sucking).	Observation
<sup>•</sup> 65. <b>Describe</b> at least 2 maternal and 2 infant risk factors associated with delayed lactogenesis II.	Question or case study

# THE FOLLOWING STANDARDS APPLY TO MOTHERS AND INFANTS BEING CARED FOR ON THE POSTPARTUM UNIT:

WHO/UNICEF STANDARD	US CRITERION FOR EVALUATION	
5.1 Breastfeeding mothers report that	Interviews with breastfeeding [including breast-milk feeding] mothers will confirm:	
someone on the direct care staff offered		
assistance with breastfeeding within	Criterion 5.1.1 At least 80% of breastfeeding [including breast-milk feeding] mothers will report that:	
6 hours after birth.	A. Term infants/Direct Breastfeeding: direct care staff provided additional guidance and support as needed with breastfeeding within 6 hours of birth. OR	
	B. Exclusively expressing/Breast-milk feeding: direct care staff provided additional guidance and support with expressing their breast-milk within the first 6 hours after birth [preferably within 1-2 hours after birth and completion of initial skin-to-skin contact], unless there is a justifiable reason to delay initiation of expression. OR	
	C. Late preterm infants/Direct Breastfeeding on the postpartum unit: direct care staff provided additional guidance and support as needed with breastfeeding and expressing their breast-milk within the first 6 hours after birth [preferable within 1–2 hours after birth and completion of the initial skin-to-skin contact], unless there is a justifiable reason to delay initiation of expression.	
	NOTE: Early adjustments to positioning and attachment within the first 6 hours following the initial breastfeeding after	
	delivery can prevent breastfeeding problems at a future time.	
5.2 Breastfeeding mothers are able to Interviews with breastfeeding mothers will confirm:		
demonstrate how to position their babies		
for breastfeeding and that the babies can	Criterion 5.2.1 At least 80% of breastfeeding mothers are able to demonstrate or describe:	
suckle and transfer milk.	A. Correct positioning with their babies, AND	
	B. Correct attachment (latch) with their babies, AND	
	C. Observable efficient suckling patterns with their babies, AND	
	D. Audible sounds associated with the transfer of breast–milk with their babies.	
5.3 Breastfeeding mothers can describe at least two ways to facilitate milk	Interviews with breastfeeding [including breast-milk feeding] mothers will confirm:	
production for their infants.	Criterion 5.3.1 At least 80% of breastfeeding [including breast-milk feeding] mothers can describe at least two ways	
	to facilitate milk production and to keep up the supply for their babies.	
5.4 Breastfeeding mothers can describe	Interviews with breastfeeding mothers will confirm:	
at least two indicators of whether a		
preastred baby consumes adequate milk.	<b>Criterion 5.4.1</b> At least 80% of breastfeeding mothers can describe at least two indicators of whether a breastfed baby	
continued	nas consumea adequate mitk.	
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# THE FOLLOWING STANDARDS APPLY TO MOTHERS AND INFANTS BEING CARED FOR ON THE POSTPARTUM UNIT: continued

WHO/UNICEF STANDARD	US CRITERION FOR EVALUATION
5.5 Mothers of breastfed infants can correctly demonstrate or describe how	Interviews with breastfeeding mothers will confirm:
to express breast-milk.	<b>Criterion 5.5.1</b> At least 80% of breastfeeding mothers can correctly demonstrate or describe how to hand express breast-milk.

# THE FOLLOWING STANDARD APPLIES TO MOTHERS WITH INFANTS THAT ARE BEING CARED FOR IN THE NICU:

WHO/UNICEF STANDARD	US CRITERION FOR EVALUATION
5.6 Mothers of preterm or sick infants	Interviews with mothers who are breastfeeding or intending to do so with infants in the NICU will confirm:
report having been helped to express milk	
within 1—2 hours after birth.	<ul> <li>Criterion 5.6.1 At least 80% of mothers with infants in the NICU, who are breastfeeding or intending to do so, will report that they have been provided guidance and support with expressing their breast-milk within the first 6 hours after birth [preferably within 1-2 hours after birth and completion of initial skin-to-skin contact - if safe and medically feasible], unless there is a justifiable reason to delay initiation of expression.</li> <li>Criterion 5.6.2 At least 80% of mothers with infants in the NICU, who are breastfeeding or intending to do so will report that they have been provided guidance that they need to breastfeed or express their milk at least 8 times every 24 hours, with stretches not longer than 4 hours, to establish and maintain their milk supply.</li> </ul>

COMPETENCY ASSESSMENT-SELECTED PERFORMANCE INDICATORS	US CRITERION FOR EVALUATION
5.9 Health professionals who provide	Interviews with direct care nursing staff and direct care providers will confirm:
labor & delivery, postpartum and/or	
newborn care will be competent in:	DIRECT CARE NURSING STAFF
	Criterion 5.9.1 At least 80% of direct care nursing staff who provide labor & delivery, postpartum, and/or newborn care
<ul> <li>How to assist a mother in the steps to</li> </ul>	will be able to describe at least 3 essential issues that every breastfeeding mother should know or demonstrate. [PI 28]
getting her baby to latch	Criterion 5.9.2 At least 80% of direct care pursing staff who provide labor 6 delivery postpartum and/or pewhorn care
	will be able to describe to a mother at least 2 signs of adequate transfer of milk in the first few days (DI 31)
• How to discuss with a mother how	
breastfeeding works	Criterion 5.9.3 At least 80% of direct care nursing staff who provide labor & delivery, postpartum, and/or newborn care
	will be able to describe how they evaluate a full breastfeeding session observing at least 5 points. [PI 32]
In helping a mother to breastfeed	
a late-preterm baby	Criterion 5.9.4 At least 80% of direct care nursing staff who provide labor & delivery, postpartum, and/or newborn care
	will be able to describe how they engage in a conversation with a mother of a late preterm infant rooming-in on the postpar-
In helping a mother prevent or resolve	tum unit that is not sucking effectively at the breast, including at least 3 points. [PI 44]
difficulties with breastfeeding	
	Criterion 5.9.5 At least 80% of direct care nursing staff who provide labor & delivery, postpartum, and/or newborn care will
• In helping a mother manage milk	correctly respond to 1 of the randomly selected performance indicators listed below:
expression	A. Demonstrate at least 5 aspects of now to help a mother achieve a comportable and safe position for breastfeeding within the first 6 hours after birth and later as needed during the bosnital stay. [PI 33]
	B Help a mother achieve a comfortable and safe position for breastfeeding with her preterm late preterm or weak infant
<ul> <li>In helping a mother who is not feeding her baby directly at the breast</li> </ul>	at the breast, noting at least 3 points. [PI 43]
	Criterion 5.9.6 At least 80% of direct care nursing staff who provide labor & delivery, postpartum, and/or newborn care
	will correctly respond to 1 of the randomly selected performance indicators listed below:
	A. Demonstrate how to help a mother achieve an effective and comfortable latch, noting at least 3 points. [PI 34]
	B. Demonstrate to a mother how to hand express breast-milk to a mother, noting at least 3 points. [PI 40]
	Criterion 5.9.7 At least 80% of direct care nursing staff who provide labor & delivery, postpartum, and/or newborn care
	will correctly respond to 1 of the randomly selected performance indicators listed below:
	A. Engage in a conversation with a mother regarding 2 elements related to infant feeding patterns in the first 36 hours of life. [PI 30]
	B. Engage in a conversation with a mother regarding at least 4 different ways to facilitate breastfeeding in order to preven or resolve most common conditions of the lactating breasts (sore nipples, engorgement, mother who thinks she doesn't have enough milk, infants who have difficulty sucking). [PI 57]

COMPETENCY ASSESSMENT-SELECTED PERFORMANCE INDICATORS	US CRITERION FOR EVALUATION
5.9 Health professionals who provide labor & delivery, postpartum and/or	Interviews with direct care nursing staff and direct care providers will confirm:
newborn care will be competent in:	DIRECT CARE PROVIDERS
<ul> <li>How to assist a mother in the steps to getting her baby to latch</li> </ul>	Criterion 5.9.8 At least 80% of direct care providers with privileges to provide labor & delivery, postpartum and/or newborn care will be able to describe how they engage in a conversation with a mother regarding 2 elements related to
• How to discuss with a mother how	infant feeding patterns in the first 36 hours of life. [PI 30]
breastfeeding works	Criterion 5.9.9 At least 80% of direct care providers with privileges to provide labor & delivery, postpartum and/or
<ul> <li>In helping a mother to breastfeed</li> </ul>	
a late-preterm baby	Criterion 5.9.10 At least 80% of direct care providers with privileges to provide labor & delivery, postpartum and/or
<ul> <li>In helping a mother prevent or resolve difficulties with breastfeeding</li> </ul>	[PI 65]
<ul> <li>In helping a mother manage milk expression</li> </ul>	Criterion 5.9.11 At least 80% of direct care providers with privileges to provide labor & delivery, postpartum and/or newborn care will be able to explain how they would engage in a conversation with a mother of a preterm, late preterm, or low-birth weight infant not sucking effectively at the breast, including at least 3 points. [PI 44]
<ul> <li>In helping a mother who is not feeding her baby directly at the breast</li> </ul>	



Do not provide breastfed newborns any food or fluids other than breast-milk, unless medically indicated.

#### RATIONALE:

Giving newborns any foods or fluids other than breast-milk in the first few days after birth interferes with the establishment of breast-milk production. Newborns' stomachs are very small and easily filled. Newborns who are fed other foods or fluids will suckle less vigorously at the breast and thus inefficiently stimulate milk production, creating a cycle

of insufficient milk and supplementation that leads to breastfeeding failure. Babies who are supplemented prior to facility discharge have been found to be twice as likely to stop breastfeeding altogether in the first 6 weeks of life.<sup>13</sup> In addition, foods and liquids may contain harmful bacteria and carry a risk of disease. Supplementation with artificial milk significantly alters the intestinal microflora. Breastfeeding exclusively is necessary to establish a healthy normal microbiome.<sup>1,6</sup>

#### IMPLEMENTATION GUIDANCE:

Exclusive breastfeeding for 6 months provides the nurturing, nutrients, immune factors and energy needed for physical and <section-header><text><text><text><text><text>

neurological growth and development. Beyond 6 months, breastfeeding continues to provide energy, immune factors and high-quality nutrients that, jointly with safe and adequate complementary feeding, help prevent hunger, undernutrition and obesity. Inadequate breastfeeding practices significantly impair health, development and survival of infants, children and mothers.<sup>1</sup>

Mothers should be discouraged from giving any food or fluids other than breast-milk, unless medically indicated.<sup>2</sup> Very few conditions of the infant or mother preclude the

feeding of breast-milk and necessitate the use of breast-milk substitutes. The WHO/UNICEF document on "Acceptable medical reasons for use of breast-milk substitutes" describes conditions for which breastfeeding is contraindicated.<sup>42</sup> In addition, some breastfed infants will require supplementation. The Academy of Breastfeeding Medicine (ABM) has laid out a clinical protocol for managing situations in which supplementation of the mother's own milk would become necessary.<sup>43</sup> Infants should be assessed for signs of inadequate milk intake and supplemented when indicated, but routine supplementation is rarely necessary in the first few days of life. Lack of resources, staff time or knowledge is not justification for the use of early additional foods or fluids.<sup>1</sup> In addition to the WHO and ABM documents, facilities are encouraged to utilize the recommendations from the Centers for Disease Control and Prevention and the American Academy of Pediatrics to develop a policy/protocol that describes the current, evidence-based medical indications for supplementation and contraindications to breastfeeding.44-46

Mothers who intend to "mixed-feed" (a combination of both breastfeeding and feeding with breast-milk substitutes) should be counseled *(using meaningful conversation techniques- see Step 2)* on the importance of exclusive breastfeeding in the first few weeks of life, how to establish a milk supply and to ensure that the infant is able to suckle and transfer milk from the breast. Supplementation can be introduced at a later date if the mother chooses. Mothers who report they have chosen not to breastfeed should be counseled (using meaningful conversations techniques-see Step 2) on the importance of breastfeeding. However, if they still do not wish to breastfeed, feeding with breast-milk substitutes will be necessary. Mothers who are feeding breast-milk substitutes, by necessity or by choice, must be taught about safe preparation and storage of formula<sup>47, 55, 56</sup> and how to respond adequately to their child's feeding cues.<sup>1</sup>

If a breastfeeding mother requests that her infant be supplemented, direct care staff and/or direct care providers should gently engage in an appropriate meaningful conversation [see Step 2] that carefully listens to her reasons. If the mother expresses any challenges, staff/providers should provide responsive care to evaluate/assess her concerns. It is possible that she is experiencing some breastfeeding difficulties that staff may be able to support her to overcome with additional guidance. If she still wishes to supplement with infant formula, staff should empower her understanding of evidence-based information that emphasizes the protections provided by breastfeeding, the possible impact of this decision to her health, the health of her infant and to the potential success of breastfeeding. Her informed decision should be confirmed and documented in the medical record. This education is only required to be provided once during the hospital stay.



# FOR INFANTS WHO ARE UNABLE TO BE FED THEIR MOTHER'S OWN MILK.

## IMPLEMENTATION GUIDANCE:

Infants who cannot be fed their mother's own milk, or who need to be supplemented, especially low-birth-weight infants, including those with very low birthweight<sup>48, 49</sup> and other vulnerable infants, should be fed *pasteurized* donor *human* milk. If *pasteurized* donor human milk is unavailable or culturally unacceptable, breast-milk substitutes are required. In most cases, supplementation is temporary, until the newborn is capable of breastfeeding and/or the mother is available and able to breastfeed. Mothers must also be supported and encouraged to express their milk to continue stimulating production of breast-milk, and to prioritize use of their own milk, even if direct breastfeeding is challenging for a period of time.<sup>1</sup>

# US CONSIDERATIONS FOR SAFE IMPLEMENTATION:

If a mother expresses concern about the sufficiency of her breast-milk, an infant feeding assessment is warranted.

When mothers have decided not to breastfeed their infant or supplementation is needed/requested, direct care staff should discuss various options suitable to their situation such as the choice of supplement, volume of supplemental feeding, and methods of providing supplementary feedings.

In the case of supplementation for medical reasons, the decision to supplement is a delicate one. Practitioners must carefully weigh the risks and benefits of this decision. When a mother decides to feed formula and/or it is determined that the benefits of supplementation outweigh the risks, the recommendation should be communicated in a respectful manner that is mindful of the sense of guilt, concerns and failure the mother may experience regarding such a recommendation.

#### **REFER TO APPENDIX A: PATIENT EDUCATION TOPICS**

for the comprehensive list of all required education topics for postpartum mothers.

**REFER TO APPENDIX C: PERFORMANCE INDICATORS TO MEASURE EACH COMPETENCY** for the comprehensive list of required knowledge, skills, and attitudes. (All performance indicators apply to direct care staff. Specific performance indicators for which knowledge competency applies to direct care providers are marked with an ')

#### US CLARIFICATION: BABY-FRIENDLY USA EXCLUSIVE BREASTFEEDING STANDARDS

The WHO/UNICEF BFHI Implementation Guidance standards call for a minimum of 80% exclusive breastfeeding (either milk from their own mothers or from a human milk bank) throughout the stay at the facility.<sup>1</sup> It is recognized by WHO and UNICEF that lower standards may need to be set at the national or local level, with the expectation that they should be raised over time, as other aspects of breastfeeding support in the community improve.

The US Designation is NOT based on an exclusive breastfeeding rate of greater than 80%.

It is expected that the facility will regularly monitor exclusive breastfeeding rates and that rates less than 80% will show improvement over time. Designated facilities with exclusive breastfeeding rates less than 50% will be required to submit quarterly reports to BFUSA.

WHO/UNICEF PERFORMANCE INDICATORS DEMONSTRATING COMPETENCY TO IMPLEMENT STEP 6	VERIFICATION METHOD
'29. Engage in a conversation with a mother regarding at least 3 reasons why effective exclusive breastfeeding is important.	Observation
41. Explain at least 3 aspects of appropriate storage of breast-milk.	Question or case study
42. Explain at least 3 aspects of handling of expressed breast-milk.	Question or case study
<sup>•</sup> 47. List at least 2 potential contraindications to breastfeeding for a baby and 2 for a mother.	Question or case study
<sup>+</sup> 48. <b>Describe</b> at least 4 medical indications for supplementing breastfed newborns: 2 maternal indications and 2 newborn indications, when breastfeeding is not improved following skilled assessment and management.	Question or case study
*49. <b>Describe</b> at least 3 risks of giving a breastfed newborn any food or fluids other than breast-milk, in the absence of medical indication.	Question or case study
<sup>•</sup> 66. <b>Describe</b> at least 1 professional medical reference or resource for identifying medications that are safe/compatible for use during lactation.	Question or case study
<sup>•</sup> 50. For those few health situations where infants cannot, or should not, be fed at the breast, <b>describe</b> , in order of preference, the alternatives to use.	Question or case study
'51. Engage in a conversation with a mother who intends to feed her baby formula, noting at least 3 actions to take.	Observation
52. Demonstrate at least 3 important items of safe preparation of infant formula to a mother who needs that information.	Observation
'67. Identify 3 high-risk infant populations that may warrant extra precautions to protect against severe infections associated with powdered infant formula.	Question or case study

# STEP

# THE FOLLOWING STANDARDS APPLY TO MOTHERS AND INFANTS BEING CARED FOR ON THE POSTPARTUM UNIT:

WHO/UNICEF STANDARD	US CRITERION FOR EVALUATION
6.1 Infants receive only breast-milk	Interviews with mothers will confirm:
(either from their own mother or from a human milk bank) throughout their stay at the facility, unless medically indicated or informed parental decision.	<ul> <li>Criterion 6.1.1 At least 80% of mothers will report that:</li> <li>A. Their babies have received no food or drink other than human milk (direct breastfeeding, expressed breast-milk, or pasteurized donor human milk) while in the facility, OR</li> <li>B. Formula has been given for a medically acceptable reason, OR</li> <li>C. Formula has been given in response to an informed parental request/decision.</li> </ul>
	<ul> <li>Criterion 6.1.2 Of breastfeeding mothers whose infants have been given food or drink other than breast-milk, at least 80% of those who have no acceptable medical reason will report that a health professional: <ul> <li>A. Listened to her reasons/concerns, AND</li> <li>B. Responded by assessing potential and/or existing challenges specific to her concerns, and/or providing additional guidance with workable solutions, AND</li> <li>C. If the mother still requests a breast-milk substitutes, health professionals empowered her with an understanding of evidence-based information [scientific, unbiased, factual] that allowed her to make an informed decision for her baby including:</li> </ul> </li> </ul>
	<ul> <li>Importance of exclusive breastfeeding</li> <li>Describle visk factors that could influence health outcomes</li> </ul>
	<ul> <li>Possible impacts to the success of breastfeeding</li> </ul>
	Clarification: The counseling conversation only needs to be provided once at first request.

U.S. CLARIFICATION: INFORMED DECISIONS - MEANINGFUL CONVERSATIONS Mothers should feel involved in all decisions regarding their selves and their babies. Empowering mothers to make informed decisions for their selves and their babies requires that they have up-to-date evidence-based [scientific, factual, unbiased] information that emphasized the protections provided by breastfeeding along with an understanding of risk factors that could influence health outcomes. The "Guideline: Counselling of Women to Improve Breastfeeding Practices" states that the "aim of breastfeeding counseling is to empower women to breastfeed, while respecting their personal situations and wishes.<sup>150</sup> As you work with families, consider incorporating appropriate components of the acronym E.N.C.O.U.R.A.G.E.S. so that you enter into meaningful conversations with them [see Step 2]

WHO/UNICEF STANDARD	US CRITERION FOR EVALUATION
6.2 Breastfed babies who received supplemental feeds have a documented medical indication for supplementation in their medical records.	<ul> <li>Documentation:</li> <li>Criterion 6.2.1: Of breastfeeding infants who have been given food or drink other than breast-milk for medical indications, at least 80% will have the reasons for supplementation clearly documented in their medical records.</li> <li>Criterion 6.2.2: Of breastfeeding infants who have been given food or drink other than breast-milk for parental request, at least 80% will have the reasons for supplementation and evidence of parental counseling clearly documented in their medical records.</li> </ul>
6.3 Mothers who have decided not to breastfeed report that the staff discussed with them the various feeding options and helped them to decide what was suitable in their situations.	Interviews with mothers who have decided not to breastfeed: Criterion 6.3.1 Of mothers who have decided not to breastfeed [requesting to feed their babies with breast-milk substitutes], at least 80% of those who have no acceptable medical reason will report that the health care staff: A. Listened to their reasons/concerns, AND B. Responded by assessing potential and/or existing challenges specific to her concerns, and/or providing additional guidance with workable solutions including various feeding options, AND C. If the mothers still requested to feed their babies with breast-milk substitutes, health care staff empowered them with an understanding of evidence-based information [scientific, unbiased, factual] that allowed them to make an informed decision for their babies including: Importance of breastfeeding Possible risk factors that could influence health outcomes when feeding breast-milk substitutes Clarification: The counseling conversation only needs to be provided once at first request.
6.4 Mothers who <i>cannot</i> , or have decided not to breastfeed, will report that the staff discussed with them the safe preparation, feeding and storage of breast-milk substitutes.	Interviews with mothers who are feeding their infants any formula and/or plan to continue post-discharge will be able to: Criterion 6.4.1 At least 80% of mothers who are feeding their infants any formula and plan to continue post-discharge, will be able to describe 2 appropriate steps that staff discussed with them about safe preparation, feeding and storage of formula.

U.S. CLARIFICATION: SAFE PREPARATION, STORAGE AND FEEDING OF INFANT FORMULA Mothers who have decided not to breastfeed,

decided to "mixed-feed", or will require supplementation with formula for their infants at the time of discharge must receive written instruction and verbal information about safe preparation, storage and feeding of formula. Staff should document completion of formula preparation instruction and feeding in the medical record. The information should be given on an individual basis only.

Safe preparation, feeding, and storage of formula instruction must follow the recommendations of leading national and international authorities and must include:

- 1. Appropriate hand hygiene
- 2. Cleaning infant feeding items [bottles, nipples, rings, caps, syringes, cups, spoons, etc.] and workspace surfaces
- 3. Appropriate and safe reconstitution of concentrated and powdered infant formulas
- 4. Accuracy of measurement of ingredients
- 5. Safe handling of formula
- 6. Proper storage of formula
- 7. Appropriate feeding methods which may include feeding on cue, frequent low volume feeds, paced bottle techniques, eye-to-eye contact, and holding the infant closely
- 8. Powdered infant formula is not sterile and may contain pathogens that can cause serious illness in infants younger than 3 months

National and international authorities include:

- American Academy of Pediatrics
- Centers for Disease Control and Prevention
- Food and Drug Administration
- United States Department of Agriculture
- World Health Organization

COMPETENCY ASSESSMENT-SELECTED PERFORMANCE INDICATORS	US CRITERION FOR EVALUATION
6.5 Health professionals who provide labor & delivery, postpartum and/or	Interviews with Direct Care Nursing Staff and Direct Care Providers will confirm:
newborn care will be competent in:	DIRECT CARE NURSING STAFF
In helping a mother whose baby needs	<b>Criterion 6.5.1</b> At least 80% of direct care nursing staff <b>who provide labor &amp; delivery, postpartum, and/or newborn care</b> will correctly respond to 1 of the randomly selected performance indicators listed below:
fluids other than breast-milk.	A. List at least 1 potential contraindication to breastfeeding for a baby and 1 for a mother. [PI 47]
	B. Describe at least 2 medical indications for supplementing breastfed newborns: 1 maternal indication and 1 newborn indication, when breastfeeding is not improved following skilled assessment and management. [PI 48]
	Criterion 6.5.2 At least 80% of direct care nursing staff who provide labor & delivery, postpartum, and/or newborn care
	will correctly respond to 1 of the randomly selected performance indicators listed below:
	A. Engage in a conversation with a mother regarding at least 2 reasons why effective exclusive breastfeeding is important. [PI 29]
	B. Describe at least 2 risks of giving a breastfed newborn food or fluids other than breast-milk, in the absence of medical indications. [PI 49]
	Criterion 6.5.3 At least 80% of direct care nursing staff who provide labor & delivery, postpartum, and/or newborn care
	will correctly respond to 1 of the randomly selected performance indicators listed below:
	A. Engage in a conversation with a mother who intends to feed her baby formula, noting at least 3 actions. [PI 51]
	B. Identify 2 high-risk infant populations that may warrant extra precautions to protect against severe infections associated with powdered infant formula. [PI 67]

COMPETENCY ASSESSMENT-SELECTED PERFORMANCE INDICATORS	US CRITERION FOR EVALUATION
6.6 Health professionals who provide labor & delivery, postpartum and/or newborn care will be competent in: In helping a mother whose baby needs fluids other than breast-milk.	DIRECT CARE PROVIDERS         Criterion 6.6.4 At least 80% of direct care providers with privileges to provide labor & delivery, postpartum and/or newborn care will describe how they engage in a conversation with a mother regarding at least 2 reasons why effective exclusive breastfeeding is important. [Pl 29]         Criterion 6.6.5 At least 80% of direct care providers with privileges to provide labor & delivery, postpartum and/or newborn care will list at least 2 potential contraindications to breastfeeding for a baby and 2 for a mother. [Pl 47]         Criterion 6.6.6 At least 80% of direct care providers with privileges to provide labor & delivery, postpartum and/or newborn care will describe at least 4 medical indications for supplementing breastfed newborns: 2 maternal indications and 2 newborn indications, when breastfeeding is not improved following skilled assessment and management. [Pl 48]         Criterion 6.6.7 At least 80% of direct care providers with privileges to provide labor & delivery, postpartum and/or newborn care will describe at least 1 professional medical reference or resource for identifying medications that are safe/ compatible for use during lactation. [Pl 66]         Criterion 6.6.8 At least 80% of direct care providers with privileges to provide labor & delivery, postpartum and/or newborn care will identify 2 high-risk infant populations that may warrant extra precautions to protect against severe infections are sociated with opwdered infant formula. [Pl 67]



Enable mothers and their infants to remain together and to practice rooming-in 24 hours a day.

#### RATIONALE:

Rooming-in is necessary to enable mothers to practice responsive feeding, as mothers cannot learn to recognize and respond to their infants' cues for feeding if they are separated from them. When the mother and infant are together throughout the day and night, it is easy for the mother to learn to recognize feeding cues and respond to them. This, along with

the close presence of the mother to her infant, will facilitate the establishment of breastfeeding.<sup>1</sup>

## IMPLEMENTATION GUIDANCE:

Facilities providing maternity and newborn services should enable mothers and their infants to remain together and to practice rooming-in throughout the day and night.<sup>2</sup> Rooming-in involves keeping mothers and infants together in the same room, immediately after vaginal birth or cesarean section, or from the time when mothers are able to respond to their infants, until discharge. This means that mothers and infants are together throughout the day and night.<sup>1</sup>



Postpartum units need to be designed so that there is enough space for mothers and their newborns to be together. Facility staff need to visit the *hospital room* regularly to ensure the babies are safe. Babies should only be separated from their mothers for justifiable medical and safety reasons. Minimizing disruption to breastfeeding during the stay in the facility will require health-care practices that enable a mother to breastfeed for as much, as frequently and for as long as her baby needs it.<sup>1</sup>

When a mother is placed in a dedicated unit [recovery area and/ or postpartum room] to recover from a cesarean section, the baby should be accommodated in the same room with her, close by. She will need practical support to position her baby to breastfeed, and will need help with lifting the baby from a bassinet.<sup>1</sup>

Rooming-in may not be possible in circumstances when infants need to be moved for specialized medical care.<sup>1</sup> If preterm or sick infants need to be in a separate room to allow for adequate treatment and observation, efforts must be made for the mother to recuperate postpartum with her infant, or to have no restrictions for visiting her infant. Mothers should have adequate space to express milk adjacent to their infants.<sup>1</sup>

# US CONSIDERATIONS FOR SAFE IMPLEMENTATION:

There are several factors that must be understood when mothers and infants are rooming-in together:

- Mothers will be naturally exhausted and/or only sleep in short bursts following childbirth.<sup>25</sup>
- Sleepiness is a normal, hormonally-driven, physiological response to breastfeeding for both mothers and infants. Unintentionally, this can lead to mothers falling asleep while breastfeeding their infants.<sup>51</sup>
- Following cesarean births, mothers have limited mobility and are likely to feel the effects of medications, which may cause them to be less responsive.<sup>25</sup>

Facilities are encouraged to develop processes that support staff in the safe implementation of rooming-in practices.<sup>25, 26, 51</sup> The hospital setting is the perfect place to role model safe rooming-in and to help families plan for a safe breastfeeding and sleep environment for home. It is a prime opportunity to educate mothers and families about the components of a safe environment which includes but is not limited to:

- Mothers and infants have close but separate sleep surfaces.<sup>27</sup>
- Infants are placed on their backs to sleep, for naps and at night.<sup>27</sup>
- Firm flat sleep surface is used in a safety-approved crib, covered by a fitted sheet.<sup>27</sup>
- Soft bedding and objects are avoided. Do not put pillows, blankets, sheepskins in baby's sleep area.<sup>27</sup>
- Baby is dressed in sleep clothing. Loose blankets are not used, and baby is not over bundled.<sup>27</sup>

Mothers (and families) should be given anticipatory guidance about considering how tired they are before and during their infant's feeding so that steps can be taken to reduce risks to their infant.<sup>52</sup> Facilities and staff should consider implementing the following safe rooming-in practices:

- Monitor mothers according to their risk assessment.<sup>25</sup>
- Review equipment, such as call bells, with mothers<sup>25</sup> and instruct them to call for help when feeling tired or sleepy.<sup>51</sup>
- Conduct hourly rounding to provide assistance placing infants in bassinets when mothers or caregivers appear to be drowsy or after mothers have received pain medications.<sup>51</sup>
- Educate families and support persons to transition newborn to the bassinet when mother is falling asleep.

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 Promote maternal rest<sup>51</sup> by limiting staff and visitor interruptions. **REFER TO APPENDIX A: PATIENT EDUCATION TOPICS** for the comprehensive list of all required education topics for postpartum mothers.

**REFER TO APPENDIX C: PERFORMANCE INDICATORS TO MEASURE EACH COMPETENCY** for the comprehensive list of required knowledge, skills, and attitudes. (All performance indicators apply to direct care staff. Specific performance indicators for which knowledge competency applies to direct care providers are marked with an ')

WHO/UNICEF PERFORMANCE INDICATORS DEMONSTRATING COMPETENCY TO IMPLEMENT STEP 7	VERIFICATION METHOD
'35. <b>Engage</b> in a conversation with a mother regarding 2 aspects related to the importance of rooming-in 24h/day.	Observation
68. Describe 2 aspects involved in creating a safe environment for rooming-in during the hospital stay.	Question or case study
<sup>•</sup> 69. <b>Demonstrate</b> at least 3 safety aspects to assess when mother and baby are skin-to-skin during the postpartum hospitalization, regardless of method of birth.	Observation
<sup>•</sup> 36. <b>Explain</b> 2 situations: 1 for the mother and 1 for the infant, when it is acceptable to separate mother and baby while in hospital.	Question or case study
45. <b>Engage</b> in a conversation with a mother separated from her preterm or sick infant regarding at least 2 reasons to be with her infant in the intensive care unit.	Observation

# THE FOLLOWING STANDARDS APPLY TO MOTHERS AND INFANTS BEING CARED FOR ON THE POSTPARTUM UNIT:

WHO/UNICEF STANDARD	US CRITERION FOR EVALUATION
7.1 Mothers report that their babies stayed with them since birth, without separation lasting for more than 1 hour.	Interviews with mothers will confirm: Criterion 7.1.1 At least 80% of mothers will report that their infants have stayed with them in the same room day and night, without separation of more than 1 hour per 24-hour period unless: A. Medically justifiable reason for a longer separation, OR B. Safety-related reason for a longer separation, OR C. Informed decision for a longer separation [maternal request]

# THE FOLLOWING STANDARDS APPLY TO MOTHERS AND INFANTS BEING CARED FOR ON THE POSTPARTUM UNIT:

WHO/UNICEF STANDARD	US CRITERION FOR EVALUATION
7.1 Mothers report that their babies	Interviews with mothers will confirm:
stayed with them since birth, without	
separation lasting for more than 1 hour.	Criterion 7.1.2 At least 80% of mothers who requested their infant to be removed from the room will report the facility staff:
	A. Listened to her reasons/concerns AND
	B. <b>Responded</b> by assessing potential and/or existing challenges specific to her concerns, and/or providing additional guidance with workable solutions to safely avoid the separation AND
	C If the mother still requested separation bealth professionals empowered her with an understanding of evidence-based
	information [scientific, unbiased, factual] that allowed her to make an informed decision for her baby including:
	<ul> <li>Importance of rooming-m,</li> <li>If breastfeeding, a plan for rouniting the methor and infant as seen as the infant displays feeding succession.</li> </ul>
	• If breastleeding, a plan for realiting the mother and infant as soon as the infant displays feeding caes.
	Documentation:
	Criterion 7.1.3 Of mothers and babies that have been separated, at least 80% will have the following documented in the
	medical record:
	A. Reason for the separation
	B. Location of infant
	C. Length of separation
	D. Infant feedings during separation
	E. Counseled on the importance of rooming-in including a plan for reuniting the mother and infant, and infant feeding.
	NOTE: Facilities must make every effort to minimize any disruptions to breastfeeding by reuniting a mother and infant as
	frequently and for as long as her baby needs it.
	Criterion 7.1.4 Quality improvement question for informational purposes (not a designation criterion): Mothers will report
	that they felt supported with rooming and caring for her baby.
	A. They received practical information AND
	B. Received help when needed.
7.2 Observations in the postpartum wards	Observations in the postpartum unit and newborn units will confirm:
and well-baby observation areas confirm	Criterion 7.2.1 Observations in the postpartum unit and any well-baby observation areas confirm that at least 80% of the
if not have medically justifiable reasons	mothers and infants are rooming-in or have a documented:
for being separated	A. Medically justifiable reason for separation, OR
tor being separateu.	B. Safety-related reason for separation, OR
	C. Informed decision for separation [maternal request]
## step 7

## THE FOLLOWING STANDARDS APPLY TO MOTHERS AND INFANTS BEING CARED FOR ON THE NICU UNIT:

US STANDARD	US CRITERION FOR EVALUATION
7.3 Mothers of preterm or sick infants report having no restrictions and had	Interviews with mothers who are breastfeeding or intending to do so with infants in the NICU will confirm:
access to their infants in the NICU whenever they wanted.	<b>Criterion 7.3.1</b> At least 80% of mothers with infants in the NICU report that they have had access to their infants in the NICU whenever they wanted.



COMPETENCY ASSESSMENT-SELECTED PERFORMANCE INDICATORS	US CRITERION FOR EVALUATION
7.4 Health professionals who provide postpartum and/or newborn care will be competent in helping a mother to respond to her baby's feeding cues [by enabling a mother and infant to rooming-in 24 hours	DIRECT CARE NURSING STAFF Criterion 7.4.1 At least 80% of direct care nursing staff who provide postpartum, and/or newborn care will describe or demonstrate how they engage in a conversation with a mother regarding 2 aspects related to the importance of rooming-in 24h/day. [PI 35]
a day].	<b>Criterion 7.4.2</b> At least 80% of <b>direct care nursing staff who provide postpartum, and/or newborn care</b> will describe or demonstrate at least 2 safety aspects to assess when mother and baby are skin-to-skin during the postpartum hospitalization regardless of method of birth. [PI 69]
	<b>Criterion 7.4.3</b> At least 80% of <b>direct care nursing staff who provide postpartum, and/or newborn care</b> will explain 2 situations: 1 for the mother and 1 for the infant, when it is acceptable to separate mother and baby while in the hospital. [PI 36]
	DIRECT CARE PROVIDER Criterion 7.4.4 At least 80% of direct care providers with privileges to provide postpartum and/or newborn care will describe how they engage in a conversation with a mother regarding 2 aspects related to the importance of rooming-in 24h/day. [PI 35]
	<b>Criterion 7.4.5</b> At least 80% of <b>direct care providers with privileges to provide postpartum and/or newborn care</b> will explain 2 situations: 1 for the mother and 1 for the infant, when it is acceptable to separate mother and baby while in the hospital. [PI 36]

### U.S. CLARIFICATION: MEDICALLY JUSTIFIABLE OR SAFETY-RELATED REASONS FOR SEPARATION Healthcare Professionals must use their

clinical judgement. While it is true that rooming-in is the expected practice in Baby-Friendly designated facilities, we recognize some circumstances necessitate mother-baby separation. The decision that leads to a separation is often complex involving observations, assessments, and an understanding of the individual motherbaby dyad. It is imperative in these situations that care and decisions are individualized and include the mother's participation, if possible. Facilities should have a dedicated area to provide care to infants who have a justifiable reason for separation. As a reminder, BFUSA does NOT require that facilities close their nursery.

To be clear, infants must not be separated for routine facility procedures that could be performed in the mother's room.



Support mothers to recognize and respond to their infants' cues for feeding.

## RATIONALE:

Breastfeeding involves recognizing and responding to the infant's display of hunger and feeding cues and readiness to feed, as part of a nurturing relationship between the mother and infant. Responsive feeding (also called on-demand or baby-led feeding) puts no restrictions on the frequency or length of the infant's feeds, and mothers are advised

to breastfeed whenever the infant is hungry or as often as the infant wants. Scheduled feeding, which prescribes a predetermined, and usually time-restricted, frequency and schedule of feeds is not recommended. It is important that mothers know that crying is a late *feeding* cue and that it is better to feed the baby earlier, since optimal positioning and attachment are more difficult when an infant is in distress.<sup>1</sup>

### IMPLEMENTATION GUIDANCE:

Mothers should be supported to practice responsive feeding as part of nurturing care.<sup>1</sup> Regardless of whether they breastfeed or not, mothers should be supported to recognize and respond to their infants' cues for feeding,



closeness and comfort, and enabled to respond accordingly to these cues with a variety of options, during their stay at the facility providing maternity and newborn services.<sup>2</sup> Supporting mothers to respond in a variety of ways to behavioral cues for feeding, comfort or closeness enables them to build a caring, nurturing relationship with their infants and increases their confidence in themselves, in breastfeeding and in their infants' growth and development.<sup>1</sup>

When the mother and baby are not in the same room for medical or other justifiable reasons, the facility staff need to bring the mother and infant together as often as possible, so that she can recognize feeding cues. When staff notice feeding cues, they should also bring the mother and baby together.<sup>1</sup>

New mothers believe that it is important that they respond to their infant's feeding cues. However, mothers have reported being stressed and anxious about how to interpret their infant's needs. Postpartum conversations support families to develop an understanding of an infant's cues for feeding, comfort, or closeness. Education provided to families should increase a mother's confidence in interpreting these cues and responding in a variety of ways which might include breastfeeding, rocking, holding, walking, singing, and skin-to-skin contact.<sup>2</sup>

## US CONSIDERATIONS FOR SAFE IMPLEMENTATION:

ABM Protocol #10 recommends that mothers of late preterm and early term infants on the postpartum unit should be taught to respond to their infants' cues for feeding. However, it may be necessary for mothers to wake their infants when they do not demonstrate hunger cues within 4 hours of the previous feeding. Preterm infants should be breastfed (or breast-milk fed) 8-12 times in a 24-hour period.<sup>41</sup>

### **REFER TO APPENDIX A: PATIENT EDUCATION TOPICS**

for the comprehensive list of all required education topics for postpartum mothers.

**REFER TO APPENDIX C: PERFORMANCE INDICATORS TO MEASURE EACH COMPETENCY** for the comprehensive list of required knowledge, skills, and attitudes. (All performance indicators apply to direct care staff. Specific performance indicators for which knowledge competency applies to direct care providers are marked with an ')

WHO/UNICEF PERFORMANCE INDICATORS DEMONSTRATING COMPETENCY TO IMPLEMENT STEP 8	VERIFICATION METHOD
'37. Describe at least 2 early feeding cues and 1 late feeding cue.	Question or case study
38. Describe at least 4 reasons why responsive feeding (also called on-demand or baby-led feeding) is important.	Question or case study
39. <b>Describe</b> at least 2 aspects of responsive feeding (also called on-demand or baby-led feeding) independent of feeding method.	Question or case study
46. <b>Engage</b> in a conversation with a mother of a preterm, late preterm or vulnerable infant (including multiple births) regarding the importance of observing at least 2 subtle signs and behavioral state shifts to determine when it is appropriate to breast-feed.	Observation
'58. <b>Describe</b> at least 4 elements to assess when a mother says that her infant is crying frequently.	Question or case study

## THE FOLLOWING STANDARDS APPLY TO MOTHERS AND INFANTS BEING CARED FOR ON THE POSTPARTUM UNIT:

WHO/UNICEF STANDARD	US CRITERION FOR EVALUATION
8.1 Breastfeeding mothers can describe at least two feeding cues.	Interviews with breastfeeding mothers will confirm:
	<b>Criterion 8.1.1</b> At least 80% of breastfeeding mothers can describe at least 2 early feeding cues.
8.2 Breastfeeding mothers report that	Interviews with breastfeeding mothers will confirm:
they have been advised to feed their	Criterion 8.2.1 At least 80% of breastfeeding mothers will report that they have been advised to feed their infants as often
bables as often and for as long as the infant wants.	and as long as the infants want.
	Criterion 8.2.2 Quality improvement question for informational purposes (not a designation criterion): At least 80% of
	breastfeeding mothers can provide 2 acceptable responses to describe normal infant feeding patterns after the first
	24 hours of life including:
	The average feeding frequency is at least 8-12 times in 24 hours,
	Infants feeding through the night and/or
	That cluster feeding is common.

COMPETENCY ASSESSMENT-SELECTED PERFORMANCE INDICATORS	US CRITERION FOR EVALUATION
8.3 Health professionals who provide labor & delivery, postpartum and/or newborn care will be competent in helping a mother to respond to her baby's feeding cues.	Interviews with direct care nursing staff and direct care providers will confirm: DIRECT CARE NURSING STAFF Criterion 8.3.1 At least 80% of direct care nursing staff who provide labor & delivery, postpartum, and/or newborn care will describe at least 2 early feeding cues and 1 late feeding cue. [PI 37] Criterion 8.3.2 At least 80% of direct care nursing staff who provide labor & delivery, postpartum, and/or newborn care will describe at least 2 reasons why responsive feeding [also called on-demand feeding] is important [PI 38] Criterion 8.3.3 3 At least 80% of direct care nursing staff who provide labor & delivery, postpartum, and/or newborn care will describe at least 2 elements to assess when a mother says her infant is crying frequently. [PI 58] DIRECT CARE PROVIDER Criterion 8.3.4 At least 80% of direct care providers with privileges to provide labor & delivery, postpartum and/or newborn care will describe at least 2 early feeding cues and 1 late feeding cue. [PI 37]
	newborn care will describe at least 2 elements to assess when a mother says her infant is crying frequently. [PI 58]

Counsel mothers on the use and risks of feeding bottles, artificial nipples, and pacifiers.

## RATIONALE:

Proper guidance and counseling of mothers and other family members enables them to make informed decisions on the use or avoidance of pacifiers and/or feeding bottles and *artificial nipples* until the successful establishment of breastfeeding. While WHO guidelines<sup>2</sup> do not call for absolute avoidance of feeding bottles, *artificial nipples* and pacifiers for term infants,

there are a number of reasons for caution about their use, including hygiene, oral formation and recognition of feeding cues.<sup>1</sup>

## IMPLEMENTATION GUIDANCE:

If expressed milk or other feeds are medically indicated for term infants, feeding methods (*devices*) such as cups, spoons or feeding bottles and *artificial nipples* can be used during their stay at the facility.<sup>2</sup> However, it is important that staff do not become reliant on *artificial nipples* as an easy response to suckling difficulties instead of counseling mothers and enabling babies to attach babies properly and suckle effectively.<sup>1</sup>

It is important that the facility staff ensure appropriate hygiene in the cleaning of these



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utensils, since they can be a breeding ground for bacteria. Facility staff should also inform mothers and family members of the hygiene risks related to inadequate cleaning of feeding utensils, so that they can make informed *decisions* on the feeding method.

The physiology of suckling at the breast is different from the physiology of suckling from a feeding bottle and *an artificial nipple*.<sup>53</sup> It is possible that the use of the feeding bottle and an *artificial nipple* could lead to breastfeeding difficulties, particularly if use is prolonged.

However, the only study on this did not demonstrate a specific carry-over effect from suckling at a feeding bottle and *an artificial nipple* to suckling at the breast.<sup>1,15</sup>

Pacifiers have long been used to soothe an upset infant. In some cases, they serve a therapeutic purpose, such as reducing pain during procedures when breastfeeding or skin-to-skin contact are not possible. Pacifiers have also been shown to reduce the risk of SIDS, even among breastfeeding infants. However, if pacifiers replace suckling and thus reduce the number of times an infant stimulates the mother's breast physiologically, this can lead to a reduction of maternal milk production. The use of artificial nipples or pacifiers may interfere with the mother's ability to recognize feeding cues. If the use of a pacifier prevents the mother from observing the infant's smacking of the lips or rooting towards the breast, she may delay feeding until the infant is crying and agitated.<sup>1</sup> Therefore, recommending to parents that they delay pacifier introduction until breastfeeding is well established supports breastfeeding while reducing the risk of SIDS and helps parents understand appropriate timeframes for introducing pacifiers.<sup>26,27</sup>

For preterm infants, evidence does demonstrate that use of feeding bottles with *artificial nipples* interferes with learning to suckle at the breast. If expressed breast-milk or other feeds are medically indicated for preterm infants, feeding methods such as cups or spoons are preferable to feeding bottles and *artificial nipples*.<sup>2</sup> On the other hand, for preterm infants who are unable to breastfeed directly, non-nutritive sucking and oral stimulation may be beneficial until breastfeeding is established.<sup>2</sup> Non-nutritive sucking or oral stimulation involves the use of pacifiers, a gloved finger or a breast that is not yet producing milk.<sup>1</sup> **NOTE**: *If a preterm infant is in the room with the mother, oral stimulation should always be done by placing baby at the breast.* 

There should be no promotion of feeding bottles or *artificial nipples* in any part of facilities providing maternity and newborn services, or by any of the staff. As is the case with breast-milk substitutes, these products fall within the scope of the *International* Code.<sup>1,15,16,54</sup> *[SEE STANDARD 9.2 FOR ADDITIONAL GUIDANCE on the promotion of pacifiers as a SIDS risk reduction measure.]* 

## US CONSIDERATIONS FOR SAFE IMPLEMENTATION:

Hygiene is an important consideration for safe implementation of the use of bottles, nipples and pacifiers and other infant feeding items. The Centers for Disease Control and Prevention\_(CDC) and World Health Organization provide the steps that families should follow to clean, sanitize, and store infant feeding items. The CDC also provides steps to ensure that breast pump and breast pump parts are clean and sanitized.<sup>55, 56</sup>

Pacifiers are also recognized as a risk reduction measure for Sudden Infant Death Syndrome (SIDS). To reduce the risk of SIDS, the AAP recommends exclusive breastfeeding, breastfeeding for at least 6 months, and offering a pacifier at naptime and bedtime, once breastfeeding is well established. Infants who are not being directly breastfed can begin pacifier use as soon as desired.<sup>26</sup> **REFER TO APPENDIX A: PATIENT EDUCATION TOPICS** for the comprehensive list of all required education topics for postpartum mothers.

**REFER TO APPENDIX C: PERFORMANCE INDICATORS TO MEASURE EACH COMPETENCY** for the comprehensive list of required knowledge, skills, and attitudes. (All performance indicators apply to direct care staff. Specific performance indicators for which knowledge competency applies to direct care providers are marked with an ')

WHO/UNICEF PERFORMANCE INDICATORS DEMONSTRATING COMPETENCY TO IMPLEMENT STEP 9	VERIFICATION METHOD
28. Describe at least 6 essential issues that every breastfeeding mother should know or demonstrate.	Question or case study
53. <b>Demonstrate</b> to a mother how to safely cup-feed her infant when needed, showing at least 4 points.	Observation
54. <b>Describe</b> to a mother at least 4 steps to feed an infant a supplement in a safe manner.	Observation
'55. <b>Describe</b> at least 2 alternative feeding methods other than feeding bottles.	Question or case study
56. <b>Engage</b> in a conversation with a mother who requests feeding bottles, <i>artificial nipples</i> , and pacifiers [soothers] without medical indication, including at least 3 points.	Observation
'59. <b>Describe</b> at least 4 elements of anticipatory guidance to give to a mother on calming or soothing techniques before or as alternatives to pacifiers.	Question or case study
<sup>•</sup> 70. <b>Describe</b> when the acceptable time is for introducing a pacifier with a breast-feeding infant, with regards to SUID/SIDS reduction strategies.	Question or case study

# THE FOLLOWING STANDARDS APPLY TO MOTHERS AND INFANTS BEING CARED FOR ON THE POSTPARTUM UNIT:

WHO/UNICEF STANDARD	US CRITERION FOR EVALUATION
9.1 Breastfeeding mothers report that they have been taught about the risks of	Interviews with breastfeeding mothers will confirm:
using feeding bottles, artificial nipples	Criterion 9.1.1 At least 80% of breastfeeding mothers can describe:
and pacifiers. <sup>2</sup>	A. One possible impact that pacifiers might have on breastfeeding, AND
	B. When the acceptable time is for introducing the pacifier.
	Criterion 9.1.2 At least 80% of breastfeeding mothers can describe one possible impact that bottles and artificial nipples
	might have on breastfeeding.
	Criterion 9.1.3 At least 80% of breastfeeding mothers that are unable to feed their baby directly at the breast or needed/
	chose additional supplementation will report:
	A. Alternative feeding devices other than bottles were offered, AND
	B. They were informed of the potential impacts of feeding bottles on breastfeeding AND
	C. Will be able to describe 2 feeding techniques appropriate for the use of selected feeding device.
	Criterion 9.1.4 At least 80% of breastfeeding mothers [including breast-milk feeding] utilizing infant feeding items
	[bottles, artificial nipples, rings, caps, syringes, cups, spoons, breast pump equipment, etc.] can provide 1 acceptable
	response about proper hygiene when cleaning these infant feeding items.

# SAFE SLEEP AND SIDS REDUCTION MESSAGES SHOULD BE DISTRIBUTED BY THE FACILITY AND THE FOLLOWING STANDARDS AND CRITERIA FOR EVALUATION APPLY:

## RATIONALE:

BFUSA acknowledges the evidence pertaining to pacifier use related to SIDS risk reduction.<sup>25</sup> Safe sleep and SIDS risk reduction information is important for parents to receive during the birth hospital stay.<sup>26, 27</sup> This education may be compatibly provided to parents by using safe sleep materials that also promote breastfeeding.

US STANDARD	US CRITERION FOR EVALUATION
9.2 Facilities distributing safe sleep materials must also provide additional verbal and written education related to breastfeeding and pacifier use to mothers.	<ul> <li>A review of education materials will confirm:</li> <li>Criterion 9.2.1 A review of materials will confirm that safe sleep and SIDS risk reduction materials that are provided to mothers also provide additional written education that includes the all of the following: <ul> <li>A. Pacifier use in the breastfed infant should be delayed until breastfeeding is firmly established.<sup>26,27</sup> AND</li> <li>B. How mothers can know that breastfeeding is firmly established (For example, milk supply has increased, infant is breastfeeding 8-12 times in 24 hours, infant is satisfied after feedings, infant is gaining weight, mother can hear baby swallowing during feeding, adequate voiding and stooling according to expected norms).AND</li> <li>C. Breastfeeding is associated with a reduced risk of SIDS, and the protective effect increases with breastfeeding duration and exclusivity, with the greatest protection offered by breastfeeding for at least 6 months.<sup>27,57</sup></li> </ul> </li> <li>Criterion 9.2.2 Quality improvement question for informational purposes (not a designation criterion): <ul> <li>At least 80% of mothers should be able to recall at least 2 of the following key safe sleep messages:     <ul> <li>Baby should always be placed on back to sleep.</li> <li>Baby should sleep in an empty, approved (CPSC) crib.</li> <li>Baby should sleep in the same room as parents for at least 6 and preferably to 12 months.</li> <li>Parents should refrain from smoking during and after pregnancy and baby should sleep in a smoke-free environment.</li> <li>Breastfeeding reduces the risk of SIDS.</li> <li>Pacifier use at bedtime reduces the risk of SIDS.</li> </ul> </li> </ul></li></ul>

COMPETENCY ASSESSMENT-SELECTED PERFORMANCE INDICATORS	US CRITERION FOR EVALUATION
9.3 Health professionals who provide labor and delivery, postpartum and/or newborn care will be competent in: • How to discuss with a mother how breastfeeding works,	Interviews with direct care nursing staff and direct care providers will confirm: DIRECT CARE NURSING STAFF Criterion 9.3.1 At least 80% of direct care nursing staff who provide labor & delivery, postpartum, and/or newborn care will describe to a mother at least 4 steps to feed an infant a supplement in a safe manner. [PI 54]
• Helping a mother who is not feeding her baby directly at the breast.	<ul> <li>Criterion 9.3.2 At least 80% of direct care nursing staff who provide labor &amp; delivery, postpartum, and/or newborn care will describe at least 2 elements of anticipatory guidance to give to a mother on calming or soothing techniques before or as alternatives to pacifiers. [PI 59]</li> <li>Criterion 9.3.3 At least 80% of direct care nursing staff who provide labor &amp; delivery, postpartum, and/or newborn care will describe when the acceptable time is for introducing a pacifier with a breastfeeding infant with regards to SUID/SIDS reduction strategies. [PI 70]</li> </ul>
	DIRECT CARE PROVIDER Criterion 9.3.4 At least 80% of direct care providers with privileges to provide labor & delivery, postpartum and/or newborn care will describe at least 2 elements of anticipatory guidance to give to a mother on calming or soothing techniques before or as alternatives to pacifiers. [PI 59] Criterion 9.3.5 At least 80% of direct care providers with privileges to provide labor & delivery, postpartum and/or newborn care will describe when the acceptable time is for introducing a pacifier with a breastfeeding infant with regards to SUID/SIDS reduction strategies. [PI 70]

## step **10**

Coordinate discharge so that parents and their infants have timely access to ongoing support and care.

## RATIONALE:

Mothers need sustained support to continue breastfeeding. While the time in the facility providing maternity and newborn services should provide a mother with basic breastfeeding skills, it is very possible her milk supply has not been fully established until after discharge. Breastfeeding support is especially critical in the succeeding days and weeks after

discharge, to identify and address early breastfeeding challenges that occur. She will encounter several different phases in her production of breast-milk, her infant's growth and her own circumstances (e.g. going back to work or school), in which she will need to apply her skills in a different way and additional support will be needed. Receiving timely support after discharge is instrumental in maintaining breastfeeding rates. Maternity facilities must know about and refer mothers to the variety of resources that exist in the community.<sup>1</sup>

## IMPLEMENTATION GUIDANCE:

#### As part of protecting, promoting and

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supporting breastfeeding, discharge from facilities providing maternity and newborn services should be planned for and coordinated, so that parents and their infants have access to ongoing support and receive appropriate care.<sup>2</sup> Each mother should be linked to lactation-support resources in the community upon discharge. Facilities need to provide appropriate referrals to ensure that mothers and babies are seen by a health worker to assess the feeding situation. The AAP recommends that every infant should have an evaluation within 3 to 5 days of birth and within 48 to 72 hours after discharge from the hospital that includes an evaluation for feeding and jaundice. Breastfeeding newborns should receive formal breastfeeding evaluation, and their mothers should receive encouragement and instruction. Printed and/or online information could be useful to provide contacts for support, in case of questions, doubts or difficulties, but this should not substitute for active follow-up care by a skilled professional.<sup>1</sup>

Facilities providing maternity and newborn services need to identify appropriate community resources for continued and consistent breastfeeding support that is culturally and socially sensitive to their needs. The facilities have a responsibility to engage with the surrounding community to enhance such resources. Community resources include primary health-care centers, community health workers, home visitors, breastfeeding clinics, nurses/midwives, lactation consultants, peer counsellors, mother-to-mother support groups, or phone lines ("hot lines"). The facility should maintain contact with the groups and individuals providing the support as much as possible and invite them to the facility where feasible.<sup>1</sup>

Follow-up care is especially crucial for preterm and lowbirth-weight babies. In these cases, the lack of a clear follow-up plan could lead to significant health hazards. Ongoing support from skilled professionals is needed.<sup>1</sup>

## US CONSIDERATIONS FOR SAFE IMPLEMENTATION:

Vulnerable Populations: Breastfeeding can be extremely challenging, especially if a mother is in a community at risk for not breastfeeding. Equity will be increased if competently skilled professionals and evidence-based breastfeeding counseling is accessible to all mothers. Populations at risk for lower rates of breastfeeding duration may include African American/Black mothers, mothers who are young, return early to work; lack social support; mothers with mental or medical concerns; parents with social and cultural considerations; late preterm and early term infants.<sup>50, 58</sup>

Knowledge of the existence of post discharge support can be instrumental in a mother's willingness to give breastfeeding a try. While breastfeeding mothers may have some particular concerns, it is critically important that support be provided to all mothers.

Continuum of care: The Academy of Breastfeeding Medicine's "Clinical Protocol #7: Model Maternity Policy Supportive of Breastfeeding" provides the following guidance:

- Before discharge, the health care team will ensure that there is effective breastfeeding, that breastfeeding mothers are able to efficiently breastfeed their infants and that continuity of care is guaranteed, either by follow-up visits or by arranging qualified primary care providers and/or lactation specialists visits and/or support groups or peer counseling contacts.<sup>38</sup>
- If the infant is still not latching or feeding well at the time of discharge, an individualized feeding plan will be devised and, depending on the dyad's clinical situation and resources, the infant's discharge may be delayed.<sup>38</sup>

 Mothers identified prenatally or soon after delivery as at risk of delayed lactogenesis II will be assigned to special help as deemed appropriate. A feeding plan and close follow-up of the infant (for adequate hydration and nutrition besides help with expression) will be offered. At discharge, continuum of care will be ensured with a feeding plan and close follow-up.<sup>38</sup>



**REFER TO APPENDIX A: PATIENT EDUCATION TOPICS** for the comprehensive list of all required education topics for postpartum mothers.

**REFER TO APPENDIX C: PERFORMANCE INDICATORS TO MEASURE EACH COMPETENCY** for the comprehensive list of required knowledge, skills, and attitudes. (All performance indicators apply to direct care staff. Specific performance indicators for which knowledge competency applies to direct care providers are marked with an ')

WHO/UNICEF PERFORMANCE INDICATORS DEMONSTRATING COMPETENCY TO IMPLEMENT STEP 10	VERIFICATION METHOD
57. <b>Engage</b> in a conversation with a mother regarding at least 4 different ways to facilitate breastfeeding in order to prevent or resolve most common conditions of the lactating breasts (sore nipples, engorgement, mother who thinks she doesn't have enough milk, infants who have difficulty sucking).	Observation
60. Describe at least 2 locally available sources for timely infant feeding information and problem management.	Question or case study
61. <b>Describe</b> at least 2 ways the healthcare facility engages with community-based programs to coordinate breastfeeding messages and offer continuity of care.	Question or case study
62. <b>Develop</b> individualized discharge feeding plans with a mother that includes at least 6 points.	Observation
<sup>•</sup> 63. <b>Describe</b> to a mother at least 4 warning signs of infant undernourishment or dehydration for a mother to contact a health care professional after discharge.	Observation
'64. Describe at least 3 warning maternal signs for a mother to contact a health care professional after discharge.	Question or case study

## step 10

## THE FOLLOWING STANDARDS APPLY TO MOTHERS AND INFANTS BEING CARED FOR ON THE POSTPARTUM UNIT:

WHO/UNICEF STANDARD	US CRITERION FOR EVALUATION
10.1 Mothers report that a staff member	Interviews with mothers will confirm:
has informed them where they can access	
breastfeeding support/infant formula	Criterion 10.1.1 At least 80% of breastfeeding mothers [including breast-milk feeding] will report that they have been given
feeding support in their community.	verbal and written information on:
	A. How to access breastfeeding support [support groups, peer counselors, providers, or other skilled community health services] after discharge from the facility, AND
	B. When to follow-up for a newborn evaluation for jaundice and feeding, AND
	C. Maternal/infant warning signs/symptoms of breastfeeding problems that must receive urgent evaluation and whom they should call for assistance.
	<b>Criterion 10.1.2</b> At least 80% of mothers choosing to feed their babies formula will report that they have been given verbal and written information on:
	A. How to access infant formula feeding support [support groups, peer counselors, providers, or other skilled community health services] after discharge from the facility, AND
	B. When to follow-up for a newborn evaluation for jaundice and feeding, AND
	C. Maternal/infant warning signs/symptoms of breast problems and/or formula feeding concerns that must receive urgent evaluation and whom they should call for assistance.
	<b>NOTE:</b> Mothers who are "mixed-feeding" their babies should receive verbal and written information appropriate to support
	optimal, safe infant feeding individualized to their feeding intentions.



WHO/UNICEF STANDARD	US CRITERION FOR EVALUATION
10.2 The facility can demonstrate that it coordinates with community services	A review of documents indicates:
that provide breastfeeding/infant feeding	Criterion 10.2.1 A review of documents indicates that written (printed or electronic) information is distributed to
support, including clinical management	mothers before discharge on how and where mothers, regardless of feeding method, can find help on feeding their infants
and mother-to-mother support.	after returning home and includes information on what type of help is available from each source of support.
	Criterion 10.2.2 The facility provides a written description of how it fosters the establishment of and/or coordinates
	with mother support groups and other community services that provide breastfeeding/infant feeding support to mothers.
	The description includes a specific list of programs and services they fostered/coordinated with.
COMPETENCY	US CRITERION FOR EVALUATION
ASSESSMENT-SELECTED PERFORMANCE INDICATORS	OS ORTERIOR FOR EVALUATION
10.3 Health professionals who provide	Interviews with direct care nursing staff and direct care providers will confirm:
be competent to ensure a seamless	DIRECT CARE NURSING STAFF
transition after discharge.	<b>Criterion 10.3.1</b> At least 80% of <b>direct care nursing staff who provide postpartum and/or newborn care</b> will describe the components of an individualized discharge feeding plans with a mother that includes at least 4 points. [PI 62]
	<b>Criterion 10.3.2</b> At least 80% of <b>direct care nursing staff who provide postpartum and/or newborn care</b> will describe to a mother at least 3 warning signs of infant undernourishment or dehydration for a mother to contact a health professional after discharge. [PI 63]
	<b>Criterion 10.3.3</b> At least 80% of <b>direct care nursing staff who provide postpartum and/or newborn care</b> will describe at least 2 maternal warning signs for a mother to contact a health care professional after discharge. [PI 64]
	DIRECT CARE PROVIDER
	<b>Criterion 10.3.4</b> At least 80% of direct care providers with privileges to <b>provide postpartum and/or newborn care</b> will describe to a mother at least 3 warning signs of infant undernourishment or dehydration for a mother to contact a health professional after discharge. [PI 63]
	Criterion 10.3.5 At least 80% of direct care providers with privileges to provide postpartum and/or newborn care will

## **APPENDICES:**

**APPENDIX A: Patient Education Topics APPENDIX B: Indicators for Facility Monitoring of Key Clinical Practices APPENDIX C1: Performance Indicators to Measure Each Competency APPENDIX C2: Performance Indicators Sorted by Step APPENDIX D: Determining Affiliated Prenatal Services** APPENDIX E: Acceptable Medical Reasons for Use of Breast-Milk Substitutes **APPENDIX F: Definitions of Terms and Abbreviations Used in This Document APPENDIX G: Expert Panel Members APPENDIX H: Guidelines and Evaluation Criteria Clarification Statements APPENDIX I: References** 

#### APPENDIX A: PATIENT EDUCATION TOPICS

#### PRENATAL CONVERSATION TOPICS INCLUDE:

WHO/UNICEF Required Prenatal Conversation Topics Include at a Minimum:

#### Breastfeeding

- the importance of breastfeeding [including a discussion on the importance of direct breastfeeding, as needed]
- global recommendations for breastfeeding including: o exclusive breastfeeding for the first 6 months
- o the risks of giving formula or other breast-milk substitutes
- o breastfeeding continues to be important after 6 months when other foods are given
- the basics of good positioning and attachment
- recognition of feeding cues

#### **Birth Practices**

- the importance of immediate and sustained skin-to-skin contact
- the importance of early initiation of breastfeeding
- the importance of rooming-in

#### US Recommended Prenatal Discussion Topics for Anticipatory Guidance include:

- non pharmacologic pain relief during labor
- creating a safe sleep environment:
  - along with the importance of rooming-in, staff should discuss how to create a safe sleep environment while rooming-in at the hospital. Narcotic-induced sleepiness, hormonally driven sleepiness [physiology of lactation and its effects on mothers] and fatigue are all factors that mothers should be aware of while rooming-in at the hospital.
- o risk reduction strategies for SIDS after leaving the hospital including the importance of removing suffocation hazards (e.g., soft bedding/pillows) from the breastfeeding environment and defining hazardous circumstances
- how to have an abundant milk supply
- how to prevent nipple soreness
- how to prevent or minimize engorgement after birth
- availability of community resources with staff properly trained to assist with breastfeeding assessment and management
- a brief conversation to discuss details about feeding a premature, low birthweight or sick baby that might need to be admitted to the NICU

#### POSTPARTUM BREASTFEEDING EDUCATION TOPICS INCLUDE:

- proper positioning, correct attachment, efficient suckling, and milk transfer
- ensuring a good milk supply
- criteria to assess if the infant is getting enough breastmilk including adequate intake and output for day of life
- preventative management of common problems such as engorgement, sore and cracked nipples<sup>5</sup>
- hand expression of breast-milk
- the importance of exclusive breastfeeding
- how to maintain exclusive breastfeeding for about 6 months
- signs/symptoms of infant feeding issues requiring referral to a qualified provider
- early feeding cues and a reminder that crying is a late cue
- no limits on how often or how long infants should be fed
- the effects of pacifiers and artificial nipples on breastfeeding and why to avoid them until lactation is established
- normal newborn feeding patterns
- collection and storage of breast-milk
- creating a safe sleep environment for breastfeeding including:
  - o the physiology of lactation and its effects on the mother leading to hormonally driven sleepiness
  - the importance of removing suffocation hazards (e.g., soft bedding/pillows) from the breastfeeding environment
- community breastfeeding support services [including how to access support and when to follow-up for formal evaluation]
- maternal/infant warning signs/symptoms of breast problems and breastfeeding problems that must receive urgent evaluation [including who they should call for assistance]

### POSTPARTUM INFANT FORMULA FEEDING EDUCATION TOPICS INCLUDE:

- safe preparation, feeding, and storage of infant formula including:
  - o appropriate hand hygiene
- cleaning infant feeding items [bottles, nipples, rings, caps, syringes, cups, spoons, etc.] and workspace surfaces
- appropriate and safe reconstitution of concentrated and powdered infant formulas
- o accuracy of measurement of ingredients
- o safe handling of formula
- o proper storage of formula
- appropriate feeding methods which may include feeding on cue, frequent low volume feeds, paced bottle techniques, eye-to-eye contact, and holding the infant closely
- o powdered infant formula is not sterile and may contain pathogens that can cause serious illness in infants younger than 3 months
- preventative steps to minimize engorgement [if mother plans to exclusively formula feed]
- signs/symptoms of infant feeding issues requiring referral to a qualified provider
- normal newborn feeding patterns
- creating a safe sleep environment for feeding your baby including:
- the importance of removing suffocation hazards (e.g., soft bedding/pillows) from the environment
- community infant formula feeding services [including how to access support and when to follow-up for formal evaluation]
- maternal/infant warning signs/symptoms of breast problems and/or formula feeding concerns that must receive urgent evaluation and who they should call for assistance

APPENDIX B: INDICATORS FOR FACILITY MONITORING OF KEY CLINICAL PRACTICES					
KEY CLINICAL PRACTICES	INDICATOR DEFINITION NOTE: More detailed and specific guidance on numerator/denominator inclusions/ exclusions is described on the Facility Data Sheet.	TARGET	PRIMARY SOURCE	OTHER SOURCES	SUBMIT METHOD
<b>Step 3:</b> Discuss the importance and management of breastfeeding with pregnant women and their families.	Affiliated Prenatal Services: The percentage of mothers who received prenatal care at an affiliated prenatal service who received prenatal counseling on breastfeeding.	±80%	Mothers Survey	Audits	Mothers Survey Report form or Link
Step 4: Facilitate immediate and uninterrupted skin-to-skin contact and support mothers to initiate breastfeeding as soon as possible after birth.	Vaginal Delivery: The percentage of infants that were placed in skin-to-skin contact with their mothers immediately after a vaginal birth and remained there uninterrupted for at least 1 hour (longer, if needed, to allow a breastfeeding infant to complete a feeding).	<b>≵80%</b>	Clinical records	Mothers Survey and/or Audits	Facility Data Sheet Mothers Survey Report Form or Link
	<b>Cesarean Delivery:</b> The percentage of infants born by cesarean delivery that were placed in skin-to-skin contact with their mothers, when safe and feasible [mother is responsive and alert] and remained there uninterrupted for at least 1 hour (longer, if needed, to allow a breastfeeding infant to complete a feeding).	<b>≵80%</b>	Clinical records	Mothers Survey and/or Audits	Facility Data Sheet Mothers Survey Report Form or Link
	All Deliveries: The percentage of infants who were supported to breastfeed as soon as possible after birth, within the first one to two hours after delivery. NOTE: Supporting the initiation of breastfeeding is defined as placing the baby on the mother's chest (skin-to-skin) for breastfeeding, pointing out infant feeding readiness cues and gently coaching the mother to allow baby to move and attach to the breast.	<b>≵80%</b>	Clinical records	Mothers Survey and/or Audits	Facility Data Sheet Mothers Survey Report Form or Link
<b>Step 5:</b> Support mothers to initiate and maintain breastfeeding and manage common difficulties.	The percentage of breastfeeding mothers who report being taught how to position their baby for breastfeeding.	<b>!</b> 80%	Mothers Survey	Audits	Mothers Survey Report form or Link
	The percentage of breastfeeding mothers who report being taught how to attach their baby for breastfeeding.	<b>!</b> 80%	Mothers Survey	Audits	Mothers Survey Report form or Link
	The percentage of breastfeeding mothers who report being taught how to observe for expected suckling patterns.	<b>1</b> 80%	Mothers Survey	Audits	Mothers Survey Report form or Link

APPENDIX B: INDICATORS FOR FACILITY MONITORING OF KEY CLINICAL PRACTICES					
KEY CLINICAL PRACTICES	INDICATOR DEFINITION NOTE: More detailed and specific guidance on numerator/denominator inclusions/ exclusions is described on the Facility Data Sheet.	TARGET	PRIMARY SOURCE	OTHER SOURCES	SUBMIT METHOD
<b>Step 5:</b> Support mothers to initiate and maintain breastfeeding and manage common difficulties.	The percentage of breastfeeding mothers who report being taught how to listen for swallowing sounds.	<u>*80%</u>	Mothers Survey	Audits	Mothers Survey Report form or Link
	The percentage of breastfeeding mothers who report being taught how to express their breast-milk by hand.	<b>!80%</b>	Mothers Survey	Audits	Mothers Survey Report form or Link
<b>Step 6:</b> Do not provide breastfed newborns any food or fluids other than breast-milk, unless medically indicated.	The percentage of infants who received only breast-milk throughout their stay at the facility. Reminder: The US BFHI Designation Is based on implementation of clinical practices, NOT on an exclusive breastfeeding rate of +80%.	<b>1</b> 80%	Clinical records	Mothers Survey and/or Audits	Facility Data Sheet Mothers Survey Report Form or Link
	The percentage of breast-milk fed infants who received formula supplementation during their stay at the facility.	14.2%	Clinical records	Mothers Survey and/or Audits	Facility Data Sheet Mothers Survey Report Form or Link
	The percentage of mixed-feeding and formula feeding mothers who report being taught how to safely prepare, feed and store infant formula.	<b>*80%</b>	Mothers Survey	Audits	Mothers Survey Report form or Link
<b>Step 7:</b> Enable mothers and their infants to remain together and to practice rooming-in 24 hours a day.	The percent of infants who stayed with their mothers both day and night, without separation of more than 1 hour per 24-hour period.	<b>!80%</b>	Clinical records	Mothers Survey and/or Audits	Facility Data Sheet Mothers Survey Report Form or Link
<b>Step 8</b> : Support mothers to recognize and respond to their infants' cues for feeding.	The percentage of mothers [regardless of feeding method] who report being taught that salivating or rooting is an early feeding cue.	<b>!80%</b>	Mothers Survey	Audits	Mothers Survey Report form or Link
	The percentage of mothers [regardless of feeding method] who report being taught that the baby putting fingers or fist in or around his/her mouth is an early feeding cue.	<b>*80%</b>	Mothers Survey	Audits	Mothers Survey Report form or Link
	The percentage of mothers [regardless of feeding method] who report being taught that the baby becoming more active and alert is an early feeding cue.	<b>!80%</b>	Mothers Survey	Audits	Mothers Survey Report form or Link

APPENDIX B: INDICATORS FOR FACILITY MONITORING OF KEY CLINICAL PRACTICES					
KEY CLINICAL PRACTICES	INDICATOR DEFINITION NOTE: More detailed and specific guidance on numerator/denominator inclusions/ exclusions is described on the Facility Data Sheet.	TARGET	PRIMARY SOURCE	OTHER SOURCES	SUBMIT METHOD
Step 9: Counsel mothers on the use and risks of feeding bottles, artificial nipples and pacifiers.	The percentage of breastfeeding mothers who report being taught about the risks of using feeding bottles, artificial nipples and pacifiers.	<b>180%</b>	Mothers Survey	Audits	Mothers Survey Report form or Link
	The percentage of breastfeeding mothers who report being taught when an acceptable time is to introduce a pacifier.	<b>*80%</b>	Mothers Survey	Audits	Mothers Survey Report form or Link
<b>Step 10:</b> Coordinate discharge so that parents and their infants have timely access to ongoing support and care.	The percentage mothers [regardless of feeding method] who report being taught how to tell if their babies are getting enough.	±80%	Mothers Survey	Audits	Mothers Survey Report form or Link
	The percentage of mothers [regardless of feeding method] who report being taught where they can access infant feeding support in the community.	<b>!80%</b>	Mothers Survey	Audits	Mothers Survey Report form or Link
APPENDIX C1: PERFORMANCE INDICATORS TO MEASURE EACH COMPETENCY - SORTED BY DOMAIN/COMPETENCY				ETENCY	
DOMAINS, COMPETENCIES AND PERFORMANCE INDICATORS (All performance indicators apply to direct care staff. Specific performance VERIFICATION METHOD indicators for which knowledge competency applies to direct care providers are marked with an ')				ION METHOD	
DOMAIN 1: CRITICAL MANAGEMENT PROCEDURES TO SUPPORT THE TEN STEPS					
Competency 01. Implement the C	ode in a health facility (Step 1A)				
'1. List at least 3 products that are	e covered by the Code.			Question or o	ase study
'2. Describe at least 3 ways a direct care provider/direct care staff protects breastfeeding in practice.				Question or o	ase study
'3. <b>Describe</b> at least 1 way a direct care provider/direct care staff should respond if offered information provided by manufacturers and/or distributors of products within the scope of the Code.			Question or o	ase study	
*4. Describe at least 1 type of financial or material inducement that might be offered to a direct care provider/direct care staff by a manufacturer and/or distributor of products within the scope of the Code.			turer Question or o	ase study	
'5. Describe at least 1 harm of a direct care provider/direct care staff accepting financial or material inducements.			Question or o	ase study	
*6. Explain at least 2 ways that the facility ensures that there is no promotion of infant formula, feeding bottles, or teats in any part of facilities providing maternity and new-born services, or by any of the direct care staff/direct care providers.			ies Question or o	ase study	

APPENDIX C1: PERFORMANCE INDICATORS TO MEASURE EACH COMPETENCY - SORTED BY DOMAIN/COMPETENCY			
DOMAINS, COMPETENCIES AND PERFORMANCE INDICATORS (All performance indicators apply to direct care staff. Specific performance indicators for which knowledge competency applies to direct care providers are marked with an ')	VERIFICATION METHOD		
DOMAIN 1: CRITICAL MANAGEMENT PROCEDURES TO SUPPORT THE TEN STEPS continued			
Competency 02. Explain a facility's infant feeding policies and monitoring systems (Step 1B and 1C)			
'7. <b>Describe</b> at least 2 elements that are in the facility's infant feeding policy.	Question or case study		
'8. Explain at least 3 ways that the infant feeding policy affects a direct care provider's/direct care staff member's work in providing safe, equitable and appropriate care.	Question or case study		
'9. Explain at least 2 reasons why monitoring of hospital practices is important to ensure quality of care.	Question or case study		
<sup>•</sup> 10. <b>Explain</b> at least 2 ways practices are monitored in this facility.	Question or case study		
DOMAIN 2: FOUNDATIONAL SKILLS: COMMUNICATING IN A CREDIBLE AND EFFECTIVE WAY			
Competency 03. Use listening and learning skills whenever engaging in a conversation with a mother (All Steps)			
'11. Demonstrate at least 3 aspects of listening and learning skills when talking with a mother.	Observation		
'12. Demonstrate at least 3 ways to adapt communication style and content when talking with a mother.	Observation		
Competency 04. Use skills for building confidence and giving support whenever engaging in a conversation with a mother (All Steps)			
'13. Demonstrate at least 2 ways to encourage a mother to share her views, taking time to understand and consider these views.	Observation		
'14. Demonstrate at least 3 aspects of building confidence and giving support when talking with a mother.	Observation		
DOMAIN 3: PRENATAL PERIOD			
Competency 05. Engage in antenatal conversation about breastfeeding (Step 3)			
'15. <b>Engage</b> in a conversation with a pregnant woman on 3 aspects of the importance of breastfeeding.	Observation		
'16. Assess at least 3 aspects of a pregnant woman's knowledge about breastfeeding in order to fill the gaps and correct inaccuracies.	Observation		
'17. Engage in a conversation with a pregnant woman about at least 4 care practices a mother/infant dyad will experience at the birthing facility that will support breastfeeding.	Observation		

APPENDIX C1: PERFORMANCE INDICATORS TO MEASURE EACH COMPETENCY - SORTED BY DOMAIN/COMPETENCY			
DOMAINS, COMPETENCIES AND PERFORMANCE INDICATORS (All performance indicators apply to direct care staff. Specific performance indicators for which knowledge competency applies to direct care providers are marked with an ')	VERIFICATION METHOD		
DOMAIN 4: BIRTH AND IMMEDIATE POSTPARTUM			
Competency 06. Implement immediate and uninterrupted skin-to-skin (Step 4)			
'18. Explain at least 3 reasons why immediate and uninterrupted skin-to-skin is important for the mother.	Question or case study		
'19. Explain at least 3 reasons why immediate and uninterrupted skin-to-skin is important for the infant.	Question or case study		
20. Demonstrate at least 3 points of how to routinely implement immediate, uninterrupted and safe skin-to-skin between mother and infant, regardless of method of birth.	Observation		
'21. Demonstrate at least 3 safety aspects to assess when mother and baby are skin-to-skin during the first 2 hours postpartum, regardless of method of birth.	Observation		
'22. List at least 3 reasons why skin-to-skin should NOT be interrupted.	Question or case study		
<sup>2</sup> 23. Explain at least 2 reasons when skin-to-skin could be interrupted for medically justifiable reasons.	Question or case study		
24. "WHERE APPLICABLE" Explain how to maintain skin-to-skin during transfer of mother and infant to another room or other recovery area.	Question or case study		
DOMAIN 5: ESSENTIAL ISSUES FOR A BREASTFEEDING MOTHER			
Competency 07. Facilitate breastfeeding within the first hour, according to cues (Step 4)			
*25. <b>Engage</b> in a conversation with a mother including at least 3 reasons why suckling at the breast in the first hour is important, when the baby is ready.	Observation		
26. Demonstrate at least 3 aspects of safe care of the newborn in the first 2 hours post-birth.	Observation		
27. Describe to a mother at least 3 pre-feeding behaviours babies show before actively sucking at the breast.	Observation		
Competency 08. Discuss with a mother how breastfeeding works (Steps 3, 5, 6 and 9)			
28. Describe at least 6 essential issues that every breastfeeding mother should know or demonstrate.	Question or case study		
'29. Engage in a conversation with a mother regarding at least 3 reasons why effective exclusive breastfeeding is important.	Observation		
'30. Engage in a conversation with a mother regarding 2 elements related to infant feeding patterns in the first 36 hours of life.	Observation		
'31. <b>Describe</b> to a mother at least 4 signs of adequate transfer of milk in the first few days.	Observation		
'66. Describe at least 1 professional medical reference or resource for identifying medications that are safe/compatible for use during lactation.	Question or case study		

APPENDIX C1: PERFORMANCE INDICATORS TO MEASURE EACH COMPETENCY - SORTED BY DOMAIN/COMPETENCY			
DOMAINS, COMPETENCIES AND PERFORMANCE INDICATORS (All performance indicators apply to direct care staff. Specific performance indicators for which knowledge competency applies to direct care providers are marked with an ')	VERIFICATION METHOD		
DOMAIN 5: ESSENTIAL ISSUES FOR A BREASTFEEDING MOTHER continued			
Competency 09. Assist mother getting her baby to latch (Step 5)			
32. Evaluate a full breastfeeding session observing at least 5 points.	Observation		
'33. Demonstrate at least 3 aspects of how to help a mother achieve a comfortable and safe position for breastfeeding within the first 6 hours after birth and later as needed during the hospital stay.	Observation		
'34. Demonstrate how to help a mother achieve an effective and comfortable latch, noting at least 5 points.	Observation		
Competency 10. Help a mother respond to feeding cues (Steps 7 and 8)			
'35. <b>Engage</b> in a conversation with a mother regarding 2 aspects related to the importance of rooming-in 24h/day.	Observation		
'36. Explain 2 situations: 1 for the mother and 1 for the infant, when it is acceptable to separate mother and baby while in hospital.	Question or case study		
*37. Describe at least 2 early feeding cues and 1 late feeding cue.	Question or case study		
38. Describe at least 4 reasons why responsive feeding is important (also called on-demand or baby-led feeding) independent of feeding method.	Question or case study		
39. Describe at least 2 aspects of responsive feeding (also called on-demand or baby-led feeding) independent of feeding method.	Question or case study		
68. Describe 2 aspects involved in creating a safe environment for rooming-in during the hospital stay.	Question or case study		
'69. <b>Demonstrate</b> at least 3 safety aspects to assess when mother and baby are skin-to-skin during the postpartum hospitalization, regardless of method of birth.	Observation		
Competency 11. Help a mother manage milk expression (Steps 5 and 6)			
40. Demonstrate to a mother how to hand express breast milk, noting 8 points.	Observation		
41. Explain at least 3 aspects of appropriate storage of breast-milk.	Question or case study		
42. Explain at least 3 aspects of handling of expressed breast-milk.	Question or case study		

APPENDIX C1: PERFORMANCE INDICATORS TO MEASURE EACH COMPETENCY - SORTED BY DOMAIN/COMPETENCY			
DOMAINS, COMPETENCIES AND PERFORMANCE INDICATORS (All performance indicators apply to direct care staff. Specific performance indicators for which knowledge competency applies to direct care providers are marked with an ")	VERIFICATION METHOD		
DOMAIN 6: HELPING MOTHERS AND BABIES WITH SPECIAL NEEDS			
Competency 12. Help a mother to breastfeed a low-birth-weight or sick baby (Steps 5, 7 and 8)			
43. Help a mother achieve a comfortable and safe position for breastfeeding with her preterm, late preterm, or weak infant at the breast, noting at least 4 points.	Observation		
'44. Engage in a conversation with a mother of a preterm, late preterm, or low-birth-weight infant not sucking effectively at the breast, including at least 5 points.	Observation		
45. Engage in a conversation with a mother separated from her preterm or sick infant regarding at least 2 reasons to be with her infant in the intensive care unit.	Observation		
46. Engage in a conversation with a mother of a preterm, late preterm or vulnerable infant (including multiple births) regarding the importance of observing at least 2 sub-tle signs and behavioural state shifts to determine when it is appropriate to breastfeed.	Observation		
Competency 13. Help a mother whose baby needs fluids other than breast milk (Step 6)			
'47. List at least 2 potential contraindications to breastfeeding for a baby and 2 for a mother.	Question or case study		
'48. <b>Describe</b> at least 4 medical indications for supplementing breastfed newborns: 2 maternal indications and 2 newborn indications, when breastfeeding is not improved following skilled assessment and management.	Question or case study		
'49. Describe at least 3 risks of giving a breastfed newborn any food or fluids other than breast milk, in the absence of medical indication.	Question or case study		
'50. For those few health situations where infants cannot, or should not, be fed at the breast, <b>describe</b> , in order of preference, the alternatives to use.	Question or case study		
'51. Engage in a conversation with a mother who intends to feed her baby formula, noting at least 3 actions to take.	Observation		
52. Demonstrate at least 3 important items of safe preparation of infant formula to a mother who needs that information.	Observation		
<sup>•</sup> 67. Identify 3 high-risk infant populations that may warrant extra precautions to protect against severe infections associated with powdered infant formula.	Question or case study		
Competency 14. Help a mother who is not feeding her baby directly at the breast (Step 9)			
53. Demonstrate to a mother how to safely cup-feed her infant when needed, showing at least 4 points.	Observation		
54. Describe to a mother at least 4 steps to feed an infant a supplement in a safe manner.	Observation		
'55. <b>Describe</b> at least 2 alternative feeding methods other than feeding bottles.	Question or case study		
56. Engage in a conversation with a mother who requests feeding bottles, teats, pacifiers and soothers without medical indication, including at least 3 points.	Observation		

APPENDIX C1: PERFORMANCE INDICATORS TO MEASURE EACH COMPETENCY - SORTED BY DOMAIN/COMPETENCY			
DOMAINS, COMPETENCIES AND PERFORMANCE INDICATORS (All performance indicators apply to direct care staff. Specific performance indicators for which knowledge competency applies to direct care providers are marked with an ")	VERIFICATION METHOD		
DOMAIN 6: HELPING MOTHERS AND BABIES WITH SPECIAL NEEDS continued			
Competency 15. Help a mother prevent or resolve difficulties with breastfeeding (Steps 5, 8, 9 and 10)			
57. <b>Engage</b> in a conversation with a mother regarding at least 4 different ways to facilitate breastfeeding in order to prevent or resolve most common conditions of the lactating breasts (sore nipples, engorgement, mother who thinks she doesn't have enough milk, infants who have difficulty sucking).	Observation		
'58. Describe at least 4 elements to assess when a mother says that her infant is crying frequently.	Question or case study		
'59. Describe at least 4 elements of anticipatory guidance to give to a mother on calming or soothing techniques before or as alternatives to pacifiers.	Question or case study		
'70. Describe when the acceptable time is for introducing a pacifier with a breastfeeding infant, with regards to SUID/SIDS reduction strategies.	Question or case study		
<sup>65</sup> . <b>Describe</b> at least 2 maternal and 2 infant risk factors associated with delayed lactogenesis II.	Question or case study		
DOMAIN 7: CARE AT DISCHARGE			
Competency 16. Ensure seamless transition after discharge (Step 10)			
60. Describe at least 2 locally available sources for timely infant feeding information and problem management.	Question or case study		
61. Describe at least 2 ways the healthcare facility engages with community-based programs to coordinate breastfeeding messages and offer continuity of care.	Question or case study		
<sup>•</sup> 62. <b>Develop</b> individualized discharge feeding plans with a mother that includes at least 6 points.	Observation		
'63. Describe to a mother at least 4 warning signs of infant undernourishment or dehydration for a mother to contact a health care professional after discharge.	Observation		
*64. Describe at least 3 warning maternal signs for a mother to contact a health care professional after discharge.	Question or case study		

APPENDIX C2: PERFORMANCE INDICATORS TO MEASURE COMPETENCY - SORTED BY STEP		
TEN STEPS TO SUCCESSFUL BREASTFEEDING (All performance indicators apply to direct care staff. Specific performance indicators for which knowledge competency applies to direct care providers are marked with an ')	VERIFICATION METHOD	
STEP 1A. COMPLY FULLY WITH THE INTERNATIONAL CODE OF MARKETING OF BREAST-MILK SUBSTITUTES A HEALTH ASSEMBLY RESOLUTIONS. (COMPETENCY 01)	AND RELEVANT WORLD	
'1. List at least 3 products that are covered by the Code.	Question or case study	
'2. Describe at least 3 ways a direct care provider/direct care staff protects breastfeeding in practice.	Question or case study	
'3. Describe at least 1 way a direct care provider/direct care staff should respond if offered information provided by manufacturers and/or distributors of products within the scope of the Code.	Question or case study	
'4. Describe at least 1 type of financial or material inducement that might be offered to a direct care provider/direct care staff by a manufacturer and/or distributor of products within the scope of the Code.	Question or case study	
'5. Describe at least 1 harm of a direct care provider/direct care staff accepting financial or material inducements.	Question or case study	
'6. Explain at least 2 ways that the facility ensures that there is no promotion of infant formula, feeding bottles, or teats in any part of facilities providing maternity and newborn services, or by any of the direct care providers.	Question or case study	
STEP 1B. HAVE A WRITTEN INFANT FEEDING POLICY THAT IS ROUTINELY COMMUNICATED TO STAFF AND PA	RENTS. (COMPETENCY 02)	
'7. Describe at least 2 elements that are in the facility's infant feeding policy.	Question or case study	
'8. Explain at least 3 ways that the infant feeding policy affects a direct care provider's/direct care staff member's work in providing safe, equitable and appropriate care.	Question or case study	
STEP 1C. ESTABLISH ONGOING MONITORING AND DATA-MANAGEMENT SYSTEMS. (COMPETENCY 02)		
'9. Explain at least 2 reasons why monitoring of hospital practices is important to ensure quality of care.	Question or case study	
'10. Explain at least 2 ways practices are monitored in this facility.	Question or case study	
STEP 2. ENSURE THAT STAFF HAVE SUFFICIENT KNOWLEDGE, COMPETENCE AND SKILLS TO SUPPORT BREA (FOUNDATIONAL SKILLS APPLYING TO ALL STEPS. (COMPETENCY 03 AND 04)	STFEEDING.	
'11. Demonstrate at least 3 aspects of listening and learning skills when talking with a mother.	Observation	
'12. Demonstrate at least 3 ways to adapt communication style and content when talking with a mother.	Observation	
'13. Demonstrate at least 2 ways to encourage a mother to share her views, taking time to understand and consider these views.	Observation	
'14. Demonstrate at least 3 aspects of building confidence and giving support when talking with a mother.	Observation	

APPENDIX C2: PERFORMANCE INDICATORS TO MEASURE COMPETENCY - SORTED BY STEP		
TEN STEPS TO SUCCESSFUL BREASTFEEDING (All performance indicators apply to direct care staff. Specific performance indicators for which knowledge competency applies to direct care providers are marked with an ')	VERIFICATION METHOD	
STEP 3. DISCUSS THE IMPORTANCE AND MANAGEMENT OF BREASTFEEDING WITH PREGNANT WOMEN AND (COMPETENCY 05 AND 08)	THEIR FAMILIES.	
'15. Engage in a conversation with a pregnant woman on 3 aspects of the importance of breastfeeding.	Observation	
'16. Assess at least 3 aspects of a pregnant woman's knowledge about breastfeeding in order to fill the gaps and correct inaccuracies.	Observation	
'17. Engage in a conversation with a pregnant woman about at least 4 care practices a mother/infant dyad will experience at the birthing facility that will support breastfeeding.	Observation	
*29. Engage in a conversation with a mother regarding at least 3 reasons why effective exclusive breastfeeding is important.	Observation	
STEP 4. FACILITATE IMMEDIATE AND UNINTERRUPTED SKIN-TO-SKIN CONTACT AND SUPPORT MOTHERS TO AS SOON AS POSSIBLE AFTER BIRTH. (COMPETENCY 06 AND 07)	INITIATE BREASTFEEDING	
'18. Explain at least 3 reasons why immediate and uninterrupted skin-to-skin is important for the mother.	Question or case study	
'19. Explain at least 3 reasons why immediate and uninterrupted skin-to-skin is important for the infant.	Question or case study	
20. Demonstrate at least 3 points of how to routinely implement immediate, uninterrupted and safe skin-to-skin between mother and infant, regardless of method of birth.	Observation	
'21. Demonstrate at least 3 safety aspects to assess when mother and baby are skin-to-skin during the first 2 hours postpartum, regardless of method of birth.	Observation	
*22. List at least 3 reasons why skin-to-skin should NOT be interrupted.	Question or case study	
'23. Explain at least 2 reasons when skin-to-skin could be interrupted for medically justifiable reasons.	Question or case study	
24. "WHERE APPLICABLE" Explain how to maintain skin-to-skin during transfer of mother and infant to another room or other recovery area.	Question or case study	
'25. Engage in a conversation with a mother including at least 3 reasons why suckling at the breast in the first hour is important, when the baby is ready.	Observation	
26. Demonstrate at least 3 aspects of safe care of the newborn in the first 2 hours post-birth.	Observation	
27. Describe to a mother at least 3 prefeeding behaviors babies show before actively sucking at the breast.	Observation	

APPENDIX C2: PERFORMANCE INDICATORS TO MEASURE COMPETENCY - SORTED BY STEP		
TEN STEPS TO SUCCESSFUL BREASTFEEDING (All performance indicators apply to direct care staff. Specific performance indicators for which knowledge competency applies to direct care providers are marked with an ')	VERIFICATION METHOD	
STEP 5. SUPPORT MOTHERS TO INITIATE AND MAINTAIN BREASTFEEDING AND MANAGE COMMON DIFFICUL (COMPETENCY 08, 09, 11, 12 AND 15)	TIES.	
28. Describe at least 6 essential issues that every breastfeeding mother should know or demonstrate.	Question or case study	
'30. Engage in a conversation with a mother regarding 2 elements related to infant feeding patterns in the first 36 hours of life.	Observation	
'31. <b>Describe</b> to a mother at least 4 signs of adequate transfer of milk in the first few days.	Observation	
32. Evaluate a full breastfeeding session observing at least 5 points.	Observation	
*33. <b>Demonstrate</b> at least 3 aspects of how to help a mother achieve a comfortable and safe position for breastfeeding within the first 6 hours after birth and later as needed during the hospital stay.	Observation	
'34. Demonstrate how to help a mother achieve an effective and comfortable latch, noting at least 5 points.	Observation	
40. Demonstrate to a mother how to hand express breast milk, noting 8 points.	Observation	
43. Help a mother achieve a comfortable and safe position for breastfeeding with her preterm, late preterm, or weak infant at the breast, noting at least 4 points.	Observation	
'44. Engage in a conversation with a mother of a preterm, late preterm, or low-birth-weight infant not sucking effectively at the breast, including at least 5 points.	Observation	
57. Engage in a conversation with a mother regarding at least 4 different ways to facilitate breastfeeding in order to prevent or resolve most common conditions of the lactating breasts (sore nipples, engorgement, mother who thinks she doesn't have enough milk, infants who have difficulty sucking).	Observation	
'65. Describe at least 2 maternal and 2 infant risk factors associated with delayed lactogenesis II.	Question or case study	
STEP 6. DO NOT PROVIDE BREASTFED NEWBORNS ANY FOOD OR FLUIDS OTHER THAN BREAST-MILK, UNLES (COMPETENCY 08, 11, 13.)	S MEDICALLY INDICATED.	
*29. Engage in a conversation with a mother regarding at least 3 reasons why effective exclusive breastfeeding is important.	Observation	
41. Explain at least 3 aspects of appropriate storage of breast-milk.	Question or case study	
42. Explain at least 3 aspects of handling of expressed breast-milk.	Question or case study	
*47. List at least 2 potential contraindications to breastfeeding for a baby and 2 for a mother.	Question or case study	
*48. <b>Describe</b> at least 4 medical indications for supplementing breastfed newborns: 2 maternal indications and 2 newborn indications, when breastfeeding is not improved following skilled assessment and management.	Question or case study	
'49. Describe at least 3 risks of giving a breastfed newborn any food or fluids other than breast milk, in the absence of medical indication.	Question or case study	
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APPENDIX C2: PERFORMANCE INDICATORS TO MEASURE COMPETENCY - SORTED BY STEP		
TEN STEPS TO SUCCESSFUL BREASTFEEDING (All performance indicators apply to direct care staff. Specific performance indicators for which knowledge competency applies to direct care providers are marked with an ')	VERIFICATION METHOD	
STEP 6. DO NOT PROVIDE BREASTFED NEWBORNS ANY FOOD OR FLUIDS OTHER THAN BREAST-MILK, UNLES (COMPETENCY 08, 09, 11, 13.) continued	S MEDICALLY INDICATED.	
66. Describe at least 1 professional medical reference or resource for identifying medications that are safe/compatible for use during lactation.	Question or case study	
'50. For those few health situations where infants cannot, or should not, be fed at the breast, <b>describe</b> , in order of preference, the alternatives to use.	Question or case study	
'51. Engage in a conversation with a mother who intends to feed her baby formula, noting at least 3 actions to take.	Observation	
52. Demonstrate at least 3 important items of safe preparation of infant formula to a mother who needs that information.	Observation	
°67. Identify 3 high-risk infant populations that may warrant extra precautions to protect against severe infections associated with powdered infant formula.	Question or case study	

## STEP 7. ENABLE MOTHERS AND THEIR INFANTS TO REMAIN TOGETHER AND TO PRACTICE ROOMING-IN 24 HOURS A DAY. (COMPETENCY 10 AND 12)

*35. Engage in a conversation with a mother regarding 2 aspects related to the importance of rooming-in 24h/day.	Observation	
68. Describe 2 aspects involved in creating a safe environment for rooming-in during the hospital stay.	Question or case study	
'69. <b>Demonstrate</b> at least 3 safety aspects to assess when mother and baby are skin-to-skin during the postpartum hospitalization, regardless of method of birth.	Observation	
'36. Explain 2 situations: 1 for the mother and 1 for the infant, when it is acceptable to separate mother and baby while in hospital.	Question or case study	
45. Engage in a conversation with a mother separated from her preterm or sick infant regarding at least 2 reasons to be with her infant in the intensive care unit.	Observation	
STEP 8. SUPPORT MOTHERS TO RECOGNIZE AND RESPOND TO THEIR INFANTS' CUES FOR FEEDING. (COMPETENCY 10, 12 AND 15)		
*37. Describe at least 2 early feeding cues and 1 late feeding cue.	Question or case study	
38. Describe at least 4 reasons why responsive feeding is important (also called on-demand or baby-led feeding) independent of feeding method.	Question or case study	
39. Describe at least 2 aspects of responsive feeding (also called on-demand or baby-led feeding) independent of feeding method.	Question or case study	
46. Engage in a conversation with a mother of a preterm, late preterm or vulnerable infant (including multiple births) regarding the importance of observing at least 2 subtle signs and behavioral state shifts to determine when it is appropriate to breastfeed.	Observation	
*58. <b>Describe</b> at least 4 elements to assess when a mother says that her infant is crying frequently.	Question or case study	

#### APPENDIX C2: PERFORMANCE INDICATORS TO MEASURE COMPETENCY - SORTED BY STEP TEN STEPS TO SUCCESSFUL BREASTFEEDING (All performance indicators apply to direct care staff. Specific performance indicators for VERIFICATION METHOD which knowledge competency applies to direct care providers are marked with an \*) STEP 9. COUNSEL MOTHERS ON THE USE AND RISKS OF FEEDING BOTTLES, ARTIFICIAL NIPPLES (TEATS) AND PACIFIERS. (COMPETENCY 14 AND 15) Observation 53. Demonstrate to a mother how to safely cup-feed her infant when needed, showing at least 4 points. Observation 54. Describe to a mother at least 4 steps to feed an infant a supplement in a safe manner. 55. **Describe** at least 2 alternative feeding methods other than feeding bottles. **Ouestion or case study** 56. Engage in a conversation with a mother who requests feeding bottles, teats, pacifiers and soothers without medical indication, including at Observation least 3 points. <sup>5</sup>59. Describe at least 4 elements of anticipatory guidance to give to a mother on calming or soothing techniques before or as alternatives to **Ouestion or case study** pacifiers. **Ouestion or case study** '70. Describe when the acceptable time is for introducing a pacifier with a breastfeeding infant, with regards to SUID/SIDS reduction strategies.

#### STEP 10. COORDINATE DISCHARGE SO THAT PARENTS AND THEIR INFANTS HAVE TIMELY ACCESS TO ONGOING SUPPORT AND CARE. (COMPETENCY 15 AND 16)

57. <b>Engage</b> in a conversation with a mother regarding at least 4 different ways to facilitate breastfeeding in order to prevent or resolve most common conditions of the lactating breasts (sore nipples, engorgement, mother who thinks she doesn't have enough milk, infants who have difficulty sucking).	Observation
60. Describe at least 2 locally available sources for timely infant feeding information and problem management.	Question or case study
61. Describe at least 2 ways the healthcare facility engages with community-based programs to coordinate breastfeeding messages and offer continuity of care	Question or case study
'62. Develop individualized discharge feeding plans with a mother that includes at least 6 points.	Observation
'63. Describe to a mother at least 4 warning signs of infant undernourishment or dehydration for a mother to contact a health care professional after discharge.	Observation
<sup>•</sup> 64. <b>Describe</b> at least 3 warning maternal signs for a mother to contact a health care professional after discharge.	Question or case study

### APPENDIX D: DETERMINING AFFILIATED PRENATAL SERVICES

### AFFILIATED PRENATAL SERVICES

**INTRODUCTION:** It is important to accurately determine your facility's status regarding affiliation with prenatal services early in your Baby-Friendly journey.

**INSTRUCTIONS:** The questions below describe various situations in which BFUSA considers facilities to have affiliated prenatal services. If any of the situations below is true for your facility, you are considered to have affiliated prenatal services. Carefully consider each of the questions with your multi-disciplinary team. It is also important to consider these questions again any time your facility has a change. **The questions should be applied to all primary prenatal services that have patients who deliver at your facility.** Providers who do not provide primary prenatal services, but rather are specialists who provide consultation for the patient's primary prenatal care provider, should not be included. For example, a Maternal Fetal Medicine provider who is consulted when needed but never becomes the primary provider for a woman or her infant would not be considered to be an affiliated prenatal service. A Maternal Fetal Medicine provider who acts as the patient's primary provider would be considered to be an affiliated prenatal service if one of the scenarios described in the questions below also applies.

**EVOLVING STATE OF HEALTH CARE:** Health care in the United States is dynamic. Facilities are merging into systems as well as buying and selling service lines. In large institutions, some structural changes may not be known by the facility's Baby-Friendly multi-disciplinary committee, yet they have a significant impact on the Baby-Friendly process. Therefore, **it is recommended that this questionnaire be completed annually by the facility and discussed with leadership by the multi-disciplinary committee**. The committee should then consider how the results will impact the implementation of Steps 1, 2, and 3, and the International Code of Marketing of Breast-milk Substitutes.

#### **QUESTIONS:**

Your facility is considered to have affiliated prenatal services if you answer "yes" to any of the following questions:

1. Are providers who deliver primary prenatal care at the prenatal service employed by the facility?

2. Are providers who deliver primary prenatal care at the prenatal service employed by the same system that employs staff at the facility?

3. Are providers who deliver primary prenatal care at the prenatal service contracted (or in another type of agreement, such as an MOU) by the facility or system to provide prenatal services on behalf of the facility?

4. Are staff who provide care or education at the prenatal service employed by the facility?

5. Are staff who provide care or education at the prenatal service employed by the same system that employs staff at the facility?

6. Are staff who provide care or education at the prenatal service contracted (or in another type of agreement, such as an MOU) by the facility or system to provide prenatal services on behalf of the facility?

7. Are prenatal services offering primary prenatal care owned by the facility or the system that owns the facility?

8. Do marketing or patient information materials imply that primary prenatal care is offered by the facility? (Consider the facility or system website, brochures and media marketing campaigns.)

### APPENDIX E: ACCEPTABLE MEDICAL REASONS FOR USE OF BREAST-MILK SUBSTITUTES

Most mothers can breastfeed successfully, which includes initiating breastfeeding within the first hour of life, breastfeeding exclusively for the first 6 months, and continuing breastfeeding along with giving appropriate complimentary foods up to 2 years of age or beyond.

The facility should develop a protocol/procedure that describes the current, evidence-based contraindications to breastfeeding and medical indications for supplementation. Staff and care providers should be trained to utilize the protocol/procedure as guidance in the case of supplementation. A facility may utilize the recommendations of national and international authorities [e.g., Centers for Disease Control and Prevention (CDC), World Health Organization (WHO), and Academy of Breastfeeding Medicine (ABM), American Academy of Pediatrics (AAP), American College of Obstetricians and Gynecologists (ACOG)] in developing this protocol/procedure. However, the facility is responsible for ensuring that its medical indications for supplementation are supported by current evidence.

### APPENDIX F: DEFINITION OF TERMS AND ABBREVIATIONS USED IN THIS DOCUMENT

AFFILIATED PRENATAL SERVICES – Primary prenatal care delivered through a close formal or informal association with a birthing facility. For Baby-Friendly purposes, the affiliation is determined through completion of a questionnaire regarding specific aspects of the relationship, such as business relationship, personnel relationship, and marketing of services. (See Appendix D)

**CAMPUS** — The institution's main buildings and the physical area immediately adjacent to them, other areas and structures that are not strictly contiguous to the main buildings but are located on the same property or within 250 yards of the main buildings, and any other areas determined, on an individual case basis, to be part of the provider's campus.

CLINICAL STAFF – Includes all individuals providing direct patient care. Clinical roles often require certification or licensing. Examples include: RN, LPN, Technicians, CNA, MA, etc.

**CRITERIA FOR EVALUATION** – The minimum standards which must be met to achieve Baby Friendly designation.

**COMPETENCY** — The capability to use a set of related knowledge, skills and behaviors to successfully perform identified jobs, roles or responsibilities.<sup>3</sup>

**COMPETENCY ASSESSMENT** – An evaluation of an individual's ability to use a set of related knowledge, skills and behaviors to successfully perform identified jobs, roles or responsibilities.<sup>3</sup>

**COMPETENCY VERIFICATION** – The confirmation of an individual's ability to use a set of related knowledge, skills and behaviors to successfully perform identified jobs, roles or responsibilities.

**CONFLICT OF INTEREST** — Any situation where an individual or organization is in a position to derive a benefit which is at odds with the interests / purpose of their position or organization. In this context, it is most usually seen when individual members of staff enter a relationship with companies falling within the scope of the Code (the companies) in order to gain some advantage for themselves or their service.

**COUNSELING** – Professional guidance, advice and/or assistance provided by an individual trained in the specific topic area of concern.

CUE-BASED FEEDING — Feeding practices that are based on infant readiness indicators such as alertness, rooting, orienting toward own or caregivers' hands, pacifier, breast or bottle nipple; sucking on own hands or other objects; pacing as well as pausing when an infant's stress cues are observed.

**DIRECT CARE PROVIDERS** — Physicians, midwives, physician assistants, and advanced practice registered nurses who provide education, assessment, support, intervention, assistance and/or follow-up with regards to infant feeding [Including the following units: Affiliated Prenatal Services, Labor and Delivery Unit, Postpartum Unit, Newborn Unit]. Interviews with direct care providers will include providers granted privileges to provide care in labor & delivery, postpartum and well newborn units.

**DIRECT CARE STAFF** — All other non-Direct Care Provider health professionals who provide education, assessment, support, intervention, assistance and/or follow-up with regards to infant feeding [Including the following units: Affiliated Prenatal Services, Labor and Delivery Unit, Postpartum Unit, Newborn Unit]. Interviews with direct care staff will include facility-based direct care nursing staff providing care in labor & delivery, postpartum and well newborn units.

**EDUCATION** – Information about what to do and why; didactic knowledge; may be provided in classroom or electronically, individually or in group settings.

**EDUCATIONAL MATERIALS** – Information provided through written or electronic sources including brochures, pamphlets, posters, websites, videos, texting programs, social media, education channels, applications, and other evolving technologies.

**EXCLUSIVE BREAST-MILK FEEDING** – The infant receives only human milk (including direct breastfeeding, expressed breast-milk or donor

human milk) and is allowed to receive vitamins, minerals, and medicines.

**FACILITY** – A building or area that is used for the provision of health care services. Some health care facilities have multiple campuses. BFUSA policies require individual assessment and designation of each individual campus.

FAIR MARKET PRICE — The International Code of Marketing of Breast-milk Substitutes, and subsequently, the BFHI call for health systems to purchase infant foods and feeding supplies at a fair market value. Fair market pricing can be determined by calculating the margin of retail price the facility pays on other items available on the retail market or by using the minimum threshold price method as described in BFUSA materials.

**FEEDING OPTIONS** — The type of food (mother's own milk, pasteurized donor human milk, infant formula) and method of feeding (direct breast feeding, expression of milk, cup, syringe, supplemental nursing system, bottle) an infant. Feeding options may consist of a combination of foods and methods. For example, a mother may directly breastfeed sometimes and occasionally pump and feed her own milk though a cup.

**GESTATIONAL AGE (INCLUDING DEFINITIONS OF PRETERM AND TERM INFANTS)** — Time elapsed between the first day of the last menstrual period and the day of delivery.

**Preterm infants** are defined as born alive before 37 weeks of pregnancy are completed. There are sub-categories of preterm birth defined by the WHO.<sup>59</sup> Related groups of infants defined by ACOG<sup>60</sup> may be admitted to the NICU based on gestational age:

- Extremely preterm (\*28 weeks)
- Very preterm (28 to 431 6/7 weeks)
- Moderate preterm (32 to 33 6/7 weeks)
- Late preterm (34 to 36 6/7 weeks)

### APPENDIX F: DEFINITION OF TERMS AND ABBREVIATIONS USED IN THIS DOCUMENT continued

Additionally, infants' size in relation to gestational age may relate to risk categories:

AGA = Appropriate for gestational age (> 10 and < 90 percentile birth weight)

LGA = large for gestational age (>90 percentile birth weight) IUGR = intrauterine growth restriction

SGA = small for gestational age (10 percentile birthweight) "Corrected Gestational Age": post-menstrual age calculated as gestational age at birth + chronological (calendar) age since birth; also sometimes called "adjusted age".

**GUIDELINES** – The standards of care which facilities strive to achieve for all patients.

HEALTH PROFESSIONAL — A health worker with a professional / degree, certification, diploma or license, such as but not limited to a medical practitioner, a registered nurse or midwife. Health professionals include all providers and clinical staff with policy making, supervisory, education and/or patient care responsibilities. Interviews with health professionals will include direct care nursing staff and privileged direct care providers.

**HEALTH PROVIDER** – A doctor, advanced practice nurse, physician assistant or midwife.

**INFANT FEEDING SUPPLIES** – Products used to nourish and/or deliver nourishment to a baby.

IN-SERVICE EDUCATION – Instruction provided to individuals already employed in a profession. ITEM - An individual object or article. Examples include:

- Written educational materials, brochures/pamphlets, etc.
- Electronic sources including websites, videos, texting programs, social media, education channels, applications, and other evolving technologies.
- Posters, calendars, notepads, pens, cups, gift packs, growth charts, bassinet cards, etc.

KANGAROO MOTHER CARE (KMC) — Kangaroo Care or Kangaroo Mother Care are often used interchangeably to refer to skin-to-skin care provided by a parent of a preterm infant (or any infant in NICU). The infant is placed against the parent's naked chest in such a fashion that the infant is held upright and/or prone to maximize contact between ventral skin surfaces. The dyad is then wrapped in a blanket or other clothing to secure the infant against the parent's chest. Ideally, the infant may be held continuously (or almost continuously) in this fashion for multiple hours. Optimally, KMC begins as soon as the infant is judged ready for skin-toskin contact or holding; sometimes part of stabilization immediately after birth.

When provided by the mother, it may allow for access to the breast for non-nutritive sucking or pre-feeding practice (nuzzling, licking, tasting drops of expressed milk) as well as direct feeding from the breast. Whether or not it includes breastfeeding, it offers benefits such as warmth/temperature regulation, respiratory support/improved oxygenation, cardiovascular stabilization, glucose homeostasis and immune support through colonization with normal flora. Maximal benefits are obtained with continuous or sustained KMC.

**LOGO** – An emblem, picture or symbol by means of which a company or product is identified.

**MOU** – Memorandum of Understanding is a formal written agreement between two or more parties.
# APPENDIX F: DEFINITION OF TERMS AND ABBREVIATIONS USED IN THIS DOCUMENT continued

NEONATAL UNIT (NICU) — Space designated and used for specialized patient care and consultation, monitoring and medical/nursing interventions. May include designated areas in maternity/postpartum units or pediatric units where infants are admitted. *Levels of neonatal care are designated*.<sup>61</sup>

LEVEL I: Well newborn nursery: for term or stable late-preterm (35-37 week gestation) infants, or for stabilization of ill or more preterm infants

LEVEL II: Special care nursery: Level I capabilities plus care for +/=32 week gestation, +/=1500 gram, moderately ill or convalescing infants, possibly requiring brief respiratory support, and/or stabilization of more preterm or ill infants

LEVEL III: NICU: Level II capabilities plus comprehensive care for infants 432 weeks and 41500 grams, including sustained life support, full range of respiratory support and advanced imaging services

LEVEL IV: Regional NICU: Level III capabilities plus surgical services, medical and surgical subspecialists, pediatric anesthesiologists, transport and outreach education.

NON-CLINICAL STAFF — Facility employees and/or contractors who interact with patients but provide no medical care. Examples: Administrative Assistants, Unit Secretaries, etc.

**PACIFIER** — An artificial nipple/teat-shaped device for non-nutritive sucking, also called a dummy or soother. (Limited use to decrease pain during procedures when the infant cannot be safely held or breastfed is acceptable.)

**PERFORMANCE INDICATOR** – Measures of a direct care provider and direct care staff's competence to protect, promote and support breastfeeding in a facility providing maternity and newborn services.

**POLICY** — An enforceable document that guides staff in the delivery of care. At the facility level, this may include policies, practice guidelines and protocols.

**PRE-SERVICE EDUCATION** – Instruction designed to enable individuals to acquire the knowledge and skills required to enter a profession.

**PROMOTE** — To employ any method of directly or indirectly encouraging a person, a health facility, or any other entity to purchase or use a designated product whether or not there is reference to a brand name.

**SAMPLE** – A small part or quantity intended to show what the whole is like.

SKILLED PROFESSIONAL — an individual with specialized training and a demonstrated ability to provide assessment, education, intervention, and follow-up in a specific field.

SKIN-TO-SKIN CONTACT (STS) — Contact between the newborn infant and its mother. (In the case of incapacitation of the mother, another adult, such as the infant's father or grandparent, may hold the infant skin-to-skin.) After birth, the infant is placed naked against the mother's naked ventral surface. The infant and mother are then covered with a warm blanket, keeping the infant's head uncovered. The infant may wear a diaper and/or a hat, but no other clothing should be between the mother's and infant's bodies. STS should continue, uninterrupted, until completion of the first feeding, or at least one hour if the mother is not breastfeeding. STS should be encouraged beyond the first hours and into the first days after birth and beyond.

# APPENDIX F: DEFINITION OF TERMS AND ABBREVIATIONS USED IN THIS DOCUMENT continued

**SPONSOR** – An individual or organization that pays some or all of the costs involved in staging an event in return for advertising.

**STANDARD** – The established requirement for delivery of evidenced-based care.

**SUPPLEMENTATION** — Additional feeding(s) provided to a breastfed infant. Options for supplementation include expressed breast-milk, pasteurized donor human milk, and appropriate breast-milk substitutes. The method of providing supplementary feedings may include supplemental nursing systems at the breast, cup feeding, spoon or dropper feeding, finger feeding, syringe feeding or bottle feeding.

**TRAINING** — Applying and/or acquiring knowledge and learning how to perform a specific skill, task, or behavior: typically requires simulation, clinical skills practice, counseling, role play and/or competency verification.

AAP	American Academy of Pediatrics
AAFP	American Academy of Family Physicians
ABM	Academy of Breastfeeding Medicine
ACNM	American College of Nurse Midwives
ACOG	American College of Obstetricians and Gynecologists
AWHONN	Association of Women's Health Obstetrical
	and Neonatal Nurses
BFHI	Baby-Friendly Hospital Initiative
BFUSA	Baby-Friendly USA Inc.
CDC	Centers for Disease Control and Prevention
КМС	Kangaroo Mother Care
NICU	Neonatal Intensive Care Unit
STS	Skin-to-skin contact
UNICEF	United Nations Children's Fund
USLCA	United States Lactation Consultant Association
WHA	World Health Assembly
WHO	World Health Organization

## APPENDIX G: EXPERT PANEL MEMBERS

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# APPENDIX H: GUIDELINES AND EVALUATION CRITERIA CLARIFICATION STATEMENTS

None at this time. We use this section to address issues that emerge between planned updates to the GEC.

- 1. World Health Organization (WHO). Implementation Guidance: Protecting, promoting and supporting Breastfeeding in facilities providing maternity and newborn servces: the revised Baby-Friendly Hospital Initiative. World Health Organization (WHO). https://www.who.int/publications/i/ item/9789241513807
- 2. World Health Organization (WHO). Guideline: protecting, promoting and supporting breastfeeding in facilities providing maternity and newborn services. https://apps.who.int/iris/ handle/10665/259386
- 3. World Health Organization (WHO). Competency Verification Toolkit Ensuring Competency of Direct Care Providers To Implement The Baby-Friendly Hospital Initiative Accessed 6/10/21, https://www.who.int/publications/i/ item/9789240008854
- Ip S, Chung M, Raman G, Trikalinos TA, Lau J. A summary of the Agency for Healthcare Research and Quality's evidence report on breastfeeding in developed countries. *Breastfeed Med.* Oct 2009;4 Suppl 1:S17-30. doi:10.1089/bfm.2009.0050
- Victora CG, Bahl R, Barros AJ, et al. Breastfeeding in the 21st century: epidemiology, mechanisms, and lifelong effect. *Lancet*. Jan 30 2016;387(10017):475-90. doi:10.1016/ s0140-6736(15)01024-7
- Pannaraj PS, Li F, Cerini C, et al. Association Between Breast Milk Bacterial Communities and Establishment and Development of the Infant Gut Microbiome. JAMA Pediatr. Jul 1 2017;171(7):647-654. doi:10.1001/jamapediatrics.2017.0378
- 7. Azad MB, Vehling L, Chan D, et al. Infant Feeding and Weight Gain: Separating Breast Milk From Breastfeeding and Formula From Food. *Pediatrics*. Oct 2018;142(4) doi:10.1542/peds.2018-1092
- 8. Chowdhury R, Sinha B, Sankar MJ, et al. Breastfeeding and maternal health outcomes: a systematic review and meta-analysis. *Acta Paediatr.* Dec 2015;104(467):96-113. doi:10.1111/apa.13102

- 9. Rameez RM, Sadana D, Kaur S, et al. Association of Maternal Lactation With Diabetes and Hypertension: A Systematic Review and Meta-analysis. JAMA Netw Open. Oct 2 2019;2(10):e1913401. doi:10.1001/jamanetworkopen.2019.13401
- 10. Schwarz EB, Ray RM, Stuebe AM, et al. Duration of lactation and risk factors for maternal cardiovascular disease. *Obstet Gynecol.* May 2009;113(5):974-982. doi:10.1097/01.A06.0000346884.67796.ca
- Nguyen B, Gale J, Nassar N, Bauman A, Joshy G, Ding D. Breastfeeding and Cardiovascular Disease Hospitalization and Mortality in Parous Women: Evidence From a Large Australian Cohort Study. J Am Heart Assoc. Mar 19 2019;8(6):e011056. doi:10.1161/jaha.118.011056
- 12. Center for Disease Control (CDC). Rates of Any and Exclusive Breastfeeding by Sociodemographics Among Children Born in 2017 Center for Disease Control (CDC). Accessed 6/10/21, https://www.cdc.gov/breastfeeding/ data/nis\_data/rates-any-exclusive-bf-socio-dem-2017.html
- 13. DiGirolamo AM, Grummer-Strawn LM, Fein SB. Effect of maternity-care practices on breastfeeding. *Pediatrics*. Oct 2008;122 Suppl 2:S43-9. doi:10.1542/peds.2008-1315e
- 14. Pérez-Escamilla R, Martinez JL, Segura-Pérez S. Impact of the Baby-friendly Hospital Initiative on breastfeeding and child health outcomes: a systematic review. *Matern Child Nutr.* Jul 2016;12(3):402-17. doi:10.1111/mcn.12294
- 15. World Health Organization (WHO). International Code of Marketing of Breastmilk Substitutes. World Health Organization (WHO). https://www.who.int/publications/i/ item/9241541601
- 16. World Health Organization (WHO). The international code of marketing of breastmilk substitutes: frequently asked questions on the roles and responsibilities of health workers. Accessed 6/10/21 https://apps. who.int/iris/handle/10665/332170

- 17. World Health Assembly (WHA). World Health Assembly Resolution on The Inappropriate Promotion of Foods for Infants and Young Children. Accessed 6/10/21, https://www. who.int/nutrition/netcode/WHA-Policy-brief. pdf
- Piwoz EG, Huffman SL. The Impact of Marketing of Breast-Milk Substitutes on WHO-Recommended Breastfeeding Practices. Food Nutr Bull. Dec 2015;36(4):373-86. doi:10.1177/0379572115602174
- 19. Ching C. Overview: Breaking the Rules, Stretching the Rules, *World Nutrition*. 2017;8(2):1-8.
- 20. Hastings G, Angus K, Eadie D, Hunt K. Selling second best: how infant formula marketing works. *Global Health*. Aug 28 2020;16(1):77. doi:10.1186/s12992-020-00597-w
- 21. Baker P, Smith J, Salmon L, et al. Global trends and patterns of commercial milk-based formula sales: is an unprecedented infant and young child feeding transition underway? *Public Health Nutr.* Oct 2016;19(14):2540-50. doi:10.1017/ s1368980016001117
- 22. Rollins NC, Bhandari N, Hajeebhoy N, et al. Why invest, and what it will take to improve breastfeeding practices? *Lancet*. Jan 30 2016;387(10017):491-504. doi:10.1016/ s0140-6736(15)01044-2
- 23. World Health Assembly (WHA). RESOLUTIONS AND DECISIONS WHA39.28 Infant and young child feeding. Accessed 6/10/21, https://www.who.int/nutrition/topics/WHA39.28\_iycn\_en.pdf?ua=1
- 24. World Health Organization (WHO). Guidance on ending the inappropriate promotion of foods for infants and young children: implementation manual. Accessed 6/10/21, https://www.who.int/publications/i/ item/9789241513470
- 25. Feldman-Winter L, Goldsmith JP. Safe Sleep and Skin-to-Skin Care in the Neonatal Period for Healthy Term Newborns. *Pediatrics*. Sep 2016;138(3)doi:10.1542/ peds.2016-1889

- 26. Moon RY. SIDS and other sleep-related infant deaths: expansion of recommendations for a safe infant sleeping environment. *Pediatrics*. Nov 2011;128(5):1030-9. doi:10.1542/peds.2011-2284
- 27. US Department of Health and Human Services, National Institutes of Health National Institute of Child Health and Human Development. How can I reduce the risk of SIDS? Accessed 6/10/21, https://www. nichd.nih.gov/health/topics/sids/conditioninfo/reduce
- 28. Mayo T. AEA 2015 Sentinel Indicators: A Systems-Based Approach to Monitoring and Evaluation. Accessed 6/10/21, https:// www.fsnnetwork.org/sites/default/files/Results%20from%20a%20Meta-analysis%20 of%20Sentinel%20Indicators%20in%20 USAID-funded%20Projects.pdf
- 29. Measure Evaluation. Complexity-Aware Methods. Accessed 6/10/21, https://www. measureevaluation.org/resources/publications/fs-17-217\_en/index.html
- 30. US Department of Health and Human Services, National Institutes of Health, National Institute of Child Health and Human Development. What are the risk factors for preterm labor and birth? Accessed 6/10/21, https://www.nichd.nih. gov/health/topics/preterm/conditioninfo/ who\_risk
- 31. NEOVITA Study Group. Timing of initiation, patterns of breastfeeding, and infant survival: prospective analysis of pooled data from three randomised trials. *Lancet Glob Health*. Apr 2016;4(4):e266-75. doi:10.1016/s2214-109x(16)00040-1
- 32. Stevens J, Schmied V, Burns E, Dahlen H. Immediate or early skin-to-skin contact after a Caesarean section: a review of the literature. *Matern Child Nutr.* Oct 2014;10(4):456-73. doi:10.1111/ mcn.12128

- 33, Alive and Thrive. Technical Brief: Implications of Cesarean Delivery for Breastfeeding Outcomes and Strategies to Support Breastfeeding. Accessed 6/10/21, https://www.aliveandthrive.org/sites/default/ files/attachments/Insight-Issue-8-Cesarean-Delivery-English.pdf
- 34. Nyqvist KH, Sjödén PO, Ewald U. The development of preterm infants' breastfeeding behavior. *Early Hum Dev.* Jul 1999;55(3):247-64. doi:10.1016/s0378-3782(99)00025-0
- 35. Nyqvist KH, Maastrup R, Hansen MN, et al. Neo-BFHI: The Baby-friendly Hospital Initiative for Neonatal Wards. Core document with recommended standards and criteria. 2015. Accessed 6/10/21. http://epilegothilasmo.gr/wp-content/ uploads/2017/04/Neo\_BFHI\_Core\_document\_2015\_Edition.pdf
- 36. World Health Organization (WHO), United Nations Children's Fund (UNICEF). Indicators for assessing infant and young child feeding practices: definitions and measurement methods. Accessed 6/10/21, https://www.ho.int/publications/i/ item/9789240018389
- 37. McFadden A, Gavine A, Renfrew MJ, et al. Support for healthy breastfeeding mothers with healthy term babies. *Cochrane Database Syst* Rev. Feb 28 2017;2(2):Cd001141. doi:10.1002/14651858.CD001141.pub5
- Hernández-Aguilar MT, Bartick M, Schreck P, Harrel C. ABM Clinical Protocol #7: Model Maternity Policy Supportive of Breastfeeding. Breastfeed Med. Nov 2018;13(9):559-574. doi:10.1089/bfm.2018.29110.mha
- 39. Becker GE, Smith HA, Cooney F. Methods of milk expression for lactating women. *Cochrane Database* Syst Rev. Sep 29 2016;9(9):Cd006170. doi:10.1002/14651858.CD006170.pub5
- 40. Meier PP, Furman LM, Degenhardt M. Increased lactation risk for late preterm infants and mothers: evidence and management strategies to protect breastfeeding.

J Midwifery Womens Health. Nov-Dec 2007;52(6):579-87. doi:10.1016/j. jmwh.2007.08.003

- 41. Boies EG, Vaucher YE. ABM Clinical Protocol #10: Breastfeeding the Late Preterm (34-36 6/7 Weeks of Gestation) and Early Term Infants (37-38 6/7 Weeks of Gestation), Second Revision 2016. *Breastfeed Med.* Dec 2016;11:494-500. doi:10.1089/ bfm.2016.29031.egb
- 42. World Health Organization (WHO) UNCs-FU. Acceptable medical reasons for use of breast-milk substitutes. Accessed 6/10/21, http://apps.who.int/iris/bitstream/handle/10665/69938/WHO\_FCH\_CAH\_09.01\_ eng.pdf?sequence=1.
- 43. Kellams A, Harrel C, Omage S, Gregory C, Rosen-Carole C. ABM Clinical Protocol #3: Supplementary Feedings in the Healthy Term Breastfed Neonate, Revised 2017. *Breastfeed Med.* May 2017;12:188–198. doi:10.1089/bfm.2017.29038.ajk
- 44. Eidelman AI, Schanler RJ. Breastfeeding and the use of human milk: an analysis of the American Academy of Pediatrics 2012 Breastfeeding Policy Statement. *Breastfeed Med*. Oct 2012;7(5):323-4. doi:10.1089/ bfm.2012.0067
- 45. American Academy of Pediatrics (AAP). Breastfeeding Overview. Accessed 6/10/21, https://www.aap.org/en-us/advocacy-and-policy/aap-health-initiatives/ Breastfeeding/Pages/Benefits-of-Breastfeeding.aspx
- 46. Center for Disease Control (CDC). Contraindications to Breastfeeding or Feeding Expressed Breast Milk to Infants. Accessed 6/10/21, https://www.cdc.gov/ breastfeeding/breastfeeding-special-circumstances/contraindications-to-breastfeeding.html
- 47. World Health Organization (WHO). Framework on integrated, people-centred health services. Accessed 6/10/21, https:// apps.who.int/gb/ebwha/pdf\_files/WHA69/ A69\_39-en.pdf?ua=1&ua=1

- 48. DeMarchis A, Israel-Ballard K, Mansen KA, Engmann C. Establishing an integrated human milk banking approach to strengthen newborn care. J Perinatol. May 2017;37(5):469-474. doi:10.1038/jp.2016.198
- 49. World Health Organization (WHO). Guidelines on Optimal feeding of low birthweight infants in low-and middle-income countries. Accessed 6/10/21, https:// www.who.int/maternal\_child\_adolescent/ documents/9789241548366.pdf?ua=1
- 50. World Health Organization (WHO). Guideline: counselling of women to improve breastfeeding practices. Accessed 6/10/21, https://www.who.int/publications/i/ item/9789241550468
- 51. The Joint Commission. Preventing newborn falls and drops. Accessed 6/10/21, https://www.jointcommission.org/-/ media/tjc/newsletters/quick\_safety\_issue\_40\_2018\_newborn\_falls\_dropspdf.pdf?db=web&hash=A91597BE199080F84B-D4EA5261F3B48B
- 52. US Department of Health and Human Services, National Institutes of Health, National Institute of Child Health and Human Development. Breastfeed Your Baby to Reduce the Risk of SIDS (Videos/Handout). Accessed 6/10/21, https://safetosleep. nichd.nih.gov/resources/caregivers/breastfeeding
- 53. Bu'Lock F, Woolridge MW, Baum JD. Development of co-ordination of sucking, swallowing and breathing: ultrasound study of term and preterm infants. *Dev Med Child Neurol.* Aug 1990;32(8):669-78. doi:10.1111/j.1469-8749.1990.tb08427.x
- 54. International Baby Food Action Network (IBFAN). International Code of Marketing of Breastmilk Substitutes. Accessed 6/10/21, https://www.ibfan.org/international-code/

- 55. Center for Disease Control (CDC). Infant Formula Preparation and Storage. Accessed 6/10/21, https://www.cdc.gov/nutrition/ infantandtoddlernutrition/formula-feeding/ infant-formula-preparation-and-storage. html
- 56. World Health Organization (WHO). Safe preparation, storage and handling of powdered infant formula: guidelines. 6/10/21. https://www.who.int/publications/i/ item/9789241595414
- 57. Hauck FR, Thompson JM, Tanabe KO, Moon RY, Vennemann MM. Breastfeeding and reduced risk of sudden infant death syndrome: a meta-analysis. *Pediatrics.* Jul 2011;128(1):103-10. doi:10.1542/ peds.2010-3000
- 58. Merewood A, Bugg K, Burnham L, et al. Addressing Racial Inequities in Breastfeeding in the Southern United States. *Pediatrics*. Feb 2019;143(2)doi:10.1542/ peds.2018-1897
- 59. World Health Organization (WHO). Preterm birth. Accessed 6/10/21, https://www. who.int/en/news-room/fact-sheets/detail/ preterm-birth
- 60. Spong CY, Mercer BM, D'Alton M, Kilpatrick S, Blackwell S, Saade G. Timing of indicated late-preterm and early-term birth. *Obstet Gynecol.* Aug 2011;118(2 Pt 1):323-333. doi:10.1097/A06.0b013e3182255999
- 61. American Academy of Pediatrics (AAP). Levels of neonatal care. *Pediatrics*. Sep 2012;130(3):587–97. doi:10.1542/ peds.2012-1999



babyfriendlyusa.org

From:	Grossniklaus, Daurice (CDC/ONDIEH/NCCDPHP)
Sent:	Tue, 30 Aug 2016 12:41:59 +0000
То:	Cynthia Klein (Cynthia_Klein@abtassoc.com)
Subject:	BFUSA response to articles available on line

Hi Cynthia,

In case you are not aware, I wanted to let you know that BFUSA updated their Guidelines and Evaluation Criteria webpage

https://www.babyfriendlyusa.org/get-started/the-guidelines-evaluation-criteria (see new text below) and added a link to their official response to the JAMA Pediatrics articles file:///C:/Users/dgross2/Downloads/BFUSA\_Response-BassGartleyKleinmanArticle.pdf

NEW TEXT ADDED TO GUIDELINES AND EVALUATION CRITERIA webpage:

The *Guidelines and Evaluation Criteria* are the most important tool to guide the work of hospitals through the Baby-Friendly designation process.

Recently there was an article published in JAMA-Pediatrics which has triggered some discussion in blogs and other media about the safety of the Baby-Friendly Hospital Initiative (BFHI) and the practice of mothers and infants remaining together throughout the hospital stay. <u>Click here</u> to read Baby-Friendly USA's response. Another article published in JAMA in the same issue points to how these practices save lives. <u>Click here</u> to access the article by Drs. Meek and Noble titled <u>Implementation of the Ten Steps to</u> <u>Successful Breastfeeding Saves Lives.</u>

The AAP has also released a Clinical Report on <u>Safe Sleep and Skin-to-Skin Care in the Neonatal Period</u> for <u>Healthy Term Newborns</u>. It offers sound recommendations for the safe implementation of these practices and well-vetted references. <u>Click here</u> to access the report.

Baby-Friendly USA released updated "Guidelines and Evaluation Criteria for Facilities Seeking Baby-Friendly Designation" (2016 Revision). As indicated by the title, it includes both the Guidelines facilities would need to follow to achieve full Baby-Friendly status and Evaluation Criteria that clearly spell out the minimum standards that a facility must achieve in order to become Baby-Friendly designated. From:Nelson, Jennifer M. (CDC/ONDIEH/NCCDPHP)Sent:Fri, 5 May 2017 13:47:29 -0400To:MacGowan, Carol (CDC/ONDIEH/NCCDPHP);Perrine, Cria G.(CDC/ONDIEH/NCCDPHP)BFUSA tool

Carol and Cria,

(b)(5)

Jennifer

Jennifer M. Nelson, MD, MPH, FAAP LCDR, U.S. Public Health Service Infant Feeding Team/Nutrition Branch/CDC From:Perrine, Cria G. (CDC/ONDIEH/NCCDPHP)Sent:Thu, 1 Mar 2018 19:51:20 +0000To:Nelson, Jennifer M. (CDC/ONDIEH/NCCDPHP);Voetsch, Karen P.(CDC/ONDIEH/NCCDPHP)Subject:Subject:Blog

Just a blog, but an interesting read regarding statements made vs. the papers cited.

http://vwmcclain.blogspot.pe/2017/10/fed-is-best-twisting-facts-to-fit-agenda.html?m=1

Cria Perrine, PhD CDR, US Public Health Service Lead, Infant Feeding Team Division of Nutrition, Physical Activity, and Obesity Centers for Disease Control and Prevention Phone: 770.488.5183 | 🖂 Email: cperrine@cdc.gov

From:	Voetsch, Karen P. (CDC/ONDIEH/NCCDPHP)
Sent:	Tue, 20 Sep 2016 13:48:38 -0400
То:	Perrine, Cria G. (CDC/ONDIEH/NCCDPHP);Murphy, Paulette
(CDC/ONDIEH/NCC	CDPHP)
Subject:	Brief history of communications
Attachments:	For Internal Purposes Only.docx

Hi Cria and Paulette,

Let me know what you think. There were a couple of places where I wasn't sure of the date and/or what was discussed.

Thanks.

Karen

From:	Jones, Sonya M. (CDC/ONDIEH/NCCDPHP) (CTR)
Sent:	Tue, 1 Sep 2015 10:43:08 -0400
То:	Locke, Robert
Cc:	Scanlon, Kelley (CDC/ONDIEH/NCCDPHP); Jones, Sonya M.
(CDC/DDNID/NO	CCDPHP) (CTR)
Subject:	Conference Call ScheduledBaby Friendly evaluation process

Good Day Mr. Locke,

I have scheduled the conference call for Friday, September 4, 2015 at 10:30-11:30am.

Conference Call #:		(b)(6)	
Participant:	(b)(6)		

All the best!

Thanks, Have an Exuberant Day on Purpose!! **Sonya M. Jones, MHSA** Solutions One Industries, LLC-Support services CDC/ONDIEH/NCCDPHP/DNPAO Nutrition Branch, MS:F-77 4770 Buford Highway, N.E. Atlanta, Georgia 30341 TEL: 770-488-2494 FAX: 770-488-5369 Email: <u>sdj4@cdc.gov</u>

Happiness is the Spiritual experience of living every minute with Love, Grace and Gratitude. Denis Waitley



From: Locke, Robert [mailto (b)(6) Sent: Tuesday, September 01, 2015 8:39 AM To: Scanlon, Kelley (CDC/ONDIEH/NCCDPHP) <kxs5@cdc.gov> Cc: Jones, Sonya M. (CDC/ONDIEH/NCCDPHP) (CTR) <sdj4@cdc.gov> Subject: Re: Baby Friendly evaluation process

Sonya,

Please see email trail below. On Friday 9/4 I can rearrange my schedule to be flexible between 0930 - 1430 hours. Let me know what works for you.

**Robert Locke** 

Sent from my iPhone

On Aug 31, 2015, at 14:33, Scanlon, Kelley (CDC/ONDIEH/NCCDPHP) <<u>kxs5@cdc.gov</u>> wrote:

Thanks. A call would be great. Please send some potential times to me and Sonya Jones and Sonya will respond with our availability to set up a 30 minute call. Thursdays and Fridays tend to be lighter for us in terms of meetings. Kelley

From: Locke, Robert [mailto: (b)(6)

Sent: Monday, August 31, 2015 2:15 PM

To: Scanlon, Kelley (CDC/ONDIEH/NCCDPHP) <<u>kxs5@cdc.gov</u>>
Cc: Grossniklaus, Daurice (CDC/ONDIEH/NCCDPHP) <<u>dtg3@cdc.gov</u>>; MacGowan, Carol (CDC/ONDIEH/NCCDPHP) <<u>dvx2@cdc.gov</u>>; Murphy, Paulette (CDC/ONDIEH/NCCDPHP) <<u>pem1@cdc.gov</u>>

Subject: RE: Baby Friendly evaluation process

Kelley,

I think a phone conversation would be the most efficient way to get you the information that you may be interested in.

Recommendations on how best to arrange this?

**Robert Locke** 

Robert Locke, DO, MPH, FACOP, FAAP Professor of Pediatrics Division of Neonatology Co-Director, Center for Neonatal Evidence-Based Care and Population Health Christiana Care Health System Sidney Kimmel Medical College at Thomas Jefferson University

(b)(6)	
(b)(6)	(office)

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transmission in error, please reply to the sender indicating this error and delete the transmission from your system immediately.

From: Scanlon, Kelley (CDC/ONDIEH/NCCDPHP) [mailto:kxs5@cdc.gov]
Sent: Friday, August 28, 2015 5:40 PM
To: Locke, Robert
Cc: Grossniklaus, Daurice (CDC/ONDIEH/NCCDPHP); MacGowan, Carol (CDC/ONDIEH/NCCDPHP); Murphy, Paulette (CDC/ONDIEH/NCCDPHP)
Subject: RE: Baby Friendly evaluation process

## Dear Dr. Locke:

Thank you for reaching out to us to share your concerns and observations. I take your concerns very seriously and I am following up on this immediately. Is it possible to share with me some specific examples of the rude, inappropriate, and unprofessional interactions between the evaluators and hospital staff? I don't want you to reveal anything that is confidential, but any information that would help in my follow up is appreciated. If you would prefer to talk by phone, I will set up a call.

I do want to be sure to point out that the *Ten Steps to Successful Breastfeeding* are from the Baby Friendly Hospital Initiative and not CDC. It is a CDC priority to assist hospitals to implement the *Ten Steps* but I wanted to be sure CDC was not receiving credit for developing the *Ten Steps*.

Thanks again for bringing this important information to our attention.

Sincerely, Kelley

Kelley S. Scanlon, PhD RD Chief, Nutrition Branch Division of Nutrition, Physical Activity, and Obesity, National Center for Chronic Disease Prevention and Health Promotion Centers for Disease Control and Prevention Email kscanlon@cdc.gov

 From: Locke, Robert [mailto (b)(6)

 Sent: Thursday, August 27, 2015 10:05 AM

 To: Scanlon, Kelley (CDC/ONDIEH/NCCDPHP) < <a href="https://kxs5@cdc.gov">kxs5@cdc.gov</a>

 Cc: Grossniklaus, Daurice (CDC/ONDIEH/NCCDPHP) < <a href="https://dtg3@cdc.gov">dtg3@cdc.gov</a>; MacGowan, Carol

(CDC/ONDIEH/NCCDPHP) <<u>dvx2@cdc.gov</u>> Subject: Baby Friendly evaluation process

Dear Dr. Scanlon,

Thank you for allowing time to provide feedback on the Baby Friendly evaluation process.

Accreditation of maternity care practices consistent with CDC's Ten Steps to Support Breastfeeding is appealing for insuring that centers are implementing and, importantly, sustaining optimal care practices. Many maternity centers and breastfeeding proponents within health care systems were hesitant about pursuing Baby Friendly Hospital accreditation because of uncertainty over the accreditation process. CDC's support of Baby Friendly Hospital Initiative, through NICHQ and related initiatives, gave many health care systems, especially large academic teaching systems that create the medical norm for current and future generations, the confidence and impetus to pursue Baby Friendly accreditation. By association, and maybe incorrectly, many academic centers, assumed the Baby Friendly designation process to reflect CDC-level quality processes. Has the CDC undertaken any efforts to insure that evaluation process is being accomplished appropriately?

Healthcare systems, especially large academic centers, are accustomed to being evaluated, ranked and scored by federal, state, and industry groups. These evaluations may be initiated by the Joint Commission, state and federal governments, residency and graduate medical education, nursing education, allied health, pharmacy, lab, radiology, nuclear waste, Magnet, magazine ratings, Medicaid/Medicare, private insurers, management companies, inspections by industry supported research and other external-funded research, etc. Every day, every clinical decision on every patient is evaluated and often challenged by representatives of third party insurance companies. In contrast, the Baby Friendly evaluators have stood out in dissonance from the quality we normally encounter. Initially, many of us hoped our experience was an outlier. But other healthcare providers and hospital administrators at other institutions have reported similar experiences with the Baby Friendly evaluation process.

In my own experience, our academic group covers three hospitals and has an emergency transport arrangement with a fourth, a local community hospital. Three of the hospitals have passed Baby Friendly. The large university academic center has not yet passed. It is in the process of remediation and pending re-inspection in October. Two of the hospitals that have passed are part of the same health system. At one of the hospitals that passed, on the first day of inspection, the Baby Friendly evaluators were considered to be "rude" and "unprofessional". The CEO almost stopped the process on day one. Top administrators called Baby Friendly and explained that they would refuse to go forward with the inspections for day 2 unless the professional nature of the two inspectors improved. Although this health care system passed, the overall poor experience with the Baby Friendly evaluators has created a negative antibreastfeeding backlash with maternity nurses and hospital administration that we are still working to overcome one year later. The third hospital in our catchment region that passed, a smaller community hospital, had a non-negative experience.

The larger academic center (6500 deliveries) participated in the NICHQ processes. The NICHQ process was absolutely essential for my large academic hospital to move forward in the Ten Steps and the BFHI process. The Baby Friendly reviewers did not approve policy and items that

were vetted and reviewed as appropriate by the NICHQ process. Again, the attitude, behavior and interactions of the Baby Friendly inspectors disappointed the hospital administration and staff.

Preparing for Baby Friendly and the NICHQ support was welcomed and viewed universally as a positive. During the NICHQ process, there was a positive culture change and enthusiasm throughout the healthcare system to creating a genuine pro-breastfeeding supportive healthcare environment. As typical for new accreditations and efforts, the academic center did not expect to pass on the first round. The opportunity to receive professional feedback, learn, improve and be better next time is embraced and part of our culture. However, the interaction with the Baby Friendly evaluators was different than other evaluations/inspectors. Top administrators stated that they may have to re-think any commitment to sustain the accreditation effort. As several labor and delivery and postpartum nurses told me afterwards, "I was pro-breastfeeding before this, now I want nothing to do with Baby Friendly."

At the PAS/SPR meeting in San Diego earlier this year, multiple individuals from academic health systems were sharing similar negative experiences about the evaluators and evaluation process. At the USBC meeting earlier this month, similar problems were experienced by three members of the USBC who are at large academic centers.

Accreditation processes should make health systems better. The Joint Commission inspections are rigorous and have contributed to sustained systematic improvements in health care quality and safety. Baby Friendly accreditation should have a parallel effect on health care quality. Everything about Baby Friendly should be a health-promoting and sustaining event. Healthcare systems and providers want to be evaluated in a demanding and appropriate manner. The evaluative experiences listed above are, hopefully, anomalous anecdotal experiences, but they do call in question whether the evaluation process and evaluators in the rapidly expanded Baby Friendly initiative are themselves selected and trained at an appropriate level, consistent with the quality expectation of large health systems and breastfeeding advocates. If the goal is to have 100% of US maternity centers Baby Friendly accredited, should there be some mechanism to insure that the accreditation and evaluation system are appropriate?

Respectfully,

Robert Locke, DO, MPH ACOP Representative to USBC

(P.S. I understand that nothing in an email is ever confidential, but I trust that you will keep in mind that my health system will be going through re-inspection in October. The sole purpose of this email is to provide feedback for quality improvement purposes and to support mothers and babies everywhere.)

From:	Gunn, Janelle P. (CDC/ONDIEH/NCCDPHP)
Sent:	Wed, 8 Mar 2017 20:07:48 +0000
То:	Gunn, Janelle P. (CDC/ONDIEH/NCCDPHP);Perrine, Cria G.
(CDC/ONDIEH/N	NCCDPHP)
Subject:	Conversation with Gunn, Janelle P. (CDC/ONDIEH/NCCDPHP)

Gunn, Janelle P. (CDC/ONDIEH/NCCDPHP) 2:09 PM: from this month http://parentingpatch.com/problem-fed-best/ http://mamabananasadventures.com/2017/03/the-truth-about-fed-is-best.html Perrine, Cria G. (CDC/ONDIEH/NCCDPHP) 2:55 PM: interesting

From:	Perrine, Cria G. (CDC/DDNID/NCCDPHP/DNPAO)
Sent:	Fri, 23 Jul 2021 17:50:39 +0000
То:	Bookhart, Larelle;Young, Melissa Fox
Subject:	Dissertation comments
Attachments:	NHS Dissertation_Larelle Bookhart 07-09-2021_CP.docx

Let me know if you have any questions. Congratulations Larelle! This was really excellent work.

Cria

Cria Perrine, PhD CDR, US Public Health Service Lead – Maternal, Infant, and Toddler Nutrition Team Division of Nutrition, Physical Activity, and Obesity Centers for Disease Control and Prevention <u>cperrine@cdc.gov</u> 770-488-5183
Page 0290 (b)(5)

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Page 0468 (b)(5)
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Page 0469

Page 0470 (b)(5)
From:	Olson, Christine (CDC/ONDIEH/NCCDPHP)	
Sent:	Thu, 12 Jan 2017 15:02:03 -0500	
То:	Nelson, Jennifer M. (CDC/DDNID/NCCDPHP/DNPAO)	
Subject:	DRAFT TP suggestions	
Attachments:	BFHI Talking Points_v1 clean.cko2.docx	

These are some suggested edits. I'm happy to look again after you've had a chance to review and can send it to a few members of the team for comments (b)(5) Did you all get a response from Marty in NC about participating in the key informant interviews? I think Keba gave him a heads-up.

From:	Perrine, Cria G. (CDC/ONDIEH/NCCDPHP)	
Sent:	Tue, 2 May 2017 16:16:40 -0400	
То:	Nelson, Jennifer M. (CDC/ONDIEH/NCCDPHP)	
Subject:	Email for response	
Attachments:	RESPONSE REQUIRED: Topic: Dangers of the Baby-Frien, Priority: Medium,	
Mode: Email [ref:_(	DODUOYCBU500t05C6tK:ref]	

Just cc'd you on draft response for review – this is original inquiry to CDC-INFO.

From:Reply Needed from CDCSent:Tue, 4 Apr 2017 12:07:32 +0000To:DIRECTOR'S INCOMING (CDC)Subject:RESPONSE REQUIRED: Topic: Dangers of the Baby-Frien, Priority: Medium,Mode: Email [ref:\_00DU0YCBU.\_500t05C6tK:ref]

Please let us know as soon as possible if your group will provide the answer to the inquiry below or if the inquiry should be referred elsewhere, for example to a state or local health department, another CDC program, or other federal agency. Specific guidance on a referral and contact information would be appreciated.

(b)(5)

Programs are asked to reply within 3 business days of receipt of this escalation. If there is a delay, please let us know when to expect the answer so we can share that information with the inquirer. A reminder will be sent in 8 days; the inquiry will be closed after 10 days.

Questions about this inquiry can be directed to the CDC-INFO Correspondence Team by replying to this e-mail. Please reference the inquiry number below and include the e-mail thread line in your response. The thread line is the e-mail chain including this e-mail and the original e-mail request. To include the thread line, reply to this message without deleting the historical e-mail chain.

Thank you, K.C.

The privacy of the inquirer should be protected in any transmission or storage of this e-mail.

----- Original Email -----

\_\_\_\_\_

From : null

To :cdcinfo@cdc.gov

Date :2017-03-30 01:27:59

Subject :CDC-INFO: Inquiry

Subject: Dangers of the Baby-Friendly Hospital Initiative

From: Clinician

Email Address: christie@fedisbest.org

Your Question: Dear Dr. Friedan,

I am one of the Co-Founders of the Fed is Best Foundation, emergency physician and former newborn brain injury scientist, Dr. Christie del Castillo-Hegyi. You may have heard of the starvation death of Landon Johnson that occurred because of the management of a Baby-Friendly hospital. Since the beginning of my campaign 2 years ago, we have received tens of thousands newborn hospitalization and starvation stories from insufficient exclusive breastfeeding. Starvation-related complications are happening to thousands of newborns a day who are exhibiting obvious signs of starvation including nonstop crying and nursing even while they are in the hospital, as Landon did before he suffered from cardiac arrest from hypernatremic dehydration. These complications are in fact the leading causes of newborn hospitalizations in the world. This Fed is Best petition is attached along with comments/stories left by parents and health professionals. Please read the petition. We are preparing to propose legislation to protect newborns from the dangers of the Baby-Friendly Hospital Initiative and we hope you will address the safety concerns of thousands of parents represented by the Foundation.

https://drive.google.com/open?id=0B0 MbXCqYazzcUNXbEN10ThzeE0

Comments from petitioners: https://drive.google.com/open?id=0B0 MbXCqYazzSlNFZXRnUjh5cEk

Respectfully, Christie del Castillo-Hegyi, M.D. Co-Founder, Fed is Best Foundation

Optional Information

Name: Christie del Castillo-Hegyi, M.D. Title: Emergency Physician, Infant Feeding Advocate Organization: The Fed is Best Foundation Phone: (b)(6) Other Email: christie@fedisbest.org Address: christie@fedisbest.org

From:	Nelson, Jennifer M. (CDC/ONDIEH/NCCDPHP)
Sent:	Tue, 21 Jul 2015 16:40:16 -0400
То:	Nelson, Jennifer M. (CDC/ONDIEH/NCCDPHP)
Subject:	Emailing: Breastfeeding Training Course — Breastfeeding Friendly Consortium

[English \/] Breastfeeding Friendly Consortium

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# **Breastfeeding Training Course**



Breastfeeding Training Course

This online **breastfeeding training course** covers 6 topics ranging from Current Trends in Infant Feeding to Prenatal Nutrition and Breastfeeding Education to the Baby Friendly Hospital Initiative. This course is a stand-alone resource offering comprehensive information on breastfeeding. In addition, partnered with the individual Performance Improvement course and the institutional Chart Auditing tool offered at BFConsortium.org, this course provides a crucial foundation in meeting your institution's Baby Friendly Hospital Initiative's training needs.

Learners may earn up to 20 credits. Credit designation varies according to the length of the module and credit is earned at the completion of each module. Learners may choose from *AMA PRA Category 1 Credit*<sup>TM</sup>, L-CERPS, AAFP Prescribed Credit, Virginia Nurses Association contact hours, CPE dietitian credits or a Certification of Participation.

Coursework is self-paced. The system remembers where you stop in an exercise and returns to that place when you next log on. The Course Home Page provides a status reminder next to each exercise to alert you to your status for that exercise. Completed exercises can be reviewed as often as desired. Each exercise is followed by a brief course evaluation with an opportunity for user feedback. *Please note*: Currently, the evaluation form must be completed at the completion of each exercise. We understand that this is an inconvenience but this is necessary for accrediting purposes and we thank you for your understanding. Course content is appropriate for all healthcare providers. Exercises specifically recommended for physicians have been marked with \*\*.

Within each exercise, content is presented in an easily read format with no scrolling. Beautiful imagery draws the reader in. Navigation arrows on the bottom of each page allow for easy back and forth movement within an exercise. The page counters at the top left of the content page provide a visual guide to content completion. Clicking the Exit Exercise link at the top right closes the exercise window and returns the user to the Course Home Page.

The Breastfeeding Friendly Consortium – Breastfeeding Training registration fee is \$99 and includes access to all exercises and a choice of certified credit. Users have access to the course for 12 months following registration. An <u>Institutional Package</u> with volume discounts is available for organizations with greater staff training needs.

Endorsed by:



# **Breastfeeding Training Course Outline:**

Section 1: Current Trends in Infant Feeding (2.5 total credits)	Section 4: Preterm and Late Preterm Infants (2.25 total credits)
<ul> <li>Overview: Current Trends in Infant Feeding</li> <li>**National Breastfeeding Goals, Policies and Trends</li> <li>Historical International Breastfeeding Initiatives</li> <li>Cultural and Religious Influences</li> <li>Infant Feeding and Obesity</li> </ul>	<ul> <li>Overview: Preterm and Late Preterm Infants</li> <li>The Preterm Infant Definitions and Problems</li> <li>Breastfeeding the Preterm and Late Term Infant</li> <li>Pumping and Follow-Up</li> </ul>
Section 2: Prenatal Nutrition and Breastfeeding Education (3 total credits)	Section 5: The Baby Friendly Hospital Initiative (5 total credits)

<ul> <li>**Benefits of Breastfeeding and Health Risks Associated with Not Breastfeeding</li> </ul>	<ul> <li>First Hour</li> <li>**Step 5: Maintaining Lactation</li> <li>**Step 6: Exclusive Breastfeeding</li> <li>**Step 7: Rooming-In</li> <li>**Step 8: Breastfeeding on Demand</li> <li>**Step 9: No Artificial Nipples or Pacifiers</li> <li>**Step 10: Breastfeeding Support after Discharge</li> </ul>
Section 3: Labor, Delivery and Immediate Postpartum Period (5.75 total credits)	Section 6: Feeding the Older Infant and Young Child (1.5 total credits)
<ul> <li>Overview: Labor, Delivery and the Immediate Postpartum Period</li> <li>**Breast Anatomy and Physiology</li> <li>**Labor and Delivery</li> <li>Anatomy and Physiology of the Infant Stomach</li> <li>**Breastfeeding Initiation and Maintenance</li> <li>Latch and Positioning</li> <li>Special Needs Infants</li> <li>Multiples, Relactation and Adoption</li> <li>**Solving Breastfeeding Problems</li> <li>**Perinatal Depression</li> </ul>	<ul> <li>Overview: Feeding the Older Infant and Young Child</li> <li>Developmental Milestones</li> <li>Complementary Foods and Beverages</li> <li>Common Feeding Concerns</li> </ul>

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From:	Perrine, Cria G. (CDC/ONDIEH/NCCDPHP)	
Sent:	Fri, 4 Nov 2016 11:30:38 -0400	
То:	Voetsch, Karen P. (CDC/ONDIEH/NCCDPHP);Nelson, Jennifer M.	
(CDC/ONDIEH/NCC	CDPHP)	
Subject:	Emailing: Talking points BFHI safety	
Attachments:	Talking points BFHI safety.docx	

From:	McCollum, Linda	
Sent:	Fri, 11 Aug 2017 20:33:08 +0000	
То:	McCollum, Linda	
Subject:	Emory Breastfeeding Conference (March 12-13, 2018)	
Attachments:	BF Flyer - Speaker Announcement.docx	

#### WONDERFUL NEWS!

We are pleased to announce that Dr. Jane Morton and Dr. Thomas Hale have agreed to serve as keynote

speakers for our next conference. Additional information will follow, but we wanted to let you know as far in advance as possible. Until then, please share the attached flyer with your colleagues.

Thanks, Linda

Linda L. McCollum, PhD, APRN, NNP-BC Emory Regional Perinatal Center Emory <u>University School</u> of Medicine Office: (b)(6)



March 12-13, 2018

Emory Conference Center Atlanta, Georgia



# **SPECIAL GUEST SPEAKERS!**





## Jane Morton, MD, FABM, FAAP Adjunct Clinical Professor of Pediatrics Stanford University Stanford, California

Topics will be:

- Maximizing milk supply with early hand expression and hands-on pumping
- Keeping bedside care simple for low and high risk infants
- Revisiting the game plan: Beyond Baby Friendly, Thinking outside of the box

Thomas W. Hale, RPh, PhD Professor Assistant Dean of Research Department of Pediatrics InfantRisk Center Texas Tech University School of Medicine Ararillo, Texas

Topics will be:

- Breastfeeding and drugs of abuse (including risks associated with marijuana)
- Using antidepressants in breastfeeding mothers

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- Breastfeeding and drugs of abuse (including risks associated with marijuana)
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From:Perrine, Cria G. (CDC/ONDIEH/NCCDPHP)Sent:Tue, 14 Aug 2018 13:38:51 +0000To:Gunn, Janelle P. (CDC/DDNID/NCCDPHP/DNPAO);Voetsch, Karen P.(CDC/DDNID/NCCDPHP/DNPAO);Mugavero, Kristy (CDC/DDNID/NCCDPHP/DNPAO)Subject:Fwd: ASN Health and Nutrition Policy Newsletter

Cria Perrine, PhD

CDR, US Public Health Service

Lead, Infant Feeding Team

Division of Nutrition, Physical Activity, and Obesity

Centers for Disease Control and Prevention

770.488.5183 cperrine@cdc.gov

From: American Society for Nutrition <media@nutrition.org> Date: August 14, 2018 at 9:30:30 AM EDT To: Perrine, Cria G. (CDC/ONDIEH/NCCDPHP) <hgk3@cdc.gov> Subject: ASN Health and Nutrition Policy Newsletter

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ASN Health and Nutrition Policy Newsletter

Week of August 13, 2018

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#### ASN News

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### **ASN News**

#### **ASN Prepares DGAC Nominations**

Rumors suggest that the call for nominations for the Dietary Guidelines Advisory Committee will be published in the next week or two. Time is growing short to recommend to ASN highly qualified nutrition scientists to be considered for nomination to the 2020 Dietary Guidelines Advisory Committee (DGAC), including individuals who have previously served. Please send names to <u>Sarah D. Ohlhorst</u>, MS, RD, Senior Director of Advocacy and Science Policy for ASN consideration as soon as possible.

# ASN to Prepare Comments on Codex Alimentarius 5-Year Strategic Plan

The World Health Organization (WHO) Food and Agriculture Organization (FAO) of the United Nations has issued a <u>request for comments</u> on the <u>Codex</u> <u>Alimentarius Commission Strategic Plan 2020-2025</u>. ASN members can direct their feedback to ASN, which will be drafting a comment, by early November. Comments are due to WHO by **November 30, 2018**.

ASN Provides Free Access to Malnutrition Awareness Week Webinars As an official ambassador, the American Society for Nutrition and its members receive complimentary access to <u>Malnutrition Awareness Week</u> programming from **September 24-28, 2018.** Use the discount code **MAW-Nutrition** to participate in the webinars for **free**.

### **Congressional Action**

#### Senate Votes to Conference Farm Bill and Appoints 9 Conferees

Before leaving for a brief August recess, the Senate agreed to proceed to conference HR. 2, the Farm Bill, with the House by a voice vote of 89-3. Senate Leader Mitch McConnell (R-KY) appointed himself, Senate Agriculture Committee Chairman Pat Roberts (R-KS), John Boozman (R-AK), John Hoeven (R-ND) and Joni Ernst (R-IA); and Senate Agriculture ranking member Debbie Stabenow (D-MI), Patrick Leahy (D-VT), Sherrod Brown (D-OH), and Heidi Heitkamp (D-ND) as conferees. Although Agriculture Committee leaders hope to have agreement and Senator McConnell seeks quick action when they return, Senate Agriculture Chairman Pat Roberts (R-KS) noted that "reconciling competing approaches to the Supplemental Nutrition Assistance Program (SNAP) promises to be the toughest task facing conference negotiators," especially given a recent tweet from President Trump supporting the House version of SNAP provisions.

#### Senate Passes FY 2019 Agriculture Appropriations Bill

By a vote of 92-6, the Senate passed the FY 2019 Agriculture Appropriations Act, <u>S. 2976</u> and released the committee <u>report No. 115-259</u>. An amendment by Senator Bob Casey (D-PA) to increase funding for breastfeeding counselors in the WIC program by \$7.5 million was adopted. The Senate rejected an amendment to halt Food and Drug Administration (FDA) actions to review the standards of identity of non-dairy food products. (More discussion of this issue follows below.) The Senate and House now go to conference to reconcile the two versions of the FY 2019 Agriculture Appropriation bill by September 30. The complete description of the relevant provisions in the Senate bill was covered in the June issue of the ASN Policy Brief.

### **Administrative Action**

#### USDA to Realign ERS with Chief Economist; Relocate ERS & NIFA Outside DC

U.S. Secretary of Agriculture Sonny Perdue announced a new step to reorganize the U.S. Department of Agriculture (USDA). The Economic Research Service (ERS), currently under USDA's Research, Education, and Economics mission area, will realign with the Office of the Chief Economist (OCE) under the Office of the Secretary. Additionally, most employees of ERS and the National Institute of Food and Agriculture (NIFA) will be relocated outside of the National Capital Region. The movement of the employees outside of Washington, DC is expected to be completed by the end of 2019. New locations have yet to be determined, and it is possible that ERS and NIFA may be co-located when their new homes are found. No ERS or NIFA employees will be involuntarily separated. Every employee who wants to continue working will have an opportunity to do so, although that will mean moving to a new location for most. USDA is undertaking the relocations for three main reasons:

- 1. To improve USDA's ability to attract and retain highly qualified staff with training and interests in agriculture, many of whom come from land-grant universities.
- 2. To place these USDA resources closer to many of stakeholders, most of whom live and work far from the Washington, DC area.
- To gain significant savings on employment costs and rent, which will allow more employees to be retained in the long run, even in the face of tightening budgets.

#### **OMB Announces 2020 Research Priorities**

A Presidential Executive Order has outlined the 2020 Research and Development Priorities that included American Medical Innovation and American Agriculture. Under the medical innovations, "basic medical research, particularly for personalized medicine, areas underserved by industry, disease prevention and health promotion, and the translation of these biomedical discoveries into life-saving diagnostics, treatments, and cures," appeared. The Office of Management and Budget (OMB) also called for agencies to, "invest to enhance the independence, safety, well-being, and health of aging adults and those with disabilities." Although improvements in nutrition due to investments in research were mentioned in the agriculture priorities, there was no specific call out for a nutrition initiative.

#### FDA Announces Plans to Scrutinize Use of the Term Milk

During the public meeting on the FDA's Nutrition Innovation Strategy, FDA Commissioner Scott Gottlieb <u>outlined</u> plans to review the use of the term "milk" on non-dairy, plant-based products. Multiple organizations provided public comments requesting protection of use of the "term" milk for only "lacteal glands" of animals, while plant-based groups pointed out consumer demand for dairy alternatives. FDA will review input from this public meeting and then request more information using a specific set of questions with emphasis on nutritional impact, either later this summer or early fall.

#### ERS Updates Food and Nutrition Assistance Research Database

The USDA ERS updated the <u>database</u> that compiles "over 1,100 peerreviewed reports and articles on food and nutrition assistance-related research conducted by ERS researchers or funded through ERS."

#### USDA Launches Campaign for National WIC Breastfeeding Week

The USDA Food and Nutrition Service launched "WIC Breastfeeding Support -Learn Together. Grow Together," a research-based social marketing campaign to encourage WIC moms to breastfeed their babies. The campaign provides WIC mothers with support and expertise to help them succeed in breastfeeding. The campaign is designed for implementation at the state and local levels of WIC. It includes a revamped website with resources for expectant and current mothers, including a motivational video.

#### White House Nominates OSTP Director

President Trump <u>announced</u> Dr. Kelvin Droegemeier, meteorologist at the University of Oklahoma, as director of the Office of Science and Technology Policy. He currently serves as Vice President for Research and Regents' Professor of Meteorology at the University of Oklahoma and as Oklahoma Cabinet Secretary of Science and Technology. Droegemeier co-founded and directed the National Science Foundation's (NSF) Science and Technology Center for Analysis and Prediction of Storms and the NSF Engineering Research Center for Collaborative Adaptive Sensing of the Atmosphere. He served two six-year terms (four years as vice chairman) on the National Science Board, under Presidents George W. Bush and Barack Obama.

# CPSTF Recommended Lifestyle Interventions to Reduce Gestational Diabetes Risk

The Department of Health and Human Services (DHHS) Community Preventive Services Task Force (CPSTF) recommended lifestyle interventions that provide education and counseling for diet or physical activity, diet activities, or a combination of these components, delivered during the first two trimesters of pregnancy to reduce the risk of gestational diabetes. Compared to usual care, lifestyle interventions reduced the overall risk of developing gestational diabetes by 32%. The CPSTF finding is based on evidence from 29 studies identified in the <u>Song et al. systematic review</u>. The <u>Guide to Community Preventive Services</u> (The Community Guide) website is a collection of all the evidence-based findings and recommendations of the <u>Community Preventive Services Task Force</u>.

#### NIH Updates Next Generation Researchers Initiative

The National Institutes of Health (NIH) issued an <u>Update to its Next</u> <u>Generation Researchers Initiative (NGRI) Policy</u> indicating that the agency would no longer utilize the "Early Established Investigator" (EEI) category. This change reflects feedback from the NGRI Working Group of the Advisory Committee to the Director as well as the broader stakeholder community. NIH will continue to prioritize funding for Early Stage Investigators and will utilize an interim strategy to address "at risk investigators" in its funding plans, pending deliberations of the NGRI Working Group.

#### NICHD To Update Strategic Plan

The NIH Eunice Kennedy Shriver National Institute of Child Health and Human Development (NICHD) has launched a collaborative process to revise and update its <u>strategic plan</u>. Email your questions or ideas to <u>NICHDStrategicPlan@nih.gov</u> or connect via <u>Facebook</u> and <u>Twitter</u>.

#### DHHS Announces Research-Focused Guidance Documents for Comment

On July 25, the DHHS Office for Human Research Protections <u>announced</u> the availability of three draft Guidance Documents, "<u>Scholarly and Journalistic</u> <u>Activities Deemed Not to be Research: 2018 Requirements," When Continuing Review is Not Required During the 6-month Delay Period of July 19, 2018 through January 20, 2019: 2018 Requirements," and "Elimination of Institutional Review Board Review of Research Applications and Proposals: 2018 Requirements" for comment. Comments are due by August 24, 2018.</u>

# Intervention for First-Time Moms and Their Infants Improves Child Weight Through Age 3

A National Institutes of Health (NIH) National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK) <u>funded</u> study found that an intervention designed to help first-time mothers effectively respond to their infant's cues for hunger, sleep, feeding, and other infant behaviors significantly improved the body mass index (BMI) z-scores of the child through age 3, compared with the control group. The 279 mothers who participated were an average of 28 years old, mostly white, married, welleducated, and privately insured, although INSIGHT researchers aimed for a racially and economically diverse study population.

#### Labeling of Genetically Engineered Foods

USDA has missed the July 31 deadline for finalization of the GMO labeling guidelines and continues to review the more than 40,000 comments submitted during the public feedback period. They will be working through the interagency process to develop a final rule to submit to OMB. One outstanding issue relates to labeling highly refined oils and sugars.

Meanwhile, the FDA seeks <u>comments</u> on its proposed collection of data on the guidance to assist manufacturers who wish to voluntarily label their foods (human and animal) as being made with or without bioengineering or the use of bioengineered ingredients, to ensure that labeling is truthful and not misleading.

### **National Initiatives**

# NASEM Releases Publication on Harmonization of Nutrient Reference Values

The National Academies of Sciences, Engineering, and Medicine (NASEM) published the report, <u>Harmonization of Approaches to Nutrient Reference</u> <u>Values: Applications to Young Children and Women of Reproductive Age</u>. This report presents the committee's analyses, findings, and recommendations and provides a framework for how stakeholders can, within the context of a country or region's needs and abilities, generate a uniform approach for establishing nutrient intake recommendations that consider cultural and context-specific food choices and dietary patterns.

#### AHA Releases New Statement on Sedentary Behavior in Youth

The American Heart Association released a <u>scientific statement</u> about sedentary behavior and its relationship to obesity and other cardiometabolic outcomes in youth. In particular, screen-based behaviors and adiposity demonstrate the most deleterious effects of sedentary behavior on cardiometabolic health. AHA recommends that, "televisions and other recreational screen-based devices be removed from bedrooms and absent during meal times. Daily device-free social interactions and outdoor play should be encouraged."

### Meetings

#### NIH Office of Dietary Supplements Holding Workshop 'Enhancing Natural Product Clinical Trials'

This free <u>workshop is scheduled</u> for **September 13-14, 2018** in Bethesda, Maryland and is intended "to enhance the progression of natural products research from foundational data (e.g., from preclinical and epidemiological research) to actionable public health information."

# Meeting of the Secretary's Advisory Committee on Healthy People 2030

The DHHS Office of the Assistant Secretary for Health, Office of Disease Prevention and Health Promotion will hold its next meeting of the Healthy People Objectives for 2030 Advisory Committee on **September 6-7, 2018.** 

#### NASEM will hold Roundtable on Systemic Change in Undergraduate STEM Education

On September 6-7, 2018, the National Academies of Science, Engineering, and Medicine's Roundtable on Systemic Change in Undergraduate STEM Education will be hosting a <u>public workshop</u>.

#### CPSTF Offers Webinar on Approaches to Evidence Synthesis for Systematic Reviews

The Community Preventive Services Task Force (CPSTF) will hold a <u>webinar</u> on **August 22 from 1:00-2:00pm EDT** to discuss systematic reviews of effectiveness and economic utility that are conducted with a methodology developed by the Community Guide Branch at the Centers for Disease Control and Prevention (CDC). This webinar will focus on: 1) the conceptual decisions to emphasize a broad consideration of available evidence for reviews of public health interventions, 2) the methods required to ensure a balanced assessment of mixed bodies of evidence, and 3) factors weighed by the CPSTF in translating evidence into conclusions on effectiveness and recommendations regarding use.

#### NASEM Holds Workshop for Marmosets in Biomedical Research

The Roundtable on Science and Welfare in Laboratory Animal Use will hold a workshop on **October 22, 2018** to explore and address concerns related to the increasing popularity of marmosets as animal models. The workshop will feature discussions on the availability and genetic diversity of marmosets; presentations on their use as research models; elements of marmoset husbandry and veterinary care; and ethical and welfare considerations regarding the use of marmosets in research. Invited speakers and discussants will contribute perspectives from government, academia, industry, and nonprofit sectors at the global and national level.

#### National Academies Population Health Meeting

The Roundtable on Population Health Improvement and the Interdisciplinary Association for Population Health Science (IAPHS) will hold a <u>half-day joint</u> <u>symposium</u> on Population Health Science in the United States: Trends, Evidence, and Effective Policy on **October 3, 2018** in Washington, DC at the National Academy of Sciences.

### **Funding Opportunities**

**NIH Announced Funding for Cancer Control and Population Sciences** The National Cancer Institute Division of Cancer Control and Population Sciences (DCCPS) has announced the release of <u>PAR-18-869</u>. This new Funding Opportunity Announcement (FOA) will support novel population science with the potential to substantially advance cancer research in statistical and analytic methods, epidemiology, cancer survivorship, behaviors and behavioral interventions, healthcare delivery, and implementation science. Diverse research topics in cancer control are welcomed to address scientific challenges that lend themselves to a shorter time span and reduced budget, when compared to the traditional R01 funding mechanism. While one goal of this initiative is to grow the early-stage investigator applicant pool, all extramural investigators with a novel cancer control project idea are encouraged to apply. Funding opening date is **October 7, 2018**.

# US Government Releases Nutrition and Health-related Funding Opportunities

- HHS National Institutes of Health (NIH)
  - Short-term Mentored Career Enhancement Awards in Mobile and Wireless Health Technology and Data Analytics: Cross-Training at the intersection of Behavioral and Social Sciences and STEM Disciplines; applications due July 12, 2020.
  - Innovations for Healthy Living Improving Minority Health and Eliminating Health Disparities; applications due October 1, 2018.
  - NCI Research Specialist (Laboratory-based Scientist) Award; applications due January 11, 2019.
  - Physical Activity and Weight Control Interventions Among Cancer Survivors: Effects on Biomarkers of Prognosis and Survival; applications due September 7, 2021.
- HHS Health Resources and Services Administration (HRSA)
  - Healthy Tomorrows Partnership for Children Program; applications due October 1, 2018.

### International

#### WHA Infant and Child Feeding Resolution

There is continued media discussion about the U.S. delegate actions regarding the proposed Infant and Child Feeding Resolution passed during the

last World Health Assembly (WHA) meeting. The <u>Fed is Best Foundation</u> outlines the line-by-line oppositions of the U.S. delegates and the changes made throughout the negotiation process.

**ECJ Determines Newer Mutagenesis Techniques Fall Under GMO Rules** The European Court of Justice (ECJ) released a <u>decision</u> regarding geneedited organisms in the European Union's (EU) GMO regulations. The court concluded that organisms made by any mutagenesis method are GMO under EU GMO regulations. Some long-used mutagenesis methods are exempt from the requirements of European GMO regulations. New techniques will not qualify for exemption and must meet the same regulatory requirements that more traditional GMO products must follow such as environmental risk assessment and government authorization.

EFSA Determines Whey Protein Isolate is Safe for Infant Formula Use

The European Food and Safety Authority (EFSA) Panel on Dietetic Products, Nutrition and Allergies (NDA) has <u>approved</u> a novel food mixture, proposed by French company Armor Proteines, of basic whey proteins that are obtained from skimmed cow's milk. This mix is considered safe up to the highest estimated intake of 24.8 mg/kg body weight per day for infants and 27.8mg/kg body weight for toddlers. The primary study presented as supporting evidence of safety for the product was an animal study and some human studies were presented that included products containing components of the novel mixture but not the mixture itself.

#### New UAE Regulations for Dairy, Beverages, and Juices

In May, the United Arab Emirates (UAE) issued two decisions regarding the regulation and control of dairy products, juice, and other beverages. The dairy standards require that food suppliers may only work with companies that are both registered and licensed in the UAE. They must also obtain a certificate of conformity from the Emirates Conformity Assessment system (ECAS) before displaying any dairy products in a market. The juice and beverage regulation states that products must meet approved standards, quantity and packaging requirements, and labels must match stated specifications. Images and phrases must also align with "public morals and Islamic values." All stores and outlets are prohibited from selling any food product not registered with the ECAS.

#### Middle East Industry Groups Establish Child Food Marketing Standards

The Advertising Business Group (ABG) <u>signed</u> a memorandum of understanding with the Gulf Cooperation Council (GCC) Food and Beverage Alliance (FBA) agreeing to make "responsible marketing to children" an industry standard. ABG has pledged to follow the GCC FBA standards to not advertise products to children under the age of 12 unless they meet certain nutrition standards. This ban includes advertising on TV, print, companyowned websites, cinema, DVD/CD-ROM product placements, and direct marketing.

# Queensland Proposing a Ban on SSB's and Unhealthy Snacks in Hospitals

After some hospitals implemented their own programs, the Queensland, Australia state government proposed uniform <u>guidelines</u> for all public hospitals and healthcare facilities to remove sugar sweetened beverages and increase the availability of healthy food options for visitors and staff. The goal of the guidelines is to normalize healthy food and drink to improve overweight and obesity rates. All policies are supposed to be in place by December 2018 and the guidelines will be reviewed in June 2022.

American Society for Nutrition, 9211 Corporate Blvd., Suite 300, Rockville, MD 20850

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From:Perrine, Cria G. (CDC/ONDIEH/NCCDPHP)Sent:Thu, 14 Dec 2017 14:34:52 -0500To:Gunn, Janelle P. (CDC/ONDIEH/NCCDPHP);Petersen, Ruth(CDC/ONDIEH/NCCDPHP);Voetsch, Karen P. (CDC/ONDIEH/NCCDPHP)Cc:MacGowan, Carol (CDC/ONDIEH/NCCDPHP);Flores-Ayala, Calixto Rafael(CDC/ONDIEH/NCCDPHP)Subject:Fwd: December Update: Letter to Fed Is Best Foundation

From: USBC Office <office@usbreastfeeding.org>
Date: December 14, 2017 at 2:26:01 PM EST
To: Perrine, Cria G. (CDC/ONDIEH/NCCDPHP) <hgk3@cdc.gov>
Subject: December Update: Letter to Fed Is Best Foundation

Dear Colleagues,

We are writing to keep you updated on recent interactions with the Fed Is Best Foundation.

As you may recall, on Tuesday, August 15, over 40 organizations sent a <u>letter to the co-founders</u> of the Fed Is Best Foundation to request a meeting to discuss their position on infant feeding and exclusive breastfeeding. Since then, many more national, state, and local organizations have signed on, bringing the number up to **102 total signing organizations**.

In early November Fed Is Best did respond to the request to meet—seemingly in response to this blog post: "Fed Is Best: The Silence Speaks Volumes." Specifically, on November 4 one of their co-founders emailed 1,000 Days' Executive Director Lucy Sullivan and indicated a willingness to meet, conditional on several demands. Fed Is Best then posted a lengthy <u>"open letter"</u> response on its website which contains their terms for any meeting. It is worth noting that this post used pieces of a presentation from Dr. Lawrence Gartner without his permission.

For your reference, Lucy Sullivan did respond to Fed Is Best directly and posted her email on the <u>1,000 Days website</u> to be fully transparent. It seems clear from this latest interaction that Fed Is Best is not interested in engaging with the many organizations that expressed interest in a constructive conversation. Rather, they are attempting to discredit groups—including the <u>World Health Organization (WHO)</u>—that have met with them in good faith.

Please see the original messages below for additional details, including the sign-on link (sign on remains open indefinitely).

We will continue to stand together to support moms and babies.

Thank you.

From: USBC Office [office@usbreastfeeding.org] Sent: Wednesday, September 13, 2017 10:00 AM Subject: UPDATE: Open Letter to Request Meeting w/ Fed Is Best Foundation

On Tuesday, August 15, over 40 organizations sent a letter to the co-founders of the Fed Is Best Foundation to request a meeting to discuss their position on infant feeding and exclusive breastfeeding. Since then, many more national, state, and local organizations have signed on, bringing the number up to **85 total signing organizations**. You can read the letter and see the full list of organizations here: <u>http://www.usbreastfeeding.org/d/do/2018</u>

While Fed Is Best did send a response, their message does not make mention of the joint request for an honest and constructive dialogue. You can read their response letter here: http://www.usbreastfeeding.org/d/do/2077

This response is disappointing, as it would be much preferred to engage in a discussion with the goal of improving the health and well-being of our nation's families. As stated in the joint letter, "we believe that we can be most effective in serving moms and babies when we attack the root causes of a problem, rather than each other." To that end, the offer to meet with the co-founders of Fed Is Best remains open.

Please see the original message below for additional details, including the sign-on link (sign on remains open indefinitely).

From: USBC Office [office@usbreastfeeding.org]Sent: Thursday, August 17, 2017 9:02 AMSubject: 40+ Groups Sent Open Letter to Request Meeting w/ Fed Is Best Foundation

Dear colleagues,

On Tuesday, over 40 organizations sent an open letter requesting a meeting with the co-founders of the Fed Is Best Foundation. As you may be aware, Fed Is Best has engaged in a public campaign that draws links between the recommended practice of exclusive breastfeeding—as well as its education and promotion by health care providers—and the tragic deaths and injuries of babies.

While the breastfeeding field disagrees on the root cause(s) of these tragedies, it is in everyone's best interest to engage in honest and constructive dialogue. Therefore the open letter invites the co-founders of Fed Is Best to discuss their positions in a meeting and try to find common ground.

We are sharing this information to keep the USBC network up to date on the approach being taken to foster dialogue with this group. As informal "steward" of this collaborative action, 1,000 Days sent the letter on Tuesday, August 15, and is now planning for multiple scenarios, since it is unknown how they will respond. In addition to the tremendous contributions of 1,000 Days, Baby-Friendly USA also has played a leadership role in guiding strategy and sharing the services

of a communications consultant. Throughout the process, the USBC has served as a neutral convener for this activity, providing "backbone infrastructure supports" for the work of the ad hoc group of organizations that planned and is now implementing this action. (Note that in the role of neutral convener, the USBC supports bringing parties together to take joint action, but doesn't participate directly in the action itself.)

**Note:** As of today, the sign on form has been reopened indefinitely, to accommodate organizations that wish to sign on as the word spreads further. New signers will be added to the letter every Wednesday, and shown in subsequent versions of the PDF file uploaded to the public link below.

Sign On Form (organizations only): <u>http://gme.groupmindexpress.com/usbc/?da=4a64</u>

### Public Link to Letter: http://www.usbreastfeeding.org/d/do/2018

At this time, there is not a petition or action for individuals, but this is under consideration. Please stay tuned for additional updates as the Fed Is Best response becomes clear.

United States Breastfeeding Committee (USBC) 4044 N Lincoln Ave, # 288 Chicago, IL 60618 Phone: 773/359-1549 Fax: 773/313-3498 office@usbreastfeeding.org www.usbreastfeeding.org

From:	Flores-Ayala, Rafael C. (CDC/ONDIEH/NCCDPHP)	
Sent:	Wed, 15 Feb 2017 08:30:50 -0500	
То:	MacGowan, Carol (CDC/ONDIEH/NCCDPHP)	
Subject:	Fwd: DNPAO-DRH connections and follow-up	

Fyi

Rafa Sent from mobile device

From: "Barfield, Wanda D. (CDC/ONDIEH/NCCDPHP)"
Sent: Tuesday, February 14, 2017 7:47 PM
To: "Petersen, Ruth (CDC/ONDIEH/NCCDPHP)"
CC: "Flores-Ayala, Rafael C. (CDC/ONDIEH/NCCDPHP)", "Gunn, Janelle P. (CDC/ONDIEH/NCCDPHP)", "Foster, Sarah (CDC/ONDIEH/NCCDPHP)"
Subject: Re: DNPAO-DRH connections and follow-up

Dear Ruth, This makes a lot of sense. I am also including my policy lead, Sarah Foster, in this email.

Best regards, Wanda Wanda D. Barfield, MD, MPH, FAAP CAPT, U.S. Public Health Service Director, Division of Reproductive Health/NCCDPHP Centers for Disease Control and Prevention Atlanta, GA Sent from my iPhone

On Feb 14, 2017, at 7:15 PM, Petersen, Ruth (CDC/ONDIEH/NCCDPHP) <<u>rip0@cdc.gov</u>> wrote:

Thanks Wanda for these thoughts. It does seem like we have a few issues that are going on at the same time. I have been talking to Rafa Flores-Ayala, the Nutrition Branch Head, about these issues. As you know, he has been meeting with your team to move forward in the best approach regarding SUPC.

We agree that the	re are other issues that need to be fully addressed	(b)(5)
	(b)(5)	
Rafa is going to co	nnect with your team to see if they can find ways to	(b)(5)
(b)(5)	in a safe and consistent manner. After they have me	et, they can then brief us or

options for solutions for moving forward.
In addition, Janelle Gunn, our Associate Director in the Office of Policy and Partnerships, is going to reach out to Dr. Fitzgerald so we can more directly understand her questions. We will connect with you and your team to make sure our response is coordinated.

Let me know if this sounds OK to you.

Thanks, Ruth

Ruth Petersen, MD, MPH Director Division of Nutrition, Physical Activity, and Obesity National Center for Chronic Disease Prevention and Health Promotion Centers for Disease Control and Prevention

Email: <u>rpetersen@cdc.gov</u> Phone 770.488.6001 Mobile 404.353.8474

From: Barfield, Wanda D. (CDC/ONDIEH/NCCDPHP)
Sent: Monday, February 13, 2017 3:54 PM
To: Petersen, Ruth (CDC/ONDIEH/NCCDPHP) <<u>rip0@cdc.gov</u>>
Subject: FW: Bass\_Response\_v1 - kv comments

Dear Ruth,

I know that DNPAO has been working hard to respond to this issue of SUPC in Newborns. I just wanted to give you some additional perspective. (b)(5)

(b)(5) In discussions with the AAP perinatal section and Committee on Fetus and Newborn (this issue had been raised more than a year ago—I shared concern with Kelly Scanlon back then), there are broader concerns of single patient postpartum rooms (LDRP), the elimination of newborn nurseries, sleep deprived post-partum moms, and limited nursing supervision.

I would like to discuss this a bit more with you in terms of a response		(b)	(5)
(b)(5)			and the second se

Thank you, Wanda

CAPT Wanda D Barfield, MD, MPH DRH/NCCDPHP/CDC 770-488-6231

From: Foster, Sarah (CDC/ONDIEH/NCCDPHP)
Sent: Friday, February 10, 2017 1:26 PM
To: Barfield, Wanda D. (CDC/ONDIEH/NCCDPHP) <<u>wjb5@cdc.gov</u>>; Callaghan, William
(CDC/ONDIEH/NCCDPHP) <<u>wgc0@cdc.gov</u>>; Olson, Christine (CDC/ONDIEH/NCCDPHP) <<u>cco7@cdc.gov</u>>;
Parks Brown, Sharyn (CDC/ONDIEH/NCCDPHP) <<u>svp2@cdc.gov</u>>

Cc: Cox, Shanna (CDC/ONDIEH/NCCDPHP) <<u>cio8@cdc.gov</u>> Subject: FW: Bass\_Response\_v1 - kv comments

FYI-

From: Voetsch, Karen P. (CDC/ONDIEH/NCCDPHP)
Sent: Friday, February 10, 2017 11:54 AM
To: Briss, Peter (CDC/ONDIEH/NCCDPHP) <<u>pxb5@cdc.gov</u>>
Cc: Cucchi, Sean (CDC/ONDIEH/NCCDPHP) <<u>axz7@cdc.gov</u>>; Gunn, Janelle P. (CDC/ONDIEH/NCCDPHP)
<<u>bfy2@cdc.gov</u>>; DNPAO/Health Policy Team (CDC) <<u>DNPAOPolicy@cdc.gov</u>>; Foster, Sarah
(CDC/ONDIEH/NCCDPHP) <<u>sif4@cdc.gov</u>>
Subject: Bass\_Response\_v1 - kv comments

Hi Peter,

Here is our draft response to Dr. Bass. I am also copying Sarah Foster from DRH for her awareness.

I've also attached his initial email to you and his request to Dr. Schuchat.

Let me know if you have any comments.

Thanks.

Karen

From:	(b)(6)
Sent:	Tue, 17 Oct 2017 12:32:54 +0000 (UTC)
To:	MacGowan, Carol (CDC/ONDIEH/NCCDPHP)
Subject:	Fwd: "Fed is Best" Sign for sale Targeting Baby Friendly
Attachments:	FIB door sign[2305843009214334265].png

From: "Mary Nicholson-Jackson" < (b)(6) To: "mnj03" (b)(6) Sent: Tuesday, October 17, 2017 8:30:13 AM Subject: Fwd: Fed is Best Sign for sale

Get Outlook for iOS From: Mary Jackson (b)(6) Sent: Tuesday, October 17, 2017 8:26:52 AM To: Mary Nicholson-Jackson Subject: Fwd: Fed is Best Sign for sale

WARNING: This email originated outside of Grady Health System. DO NOT CLICK links or attachments unless you recognize the sender and know the content is safe.

Mary Nicholson Jackson, CLC Reaching Our Sisters Everywhere, Inc Director, Community Engagement

(b)(6) Office: (b)(6)

'When they go low, we go high!' Michelle Obama

------ Forwarded message -----Date: Mon, Oct 16, 2017 at 1:13 PM Subject: Fed is Best Sign for sale To: Mary Jackson (b)(6)

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Fed is Best Foundation shared their product.

Tuesday at 11:04 AM · 🕄



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From:	Perrine, Cria G. (CDC/ONDIEH/NCCDPHP)
Sent:	Mon, 22 May 2017 15:38:09 +0000
То:	Erica Anstey (yhm7@cdc.gov)
Subject:	FW: 2379661 Baby-Friendly Initiative Fed is Best Christie del Castillo-Heg
Attachments:	2379661 Baby-Friendly Initiative Fed is Best Christie del Castillo-
Hegdocx.docx	

This is response that cites (b)(5) and why Center wants this on our site.

Page 0549

(b)(5)

From:	Nelson, Jennifer M. (CDC/ONDIEH/NCCDPHP)
Sent:	Thu, 17 Aug 2017 13:15:12 +0000
То:	Gunn, Janelle P. (CDC/ONDIEH/NCCDPHP);Voetsch, Karen P.
(CDC/ONDIEH/N	CCDPHP);Olson, Christine (CDC/ONDIEH/NCCDPHP)
Cc:	Perrine, Cria G. (CDC/ONDIEH/NCCDPHP)
Subject:	FW: 40+ Groups Sent Open Letter to Request Meeting w/ Fed Is Best
Foundation	

Just making sure you guys saw this follow-up to the letter ....

From: office@usbreastfeeding.org [mailto:office@usbreastfeeding.org]
Sent: Thursday, August 17, 2017 9:03 AM
To: Nelson, Jennifer M. (CDC/ONDIEH/NCCDPHP) <zcn6@cdc.gov>
Subject: 40+ Groups Sent Open Letter to Request Meeting w/ Fed Is Best Foundation

## Dear colleagues,

On Tuesday, over 40 organizations sent an open letter requesting a meeting with the co-founders of the Fed Is Best Foundation. As you may be aware, Fed Is Best has engaged in a public campaign that draws links between the recommended practice of exclusive breastfeeding—as well as its education and promotion by health care providers—and the tragic deaths and injuries of babies.

While the breastfeeding field disagrees on the root cause(s) of these tragedies, it is in everyone's best interest to engage in honest and constructive dialogue. Therefore the open letter invites the co-founders of Fed Is Best to discuss their positions in a meeting and try to find common ground.

We are sharing this information to keep the USBC network up to date on the approach being taken to foster dialogue with this group. As informal "steward" of this collaborative action, 1,000 Days sent the letter on Tuesday, August 15, and is now planning for multiple scenarios, since it is unknown how they will respond. In addition to the tremendous contributions of 1,000 Days, Baby-Friendly USA also has played a leadership role in guiding strategy and sharing the services of a communications consultant. Throughout the process, the USBC has served as a neutral convener for this activity, providing "backbone infrastructure supports" for the work of the ad hoc group of organizations that planned and is now implementing this action. (Note that in the role of neutral convener, the USBC supports bringing parties together to take joint action, but doesn't participate directly in the action itself.)

**Note:** As of today, the sign on form has been reopened indefinitely, to accommodate organizations that wish to sign on as the word spreads further. New signers will be added to the letter every Wednesday, and shown in subsequent versions of the PDF file uploaded to the public link below.

Sign On Form (organizations only): http://gme.groupmindexpress.com/usbc/?da=4a64

# Public Link to Letter: http://www.usbreastfeeding.org/d/do/2018

At this time, there is not a petition or action for individuals, but this is under consideration. Please stay tuned for additional updates as the Fed Is Best response becomes clear.

United States Breastfeeding Committee (USBC) 4044 N Lincoln Ave, # 288 Chicago, IL 60618 Phone: 773/359-1549 Fax: 773/313-3498 office@usbreastfeeding.org www.usbreastfeeding.org From:Perrine, Cria G. (CDC/ONDIEH/NCCDPHP)Sent:Fri, 28 Apr 2017 15:37:48 -0400To:Calixto Rafael Flores-Ayala, (CDC/ONDIEH/NCCDPHP);MacGowan, Carol(CDC/ONDIEH/NCCDPHP);Nelson, Jennifer M. (CDC/ONDIEH/NCCDPHP)Subject:FW: AAP and March of Dimes

FYI. Below are responses from AAP and March of Dimes in response to request from Fed is Best.

From: Gunn, Janelle P. (CDC/ONDIEH/NCCDPHP) Sent: Friday, April 28, 2017 3:05 PM To: Perrine, Cria G. (CDC/ONDIEH/NCCDPHP) <hgk3@cdc.gov> Subject: FW: could you please look this over??

From: Foster, Sarah (CDC/ONDIEH/NCCDPHP)
Sent: Friday, April 28, 2017 3:04 PM
To: Gunn, Janelle P. (CDC/ONDIEH/NCCDPHP) <<u>bfy2@cdc.gov</u>>
Subject: FW: could you please look this over??

From: Barfield, Wanda D. (CDC/ONDIEH/NCCDPHP) <<u>wjb5@cdc.gov</u>>
Date: April 28, 2017 at 2:31:19 PM EDT
To: Foster, Sarah (CDC/ONDIEH/NCCDPHP) <<u>sif4@cdc.gov</u>>
Subject: FW: could you please look this over??

Nice response from Paul.

Wanda

RADM Wanda D Barfield, MD, MPH DRH/NCCDPHP/CDC 770-488-6231

From: Remley, Karen	(b)(6)	
Sent: Friday, April 28, 20	17 1:01 PM	
To: Jarris, Paul <	(b)(6)	
Cc: Barfield, Wanda D. (C	DC/ONDIEH/NCCDPHP) < <u>wjb5@</u>	<pre>cdc.gov&gt;; Pellegrini, Cynthia</pre>
(b)(6)	Biermann, Janis	(b)(6)
Subject: Re: could you pl	ease look this over??	

Sounds spot on! K

Karen Remley, MD, MBA, MPH, FAAP American Academy of Pediatrics

Sent from my iPhone

On Apr 28, 2017, at 11:56 AM, Jarris, Paul (b)(6)

Thank you, Karen.

It is our view that a robust hospital protocol would include assessment of the mother child dyad for adequacy of breast feeding, including infant weight loss and hypoglycemia, with appropriate response such as supplementation when indicated. In that regard, to the extent infants are being harmed by exclusive breast feeding it becomes a patient safety and quality of care issue. I spoke with Cindy, who will have a phone conversation with her long term Colleague at the law firm. She will express that we do not view this as a legislative or public policy issue but as a patient safety and quality issue. We'll keep you posted.

wrote:

Thanks.

Paul

From: Remley, Karen	(b)(6)		
Sent: Friday, April 28,	2017 9:39 AM	_	
To: Jarris, Paul	(b)(6)		
Cc: Barfield, Wanda D	. (CDC/ONDIEH/NCCDPHI	P) < <u>wjb5@cdc.gov</u> >; Pellegrini, Cy	/nthia
(b)(6)	Biermann, Ja	anis (b)(6)	

Subject: Re: could you please look this over??

Hi Paul,

Thanks for checking in with the AAP. Our folks have looked at this internally and the AAP is going to decline to participate. Although the issue regarding breastfeeding is legitimate, this appears to be an overreaction. Please let us know if March of Dimes makes a decision to participate. We would like to remain informed about the activities.

Best,

Karen

Karen Remley, MD, MBA, MPH, FAAP American Academy of Pediatrics

Sent from my iPhone

On Apr 26, 2017, at 11:06 AM, Jarris, Paul (b)(6) wrote:

Dear Karen and Wanda,

Cindy Pellegrini has been contacted by firm representing the Fed is Best Foundation. This group works to prevent harm to infants from inadequate breast feeding. The letter and an email to Cindy are attached below.

Is this an issue you are aware of and have assessed? We would appreciate knowing your views and if this is an issue you feel needs greater attention.

Thank you.

Paul

From: Tibbets, Julie (b)(6) Sent: Monday, April 24, 2017 5:55 PM To: Pellegrini, Cynthia (b)(6) Subject: Meeting Request

Dear Cindy,

I hope my note finds you well! It has been a few years since we last worked together on the folic acid petition to FDA. I am now representing the Fed Is Best Foundation in its public health education and awareness mission regarding the preventable public health risks that result from jaundice, hypoglycemia, and dehydration in newborns on account of underfeeding in the early hours and days of life. We have provided an overview of some of the key literature in the attached letter and note the work that the March of Dimes leads on *so many* fronts for newborns and disease/injury prevention. We hope to begin a dialogue with your team about the work the March of Dimes is doing related to breastfeeding and newborn nutritional needs and how we might partner together for the prevention of brain injuries and other medical complications in infants.

A few years ago, our law firm was proud to work with a coalition of the American Academy of Pediatrics, March of Dimes, Spina Bifida Association, and Gruma Corporation (a large producer of Hispanic foods) to petition FDA to amend its food additive regulations to permit folic acid addition to corn masa flour to help lower the incidence of spina bifida and neural tube defects in Hispanic newborns. We are again working to build a public health coalition with outreach to the CDC, NIH, American Academy of Pediatrics, the World Health Organization, the Gates Foundation, and many professional associations for the important public health education mission the Foundation has established to raise awareness and reduce the staggering incidence of *preventable* infant injuries associated with inadequate milk or formula intake. In the tens of thousands of stories the Foundation has received since its founding, too often we hear from parents that if they "had only known" that more milk or formula would have prevented the life-long injuries and cognitive delays their children now face, that they would have acted differently. There is currently a gap in public health education that the Foundation is dedicated to addressing.

We look forward to talking with your team about how your current or future projects and research work can help further public health education and awareness and result in meaningful change for infants and their parents and caregivers.

Please let us know your availability in the near-term to schedule a meeting or teleconference with the Co-Founders of the Foundation and me. We look forward to working together!

Sincerely,

Julie K. Tibbets Partner, Alston & Bird LLP 950 F Street, NW Washington, DC 20004 (b)(6)

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More support for keeping mom and baby together during transitions- yay!

From: Perrine, Cria G. (CDC/ONDIEH/NCCDPHP) Sent: Monday, August 22, 2016 10:57 AM To: Anstey, Erica Hesch (CDC/ONDIEH/NCCDPHP) (CTR) <yhm7@cdc.gov>; Barrera, Chloe M. (CDC/ONDIEH/NCCDPHP) (CTR) <kri3@cdc.gov>; Boundy, Ellen (CDC/ONDIEH/NCCDPHP) <lwz9@cdc.gov>; Brindley, Patricia (Tricia) (CDC/ONDIEH/NCCDPHP) <plb0@cdc.gov>; Chen, Jian (CDC/ONDIEH/NCCDPHP) (CTR) <ozz6@cdc.gov>; Grossniklaus, Daurice (CDC/ONDIEH/NCCDPHP) <dtg3@cdc.gov>; Gupta, Priya M. (CDC/ONDIEH/NCCDPHP) (CTR) <kso7@cdc.gov>; Hamner, Heather (CDC/ONDIEH/NCCDPHP) <hfc2@cdc.gov>; Li, Ruowei (Rosie) (CDC/ONDIEH/NCCDPHP) <ril6@cdc.gov>; Nelson, Jennifer M. (CDC/ONDIEH/NCCDPHP) <zcn6@cdc.gov>; Shealy, Katherine (CDC/ONDIEH/NCCDPHP) <srk3@cdc.gov>; Boundy, Ellen (CDC/ONDIEH/NCCDPHP) <lwz9@cdc.gov> Subject: AAP clinical report on safe sleep and skin to skin

Following up on our conversation at Team Meeting, we've just learned (thanks Jennifer!) that the AAP statement on safe sleep and skin to skin is also coming out today. I haven't had a chance to read it yet, but will be good for the team to be aware of.

 $\label{eq:clinical relative} CLINICAL \ REPORT \quad \mbox{Guidance for the Clinician in Rendering Pediatric Care}$ 

American Academy of Pediatrics



DEDICATED TO THE HEALTH OF ALL CHILDREN\*

# Safe Sleep and Skin-to-Skin Care in the Neonatal Period for Healthy Term Newborns

Lori Feldman-Winter, MD, MPH, FAAP, Jay P. Goldsmith, MD, FAAP, COMMITTEE ON FETUS -AND NEWBORN, TASK FORCE ON SUDDEN INFANT DEATH SYNDROME

Skin-to-skin care (SSC) and rooming-in have become common practice in the newborn period for healthy newborns with the implementation of maternity care practices that support breastfeeding as delineated in the World Health Organization's "Ten Steps to Successful Breastfeeding." SSC and rooming-in are supported by evidence that indicates that the implementation of these practices increases overall and exclusive breastfeeding, safer and healthier transitions, and improved maternal-infant bonding. In some cases, however, the practice of SSC and rooming-in may pose safety concerns, particularly with regard to sleep. There have been several recent case reports and case series of severe and sudden unexpected postnatal collapse in the neonatal period among otherwise healthy newborns and near fatal or fatal events related to sleep, suffocation, and falls from adult hospital beds. Although these are largely case reports, there are potential dangers of unobserved SSC immediately after birth and throughout the postpartum hospital period as well as with unobserved rooming-in for at-risk situations. Moreover, behaviors that are modeled in the hospital after birth, such as sleep position, are likely to influence sleeping practices after discharge. Hospitals and birthing centers have found it difficult to develop policies that will allow SSC and rooming-in to continue in a safe manner. This clinical report is intended for birthing centers and delivery hospitals caring for healthy newborns to assist in the establishment of appropriate SSC and safe sleep policies.

#### INTRODUCTION

#### **Definition of Skin-to-Skin Care and Rooming-In**

Skin-to-skin care (SSC) is defined as the practice of placing infants in direct contact with their mothers or other caregivers with the ventral skin of the infant facing and touching the ventral skin of the mother/

## abstract

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PEDIATRICS (ISSN Numbers: Print, 0031-4005; Online, 1098-4275).

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POTENTIAL CONFLICT OF INTEREST: The authors have indicated they have no potential conflicts of interest to disclose.

To cite: Feldman-Winter L, Goldsmith JP, AAP COMMITTEE ON FETUS AND NEWBORN, AAP TASK FORCE ON SUDDEN INFANT DEATH SYNDROME. Safe Sleep and Skin-to-Skin Care in the Neonatal Period for Healthy Term Newborns. *Pediatrics*. 2016;138(3):e20161889 caregiver (chest-to-chest). The infant is typically naked or dressed only in a diaper to maximize the surface-tosurface contact between mother/ caregiver and the infant, and the dyad is covered with prewarmed blankets, leaving the infant's head exposed. SSC is recommended for all mothers and newborns, regardless of feeding or delivery method, immediately after birth (as soon as the mother is medically stable, awake, and able to respond to her newborn) and to continue for at least 1 hour, as defined by the World Health Organization's (WHO's) "Ten Steps to Successful Breastfeeding."1,2 SSC is also a term used to describe continued holding of the infant in the manner described above and beyond the immediate delivery period and lasting throughout infancy, whenever the mother/ caregiver and infant have the opportunity. For mothers planning to breastfeed, SSC immediately after delivery and continued throughout the postpartum period also involves encouraging mothers to recognize when their infants are ready to breastfeed and providing help if needed.<sup>2</sup> Additional recommendations by the WHO, as part of the Baby-Friendly Hospital Initiative and endorsed by the American Academy of Pediatrics (AAP) in 2009, include the following specifications for the period of time immediately after delivery: routine procedures such as assessments and Apgar scores are conducted while SSC is underway, and procedures that may be painful or require separation should be delayed until after the first hour; if breastfeeding, these procedures should occur after the first breastfeeding is completed.<sup>3</sup> The AAP further delineates that the administration of vitamin K and ophthalmic prophylaxis can be delayed for at least 1 hour and up to 4 hours after delivery. The **Baby-Friendly Hospital Initiative** encourages continued SSC

throughout the hospital stay while rooming-in.<sup>4</sup>

Unless there is a medical reason for separation, such as resuscitation, SSC may be provided for all newborns. In the case of cesarean deliveries, SSC may also be provided when the mother is awake and able to respond to her infant. In some settings, SSC may be initiated in the operating room following cesarean deliveries, while in other settings SSC may begin in the recovery room. SSC for healthy newborns shall be distinguished from "kangaroo care" in this clinical report, because the latter applies to preterm newborns or infants cared for in the NICU.<sup>5</sup> This report is intended for mothers and infants who are well, are being cared for in the routine postpartum or motherinfant setting, and have not required resuscitation. Although sick or preterm newborns may benefit from SSC, this review is intended only for healthy term newborns. Late preterm infants (defined as a gestational age of 34-37 weeks) may also benefit from early SSC but are at increased risk of a number of early neonatal morbidities.6

Rooming-in is defined as allowing mothers and infants to remain together 24 hours per day while in the delivery hospital. This procedure is recommended for all mothers and their healthy newborns, regardless of feeding or delivery method, and in some cases applies to older late preterm (>35 weeks' gestation) or early term (37-39 weeks' gestation) newborns who are otherwise healthy and receiving routine care, who represent up to 70% of this population.<sup>7</sup> Mothers are expected to be more involved with routine care, such as feeding, holding, and bathing. Newborns may remain with their mothers unless there is a medical reason for separation for either the mother or the infant. Procedures that can be performed at the bedside can be performed while the infant is preferably being held skin-to-skin or

at least in the room with the mother. Being held skin-to-skin by the mother has been shown to decrease pain in newborns undergoing painful procedures such as blood draws.<sup>8,9</sup> Mothers may nap, shower, or leave the room with the expectation that the mother-infant staff members monitor the newborn at routine intervals. Mothers are encouraged to use call bells for assistance with their own care or that of their newborns.

#### **Evidence for SSC and Rooming-In**

SSC has been researched extensively as a method to provide improved physiologic stability for newborns and potential benefits for mothers. SSC immediately after birth stabilizes the newborn body temperature and can help prevent hypothermia.<sup>10,11</sup> SSC also helps stabilize blood glucose concentrations, decreases crying, and provides cardiorespiratory stability, especially in late preterm newborns.<sup>12</sup> SSC has been shown in numerous studies as a method to decrease pain in newborns being held by mothers<sup>13-16</sup> and fathers.<sup>17</sup> In preterm infants, SSC has been shown to result in improved autonomic and neurobehavioral maturation and gastrointestinal adaptation, more restful sleep patterns, less crying, and better growth.<sup>18–21</sup> Although not specifically studied in full-term infants, it is likely that these infants also benefit in similar ways.

SSC also benefits mothers. Immediately after birth, SSC decreases maternal stress and improves paternal perception of stress in their relationship.<sup>22</sup> A recent study suggested that SSC and breastfeeding within 30 minutes of birth reduce postpartum hemorrhage.23 Experimental models indicate that mother-infant separation causes significant stress, and the consequences of this stress on the hypothalamicpituitary-adrenal axis persist.24 In a randomized trial examining the relationship between SSC and

maternal depression and stress, both depression scores and salivary cortisol concentrations were lower over the first month among postpartum mothers providing SSC compared with mothers who were provided no guidance about SSC.22 For breastfeeding mother-infant dyads, SSC enhances the opportunity for an early first breastfeeding, which, in turn, leads to more readiness to breastfeed, an organized breastfeeding suckling pattern, and more success in exclusive and overall breastfeeding, 12, 25, 26 even after cesarean deliveries.27 Further evidence shows a benefit for mothers after cesarean deliveries who practice SSC as soon as the mother is alert and responsive in increased breastfeeding initiation, decreased time to the first breastfeeding, reduced formula supplementation, and increased bonding and maternal satisfaction.28 Increasing rates of breastfeeding ultimately have short- and long-term health benefits, such as decreased risk of infections, obesity, cancer, and sudden infant death syndrome.3

The evidence for rooming-in also extends beyond infant feeding practices and is consistent with contemporary models of familycentered care.<sup>29</sup> Rooming-in and the maternity care practices aligned with keeping mothers and newborns together in a hospital setting were defined as best practice but not fully implemented in the post-World War II era, largely because of nursing culture and the presumption that newborns were safer in a sterile nursery environment.30 Rooming-in leads to improved patient satisfaction.31,32 Integrated mother-infant care leads to optimal outcomes for healthy mothers and infants, including those with neonatal abstinence syndrome.33 Rooming-in also provides more security, may avoid newborn abductions or switches, leads to decreased infant abandonment,34 and provides more

opportunity for supervised maternalnewborn interactions.35 Hospital staff members caring for mother-infant dyads have more opportunities to empower mothers to care for their infants than when infant care is conducted without the mother and in a separate nursery. For the breastfeeding mother-infant dyad, rooming-in may help to support cuebased feeding, leading to increased frequency of breastfeeding, especially in the first few days<sup>36</sup>; decreased hyperbilirubinemia; and increased likelihood of continued breastfeeding up to 6 months.37

SSC and rooming-in are 2 of the important steps in the WHO's "Ten Steps to Successful Breastfeeding" and serve as the basic tenets for a baby-friendly-designated delivery hospital.<sup>1,38,39</sup> The Ten Steps include practices that also improve patient safety and outcomes by supporting a more physiologic transition immediately after delivery; maintaining close contact between the mother and her newborn, which decreases the risk of infection and sepsis; increasing the opportunity for the development of a protective immunologic environment; decreasing stress responses by the mother and her infant; and enhancing sleep patterns in the mother.40-42

#### SAFETY CONCERNS REGARDING IMMEDIATE SSC

Rarely are there contraindications to providing SSC; however, there are potential safety concerns to address. A newborn requiring positive-pressure resuscitation should be continuously monitored, and SSC should be postponed until the infant is stabilized.<sup>43</sup> Furthermore, certain conditions, such as low Apgar scores (less than 7 at 5 minutes) or medical complications from birth, may require careful observation and monitoring of the newborn during SSC and in some cases may prevent SSC.<sup>11</sup> Other

safety concerns are attributable to the lack of standardization in the approach, discontinuous observation of the mother-infant dyad (with lapses exceeding 10 to 15 minutes during the first few hours of life), lack of education and skills among staff supporting the dyad during transition while skin-to-skin, and unfamiliarity with the potential risks of unsafe positioning and methods of assessment that may avert problems.44 The main concerns regarding immediate postnatal SSC include sudden unexpected postnatal collapse (SUPC), which includes any condition resulting in temporary or permanent cessation of breathing or cardiorespiratory failure.45-48 Many, but not all, of these events are related to suffocation or entrapment. In addition, falls may occur during SSC, particularly if unobserved, and other situations or conditions may occur that prevent SSC from continuing safely.44,49

SUPC is a rare but potentially fatal event in otherwise healthy-appearing term newborns. The definition of SUPC varies slightly depending on the author and population studied. One definition offered by the British Association of Perinatal Medicine<sup>50</sup> includes any term or near-term (defined as >35 weeks' gestation in this review) infant who meets the following criteria: (1) is well at birth (normal 5-minute Apgar and deemed well enough for routine care), (2) collapses unexpectedly in a state of cardiorespiratory extremis such that resuscitation with intermittent positive-pressure ventilation is required, (3) collapses within the first 7 days of life, and (4) either dies, goes on to require intensive care, or develops encephalopathy. Other potential medical conditions should be excluded (eg, sepsis, cardiac disease) for SUPC to be diagnosed. The incidence of SUPC in the first hours to days of life varies widely because of different definitions, inclusion and exclusion criteria of

newborns being described, and lack of standardized reporting and may be higher in certain settings. The incidence is estimated to be 2.6 to 133 cases per 100 000 newborns. In 1 case series, the authors described one-third of SUPC events occurring in the first 2 hours of life, one-third occurring between 2 and 24 hours of life, and the final third occurring between 1 and 7 days of life.51 Other authors suggested that 73% of SUPC events occur in the first 2 hours of life.<sup>52</sup> In the case series by Pejovic and Herlenius,<sup>51</sup> 15 of the 26 cases of SUPC were found to have occurred during SSC in a prone position. Eighteen were in primiparous mothers, 13 occurred during unsupervised breastfeeding at <2 hours of age, and 3 occurred during smart cellular phone use by the mother. Five developed grade 2 hypoxic-ischemic encephalopathy (moderate encephalopathy), with 4 requiring hypothermia treatment. Twenty-five of the 26 cases had favorable neurologic outcomes in 1 series; however, in another review, mortality was as high as 50%, and among survivors, 50% had neurologic sequelae.53 Experimental models suggest that autoresuscitation of breathing after hypoxic challenge takes longer with lower postnatal age and decreased core body temperature.54

SUPC, in some definitions, includes acute life-threatening episodes; however, the latter is presumed to be more benign. An apparent lifethreatening episode, or what may be referred to as a brief resolved unexplained event, may be low risk and require simple interventions such as positional changes, brief stimulation, or procedures to resolve airway obstruction.<sup>46,53</sup>

Falls are another concern in the immediate postnatal period. Mothers who are awake and able to respond to their newborn infant immediately after birth may become suddenly and unexpectedly sleepy, ill, or unable to continue holding their infant. Fathers or other support people providing SSC may also suddenly become unable to continue to safely hold the newborn because of lightheadedness, fatigue, incoordination, or other factors. If a hospital staff member is not immediately available to take over, unsafe situations may occur, and newborns may fall to the floor or may be positioned in a manner that obstructs their airway.

#### SUGGESTIONS TO IMPROVE SAFETY IMMEDIATELY AFTER DELIVERY

Several authors have suggested mechanisms for standardizing the procedure of immediate postnatal SSC to prevent sentinel events; however, none of the checklists or procedures developed have been proven to reduce the risk. Frequent and repetitive assessments, including observation of newborn breathing, activity, color, tone, and position, may avert positions that obstruct breathing or events leading to sudden collapse.41 In addition, continuous monitoring by trained staff members and the use of checklists may improve safety.35 Some have suggested continuous pulse oximetry; however, there is no evidence that this practice would improve safety, and it may be impractical. Given the occurrence of events in the first few hours of life, it is prudent to consider staffing the delivery unit to permit continuous staff observation with frequent recording of neonatal vital signs. A procedure manual that is implemented in a standardized fashion and practiced with simulation drills may include sequential steps identified in Box 1.55

#### BOX 1: PROCEDURE FOR IMMEDIATE SKIN-TO-SKIN CARE

- 1. Delivery of newborn
- Dry and stimulate for first breath/cry, and assess newborn

- If the newborn is stable, place skin to skin with cord attached (with option to milk cord), clamp cord after 1 minute or after placenta delivered, and reassess newborn to permit physiological circulatory transition<sup>56</sup>
- 4. Continue to dry entire newborn except hands to allow the infant to suckle hands bathed in amniotic fluid (which smells and tastes similar to colostrum), which facilitates rooting and first breastfeeding<sup>57</sup>
- Cover head with cap (optional) and place prewarmed blankets to cover body of newborn on mother's chest, leaving face exposed<sup>58</sup>
- 6. Assess Apgar scores at 1 and 5 minutes
- 7. Replace wet blankets and cap with dry warm blankets and cap
- 8. Assist and support to breastfeed

Risk stratification and associated monitoring and care may avert SUPC, falls, and suffocation.<sup>59</sup> Highrisk situations may include infants who required resuscitation (ie, any positive-pressure ventilation), those with low Apgar scores, late preterm and early term (37-39 weeks' gestation) infants, difficult delivery, mother receiving codeine<sup>60</sup> or other medications that may affect the newborn (eg, general anesthesia or magnesium sulfate), sedated mother, and excessively sleepy mothers and/or newborns. Mothers may be assessed to determine their level of fatigue and sleep deprivation.61 In situations such as those described, increased staff vigilance with continuous monitoring, as described previously, is important to assist with SSC throughout the immediate postpartum period.62 Additional suggestions to improve safety include enhancements to the environment, such as stabilizing the ambient temperature,63 use

of appropriate lighting so that the infant's color and condition can be easily assessed, and facilitating an unobstructed view of the newborn (Box 2). Additional support persons, such as doulas and family members, may augment but not replace staff monitoring. Furthermore, staff education, appropriate staffing, and awareness of genetic risks may limit sentinel events such as SUPC. These suggestions, however, have not yet been tested in prospective studies to determine efficacy.

#### BOX 2. COMPONENTS OF SAFE POSITIONING FOR THE NEWBORN WHILE SKIN-TO-SKIN<sup>62</sup>:

- 1. Infant's face can be seen
- Infant's head is in "sniffing" position
- 3. Infant's nose and mouth are not covered
- 4. Infant's head is turned to one side
- 5. Infant's neck is straight, not bent
- 6. Infant's shoulders and chest face mother
- 7. Infant's legs are flexed
- 8. Infant's back is covered with blankets
- Mother-infant dyad is monitored continuously by staff in the delivery environment and regularly on the postpartum unit
- When mother wants to sleep, infant is placed in bassinet or with another support person who is awake and alert

SSC may be continued while moving a mother from a delivery surface (either in a delivery room or operating room) to the postpartum maternal bed. Transitions of mother-infant dyads throughout this period, and from delivery settings to postpartum settings,



FIGURE 1 Side-car bassinet for in-hospital use. Photo courtesy of Kristin Tully, PhD.

facilitate continued bonding, thermoregulation, and increased opportunities for breastfeeding. These transitions may be accomplished safely with skilled staff members by using a standardized procedure.<sup>64</sup> A newborn who is not properly secured may pose a risk for falls or unsafe positioning, leading to suffocation.

#### SAFETY CONCERNS REGARDING ROOMING-IN

Despite all of the advantages of rooming-in, there are specific conditions that pose risks for the newborn. Many of the same concerns that occur during SSC in the immediate postnatal period continue to be of concern while rooming-in, especially if the mother and infant are sleeping together in the mother's bed on the postpartum unit.65 In addition, breastfeeding mothers may fall asleep unintentionally while breastfeeding in bed, which can result in suffocation.<sup>66</sup> Infant falls may be more common in the postpartum setting because of less frequent

monitoring and increased time that a potentially fatigued mother is alone with her newborn(s).67 The Oregon Patient Safety Review evaluated 7 hospitals that were part of 1 larger health system and identified 9 cases of newborn falls (from 22866 births), for a rate of 3.94 falls per 10 000 births over a 2-year period from 2006 to 2007, which is higher than previous reports of 1.6 per 100 000.<sup>68–70</sup> It is not clear whether this higher incidence was attributable to an actual increase or better reporting. For hospitals transitioning to mother-infant dyad care (1 nurse providing care for both mother and infant) or separate mothernewborn care while rooming-in, it is important to communicate to staff that the same level of attention and care is necessary to provide optimal safety. Mothers will be naturally exhausted and potentially sleep-deprived or may sleep in short bursts.<sup>61</sup> They may also be unable to adjust their position or ambulate safely while carrying a newborn. The postpartum period provides unique challenges regarding falls/drops and is understudied compared with

falls in the neurologically impaired or elderly patient. Checklists and scoring tools may be appropriate and have the potential to decrease these adverse events, particularly if geared to the unique needs of the postpartum period, such as shortterm disability from numbness or pain, sleepiness or lethargy related to pregnancy and delivery, and effects from medication.<sup>71</sup>

Even though mothers and family members may be educated about the avoidance of bed-sharing. falling asleep while breastfeeding or holding the newborn during SSC is common. Staff can educate support persons and/or be immediately available to safely place newborns on a close but separate sleep surface when mothers fall asleep. Mothers may be reassured that they or their support persons can safely provide SSC and that staff will be available to assist with the transition to a safe sleep surface as needed. Mothers who have had cesarean deliveries are particularly at risk because of limited mobility and effects of anesthesia and warrant closer monitoring.72

Several studies examining safety while rooming-in have been conducted. Sixty-four mother-infant dyads were studied in the United Kingdom and randomly assigned to have newborns sleep in a standalone bassinet, a side-car bassinet (Fig 1), or the mother's bed to determine perception of safety (by video monitoring) and breastfeeding outcomes.73 Breastfeeding was more frequent among those sharing a bed and using a side-car than a separate bassinet, but there were more hazards associated with bedsharing than using a side-car or bassinet. Although there were no adverse events in this study, the authors concluded that the side-car provided the best opportunities for breastfeeding with the safest conditions. In a similar study

examining dyads after cesarean delivery, more hazards were associated with stand-alone bassinets than side-car bassinets. However, side-car technology for hospital beds is not yet well established in the United States, and safety data are not yet available. Given the level of disability in mothers who have had a cesarean delivery, sidecar technology holds promise for improvement in the safety of the rooming-in environment.<sup>74</sup>

#### SUGGESTIONS TO IMPROVE SAFETY WHILE ROOMING-IN

Healthy mother-infant dyads are safest when kept together and cared for as a unit in a motherinfant setting. Staffing ratios are determined to meet the needs of both the mother and her newborn(s) and to ensure the best possible outcomes. The Association of Women's Health. Obstetric and Neonatal Nurses' recommendations are to have no more than 3 dyads assigned to 1 nurse to avoid situations in which nursing staff are not immediately available and able to regularly monitor the mother-infant dyads throughout the postpartum period.75 These ratios may permit routine monitoring, rapid response to call bells, and adequate time for teaching; however, nursing staff extenders, such as health educators and nursing assistants, may augment care. Mothers and families who are informed of the risks of bed-sharing and guided to place newborns on separate sleep surfaces for sleep are more likely to follow these recommendations while in the hospital and after going home. Family members and staff can be available to assist mothers with transitioning the newborn to a safe sleep location, and regular staff supervision facilitates the recognition of sleepy family members and safer placement of the newborns in bassinets or side-cars.

#### SUGGESTIONS FOR ROOMING-IN

- Use a patient safety contract with a particular focus on high-risk situations (see parent handout Newborn Safety Information for Parents<sup>68</sup> and sample contract<sup>71</sup>).
- Monitor mothers according to their risk assessment: for example, observing every 30 minutes during nighttime and early morning hours for higher-risk dyads.<sup>69</sup>
- 3. Use fall risk assessment tools.76
- 4. Implement maternal egress testing (a modification of a tool originally designed to transfer obese patients from bed to stand, chair, or ambulation by using repetition to verify stability), especially if the mother is using medications that may affect stability in ambulating.<sup>69</sup>
- 5. Review mother-infant equipment to ensure proper function and demonstrate the appropriate use of equipment, such as bed rails and call bells, with mothers and families.
- 6. Publicize information about how to prevent newborn falls throughout the hospital system.
- Use risk assessment tools to avoid hazards of SSC and rooming-in practices.<sup>77</sup>

#### TRANSITIONING TO HOME AND SAFE SLEEP BEYOND DISCHARGE

Information provided to parents at the time of hospital discharge should include anticipatory guidance about breastfeeding and sleep safety.<sup>3,78,79</sup> Pediatricians, hospitals, and other clinical staff should abide by AAP recommendations/guidance on breastfeeding and safe sleep, pacifier introduction, maternal smoking, use of alcohol, sleep positioning, bed-sharing, and appropriate sleep surfaces, especially when practicing SSC.<sup>79</sup> In addition, the AAP recommends the avoidance of practices that increase the risk of sudden and unexpected infant death, such as smoking, the use of alcohol, placing the infant in a nonsupine position for sleep, nonexclusive breastfeeding, and placing the infant to sleep (with or without another person) on sofas or chairs.79,80 To facilitate continued exclusive breastfeeding, the coordination of postdischarge support is recommended to enable the best opportunity to meet breastfeeding goals. Mothers may be referred to peer support groups and trained lactation specialists if breastfeeding problems occur. Community support is optimized by coordination with the medical home.<sup>81</sup>

#### CONCLUSIONS

Pediatricians and other providers have important roles in the implementation of safe SSC and rooming-in practices. Safe implementation with the use of a standardized approach may prevent adverse events such as SUPC and falls.

The following suggestions support safe implementation of these practices:

- 1. Develop standardized methods and procedures of providing immediate and continued SSC with attention to continuous monitoring and assessment.
- 2. Standardize the sequence of events immediately after delivery to promote safe transition, thermoregulation, uninterrupted SSC, and direct observation of the first breastfeeding session.
- 3. Document maternal and newborn assessments and any changes in conditions.
- 4. Provide direct observation of the mother-infant dyad while in the delivery room setting.
- 5. Position the newborn in a manner that provides an unobstructed airway.

- 6. Conduct frequent assessments and monitoring of the motherinfant dyad during postpartum rooming-in settings, with particular attention to high-risk situations such as nighttime and early morning hours.
- 7. Assess the level of maternal fatigue periodically. If the mother is tired or sleepy, move the infant to a separate sleep surface (eg, side-car or bassinet) next to the mother's bed.
- 8. Avoid bed-sharing in the immediate postpartum period by assisting mothers to use a separate sleep surface for the infant.
- 9. Promote supine sleep for all infants. SSC may involve the prone or side position of the newborn, especially if the dyad is recumbent; therefore, it is imperative that the mother/ caregiver who is providing SSC be awake and alert.
- 10. Train all health care personnel in standardized methods of providing immediate SSC after delivery, transitioning the mother-infant dyad, and monitoring the dyad during SSC and rooming-in throughout the delivery hospital period.

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#### **ABBREVIATIONS**

AAP: American Academy of Pediatrics SIDS: sudden infant death syndrome SSC: skin-to-skin care SUPC: sudden unexpected postnatal collapse WHO: World Health Organization

#### REFERENCES

- 1. World Health Organization. Evidence for the ten steps to successful breastfeeding. Geneva, Switzerland: World Health Organization; 1998. Available at: www.who.int/nutrition/ publications/evidence\_ten\_step\_eng. pdf. Accessed May 5, 2016
- 2. World Health Organization; UNICEF. Baby-Friendly Hospital Initiative: revised, updated, and expanded for integrated care. 2009. Available at: http://apps.who.int/iris/bitstream/ 10665/43593/1/9789241594967\_eng. pdf. Accessed May 5, 2016
- 3. Eidelman Al, Schanler RJ; Section on Breastfeeding. Breastfeeding and the use of human milk. Pediatrics.

2012;129(3). Available at: www. pediatrics.org/cgi/content/full/129/3/ e827

- Baby-Friendly USA. Guidelines and evaluation criteria for facilities seeking Baby-Friendly designation. 2012. Available at: https://www. babyfriendlyusa.org/get-started/ the-guidelines-evaluation-criteria. Accessed May 5, 2016
- World Health Organization. Kangaroo mother care: a practical guide. 2003. Available at: http://apps.who.int/iris/ bitstream/10665/42587/1/9241590351. pdf. Accessed May 5, 2016
- Baley J, ; Committee on Fetus and Newborn. Skin-to-skin care for term and preterm infants in the neonatal ICU. *Pediatrics*. 2015;136(3):596–599
- Horgan MJ. Management of the late preterm infant: not quite ready for prime time. *Pediatr Clin North Am.* 2015;62(2):439–451
- Codipietro L, Ceccarelli M, Ponzone A. Breastfeeding or oral sucrose solution in term neonates receiving heel lance: a randomized, controlled trial. *Pediatrics*. 2008;122(3). Available at: www.pediatrics.org/cgi/content/full/ 122/3/e716
- Gray L, Miller LW, Philipp BL, Blass EM. Breastfeeding is analgesic in healthy newborns. *Pediatrics*. 2002;109(4):590–593
- Nimbalkar SM, Patel VK, Patel DV, Nimbalkar AS, Sethi A, Phatak A. Effect of early skin-to-skin contact following normal delivery on incidence of hypothermia in neonates more than 1800 g: randomized control trial. J Perinatol. 2014;34(5):364–368
- Moore ER, Anderson GC. Randomized controlled trial of very early motherinfant skin-to-skin contact and breastfeeding status. J Midwifery Womens Health. 2007;52(2):116–125
- Moore ER, Anderson GC, Bergman N, Dowswell T. Early skin-to-skin contact for mothers and their healthy newborn infants. *Cochrane Database Syst Rev.* 2012;5:CD003519
- Johnston C, Campbell-Yeo M, Fernandes A, Inglis D, Streiner D, Zee R. Skin-to-skin care for procedural pain in neonates. *Cochrane Database Syst Rev.* 2014;1:CD008435

- Kostandy R, Anderson GC, Good M. Skin-to-skin contact diminishes pain from hepatitis B vaccine injection in healthy full-term neonates. *Neonatal Netw.* 2013;32(4):274–280
- Okan F, Ozdil A, Bulbul A, Yapici Z, Nuhoglu A. Analgesic effects of skinto-skin contact and breastfeeding in procedural pain in healthy term neonates. *Ann Trop Paediatr.* 2010;30(2):119–128
- Castral TC, Warnock F, Leite AM, Haas VJ, Scochi CG. The effects of skinto-skin contact during acute pain in preterm newborns. *Eur J Pain*. 2008;12(4):464–471
- Erlandsson K, Dsilna A, Fagerberg I, Christensson K. Skin-to-skin care with the father after cesarean birth and its effect on newborn crying and prefeeding behavior. *Birth.* 2007;34(2):105–114
- Feldman R, Eidelman AI, Sirota L, Weller A. Comparison of skin-to-skin (kangaroo) and traditional care: parenting outcomes and preterm infant development. *Pediatrics*. 2002;110(1 pt 1):16–26
- Feldman R, Weller A, Sirota L, Eidelman Al. Skin-to-skin contact (Kangaroo care) promotes self-regulation in premature infants: sleep-wake cyclicity, arousal modulation, and sustained exploration. *Dev Psychol.* 2002;38(2):194–207
- Feldman R, Eidelman Al. Skin-to-skin contact (kangaroo care) accelerates autonomic and neurobehavioural maturation in preterm infants. *Dev Med Child Neurol.* 2003;45(4):274–281
- Chwo M-J, Anderson GC, Good M, Dowling DA, Shiau S-HH, Chu D-M. A randomized controlled trial of early kangaroo care for preterm infants: effects on temperature, weight, behavior, and acuity. *J Nurs Res.* 2002;10(2):129–142
- 22. Mörelius E, Örtenstrand A, Theodorsson E, Frostell A. A randomised trial of continuous skin-to-skin contact after preterm birth and the effects on salivary cortisol, parental stress, depression, and breastfeeding. *Early Hum Dev.* 2015;91(1):63–70
- 23. Saxton A, Fahy K, Rolfe M, Skinner V, Hastie C. Does skin-to-skin contact and

breast feeding at birth affect the rate of primary postpartum haemorrhage: results of a cohort study. *Midwifery*. 2015;31(11):1110–1117

- 24. Vetulani J. Early maternal separation: a rodent model of depression and a prevailing human condition. *Pharmacol Rep.* 2013;65(6):1451–1461
- Dani C, Cecchi A, Commare A, Rapisardi G, Breschi R, Pratesi S. Behavior of the newborn during skin-to-skin. *J Hum Lact.* 2015;31(3):452–457
- Dumas L, Lepage M, Bystrova K, Matthiesen A-S, Welles-Nyström B, Widström A-M. Influence of skinto-skin contact and rooming-in on early mother-infant interaction: a randomized controlled trial. *Clin Nurs Res.* 2013;22(3):310–336
- Beiranvand S, Valizadeh F, Hosseinabadi R, Pournia Y. The effects of skin-to-skin contact on temperature and breastfeeding successfulness in full-term newborns after cesarean delivery. Int J Pediatr. 2014;2014:846486
- Stevens J, Schmied V, Burns E, Dahlen H. Immediate or early skin-to-skin contact after a Caesarean section: a review of the literature. *Matern Child Nutr.* 2014;10(4):456–473
- 29. Phillips CR. *Family-Centered Maternity Care*. Sudbury, MA: Jones & Bartlett Learning; 2003
- Silberman SL. Pioneering in familycentered maternity and infant care: Edith B. Jackson and the Yale rooming-in research project. *Bull Hist Med.* 1990;64(2):262–287
- Mullen K, Conrad L, Hoadley G, lannone D. Family-centered maternity care: one hospital's quest for excellence. *Nurs Womens Health*. 2007;11(3):282–290
- Martell LK. Postpartum women's perceptions of the hospital environment. J Obstet Gynecol Neonatal Nurs. 2003;32(4):478–485
- Ordean A, Kahan M, Graves L, Abrahams R, Kim T. Obstetrical and neonatal outcomes of methadonemaintained pregnant women: a Canadian multisite cohort study. J Obstet Gynaecol Can. 2015;37 (3):252–257
- 34. Lvoff NM, Lvoff V, Klaus MH. Effect of the baby-friendly initiative on

infant abandonment in a Russian hospital. *Arch Pediatr Adolesc Med.* 2000;154(5):474–477

- O'Connor S, Vietze PM, Sherrod KB, Sandler HM, Altemeier WA III. Reduced incidence of parenting inadequacy following rooming-in. *Pediatrics*. 1980;66(2):176–182
- Jaafar SH, Lee KS, Ho JJ. Separate care for new mother and infant versus rooming-in for increasing the duration of breastfeeding. *Cochrane Database Syst Rev.* 2012;9:CD006641
- Chiou ST, Chen LC, Yeh H, Wu SR, Chien LY. Early skin-to-skin contact, rooming-in, and breastfeeding: a comparison of the 2004 and 2011 National Surveys in Taiwan. *Birth*. 2014;41(1):33–38
- Merewood A, Patel B, Newton KN, et al Breastfeeding duration rates and factors affecting continued breastfeeding among infants born at an inner-city US Baby-Friendly hospital. J Hum Lact. 2007;23(2):157–164
- Aghdas K, Talat K, Sepideh B. Effect of immediate and continuous mother-infant skin-to-skin contact on breastfeeding self-efficacy of primiparous women: a randomised control trial. *Women Birth*. 2014;27(1):37–40
- Montgomery-Downs HE, Clawges HM, Santy EE. Infant feeding methods and maternal sleep and daytime functioning. *Pediatrics*. 2010;126(6). Available at: www.pediatrics.org/cgi/ content/full/126/6/e1562
- 41. Takahashi Y, Tamakoshi K, Matsushima M, Kawabe T. Comparison of salivary cortisol, heart rate, and oxygen saturation between early skin-toskin contact with different initiation and duration times in healthy, full-term infants. *Early Hum Dev.* 2011;87 (3):151–157
- Daschner FD. Nosocomial infections in maternity wards and newborn nurseries: rooming-in or not? J Hosp Infect. 1986;7(1):1–3
- Swanson JR, Sinkin RA. Transition from fetus to newborn. *Pediatr Clin North Am*. 2015;62(2):329–343
- 44. Davanzo R, De Cunto A, Paviotti G, et al. Making the first days of life safer: preventing sudden

unexpected postnatal collapse while promoting breastfeeding. *J Hum Lact.* 2015;31(1):47–52

- Poets A, Steinfeldt R, Poets CF. Sudden deaths and severe apparent lifethreatening events in term infants within 24 hours of birth. *Pediatrics*. 2011;127(4). Available at: www. pediatrics.org/cgi/content/full/127/4/ e869
- 46. Andres V, Garcia P, Rimet Y, Nicaise C, Simeoni U. Apparent life-threatening events in presumably healthy newborns during early skin-to-skin contact. *Pediatrics*. 2011;127(4). Available at: www.pediatrics.org/cgi/ content/full/127/4/e1073
- Dageville C, Pignol J, De Smet S. Very early neonatal apparent lifethreatening events and sudden unexpected deaths: incidence and risk factors. *Acta Paediatr*. 2008;97(7):866–869
- Leow JY, Platt MP. Sudden, unexpected and unexplained early neonatal deaths in the North of England. Arch Dis Child Fetal Neonatal Ed. 2011;96(6):F440–F442
- Goldsmith JP. Hospitals should balance skin-to-skin contact with safe sleep policies. AAP News. 2013;34(11):22
- Nassi N, Piumelli R, Nardini V, et al. Sudden unexpected perinatal collapse and sudden unexpected early neonatal death. *Early Hum Dev.* 2013;89(suppl 4):S25–S26
- Pejovic NJ, Herlenius E. Unexpected collapse of healthy newborn infants: risk factors, supervision and hypothermia treatment. *Acta Paediatr*. 2013;102(7):680–688
- 52. Becher JC, Bhushan SS, Lyon AJ. Unexpected collapse in apparently healthy newborns—a prospective national study of a missing cohort of neonatal deaths and near-death events. Arch Dis Child Fetal Neonatal Ed. 2012;97(1):F30–F34
- Herlenius E, Kuhn P. Sudden unexpected postnatal collapse of newborn infants: a review of cases, definitions, risks, and preventive measures. *Transl Stroke Res.* 2013;4(2):236–247
- Fewell JE. Protective responses of the newborn to hypoxia. *Respir Physiol Neurobiol.* 2005;149(1–3):243–255

- 55. Schoch DE, Lawhon G, Wicker LA, Yecco G. An interdisciplinary multidepartmental educational program toward baby friendly hospital designation. *Adv Neonatal Care*. 2014;14(1):38–43
- 56. Niermeyer S, Velaphi S. Promoting physiologic transition at birth: re-examining resuscitation and the timing of cord clamping. *Semin Fetal Neonatal Med*.2013;18(6):385–392
- 57. Widström AM, Lilja G, Aaltomaa-Michalias P, Dahllöf A, Lintula M, Nissen E. Newborn behaviour to locate the breast when skin-to-skin: a possible method for enabling early self-regulation. *Acta Paediatr*. 2011;100(1):79–85
- Christensson K, Siles C, Moreno L, et al. Temperature, metabolic adaptation and crying in healthy full-term newborns cared for skin-to-skin or in a cot. Acta Paediatr. 1992;81(6–7):488–493
- 59. Abike F, Tiras S, Dunder I, Bahtiyar A, Akturk Uzun O, Demircan O. A new scale for evaluating the risks for in-hospital falls of newborn infants: a failure modes and effects analysis study. Int J Pediatr. 2010;2010:547528
- Madadi P, Ross CJ, Hayden MR, et al. Pharmacogenetics of neonatal opioid toxicity following maternal use of codeine during breastfeeding: a casecontrol study. *Clin Pharmacol Ther*. 2009;85(1):31–35
- 61. Rychnovsky J, Hunter LP. The relationship between sleep characteristics and fatigue in healthy postpartum women. *Womens Health Issues.* 2009;19(1):38–44
- Ludington-Hoe Sm MK, Morgan K. Infant assessment and reduction of sudden unexpected postnatal collapse risk during skin-to-skin contact. *Newborn Infant Nurs Rev.* 2014;14(1):28–33
- Delavar M, Akbarianrad Z, Mansouri M, Yahyapour M. Neonatal hypothermia and associated risk factors at baby friendly hospital in Babol, Iran. Ann Med Health Sci Res. 2014;4(8, suppl 2):S99–S103
- Elliott-Carter N, Harper J. Keeping mothers and newborns together after cesarean: how one hospital made the change. *Nurs Womens Health*. 2012;16(4):290–295

- Thach BT. Deaths and near deaths of healthy newborn infants while bed sharing on maternity wards. *J Perinatol.* 2014;34(4):275–279
- Feldman K, Whyte RK. Two cases of apparent suffocation of newborns during side-lying breastfeeding. Nurs Womens Health. 2013;17(4):337–341
- 67. Wallace SC; Pennsylvania Patient Safety Authority. Balancing family bonding with newborn safety. *Pennsylvania Patient Safety Advisory*. 2014;11(3). Available at: http://patientsafetyauth ority.org/ADVISORIES/AdvisoryLibrary/ 2014/Sep;11(3)/Pages/102.aspx
- Helsley L, McDonald JV, Stewart VT. Addressing in-hospital "falls" of newborn infants. *Jt Comm J Qual Patient Saf*. 2010;36(7):327–333
- Gaffey AD. Fall prevention in our healthiest patients: assessing risk and preventing injury for moms and babies. *J Healthc Risk Manag.* 2015;34(3):37–40
- Monson SA, Henry E, Lambert DK, Schmutz N, Christensen RD. In-hospital falls of newborn infants: data from a multihospital health care system. *Pediatrics*. 2008;122(2). Available at: www.pediatrics.org/cgi/content/full/ 122/2/e277
- 71. Lockwood S, Anderson K. Postpartum safety: a patient-centered approach to

fall prevention. *MCN Am J Matern Child Nurs.* 2013;38(1):15–18, quiz 19–20

- 72. Mahlmeister LR. Couplet care after cesarean delivery: creating a safe environment for mother and baby. *J Perinat Neonatal Nurs*. 2005;19(3):212–214
- Ball HL, Ward-Platt MP, Heslop E, Leech SJ, Brown KA. Randomised trial of infant sleep location on the postnatal ward. *Arch Dis Child*. 2006;91(12):1005–1010
- Tully KP, Ball HL. Postnatal unit bassinet types when rooming-in after cesarean birth: implications for breastfeeding and infant safety. *J Hum Lact.* 2012;28(4):495–505
- Scheich B, Bingham D; AWHONN Perinatal Staffing Data Collaborative. Key findings from the AWHONN perinatal staffing data collaborative. *J Obstet Gynecol Neonatal Nurs.* 2015;44(2):317–328
- Heafner L, Suda D, Casalenuovo N, Leach LS, Erickson V, Gawlinski A. Development of a tool to assess risk for falls in women in hospital obstetric units. *Nurs Womens Health*. 2013;17 (2):98–107
- Slogar A, Gargiulo D, Bodrock J. Tracking 'near misses' to keep newborns safe from falls. Nurs Womens Health. 2013;17(3):219–223

- 78. American Academy of Pediatrics. Education in quality improvement for pediatric practice: safe and healthy beginnings. 2012. Available at: https:// www.aap.org/en-us/professionalresources/quality-improvement/ Quality-Improvement-Innovation-Networks/Pages/Safe-and-Healthy-Beginnings-Improvement-Project.aspx. Accessed May 5, 2016
- Moon RY; Task Force on Sudden Infant Death Syndrome. SIDS and other sleeprelated infant deaths: expansion of recommendations for a safe infant sleeping environment. *Pediatrics*. 2011;128(5). Available at: www.pediatrics. org/cgi/content/full/128/5/e1341
- Hauck FR, Thompson JM, Tanabe KO, Moon RY, Vennemann MM. Breastfeeding and reduced risk of sudden infant death syndrome: a meta-analysis. *Pediatrics*. 2011;128(1):103–110
- 81. Turchi RM, Antonelli RC, Norwood KW, et al; Council on Children with Disabilities and Medical Home Implementation Project Advisory Committee. Patient- and familycentered care coordination: a framework for integrating care for children and youth across multiple systems. *Pediatrics*. 2014;133(5). Available at: www.pediatrics.org/cgi/ content/full/133/5/e1451

# Safe Sleep and Skin-to-Skin Care in the Neonatal Period for Healthy Term Newborns

Lori Feldman-Winter, Jay P. Goldsmith, COMMITTEE ON FETUS AND NEWBORN and TASK FORCE ON SUDDEN INFANT DEATH SYNDROME *Pediatrics*; originally published online August 22, 2016; DOI: 10.1542/peds.2016-1889

Updated Information & Services	including high resolution figures, can be found at: /content/early/2016/08/18/peds.2016-1889.full.html
References	This article cites 70 articles, 18 of which can be accessed free at: /content/early/2016/08/18/peds.2016-1889.full.html#ref-list-1
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Downloaded from by Jennifer Nelson on August 22, 2016

# PEDIATRICS®

Safe Sleep and Skin-to-Skin Care in the Neonatal Period for Healthy Term Newborns Lori Feldman-Winter, Jay P. Goldsmith, COMMITTEE ON FETUS AND NEWBORN and TASK FORCE ON SUDDEN INFANT DEATH SYNDROME *Pediatrics*; originally published online August 22, 2016; DOI: 10.1542/peds.2016-1889

The online version of this article, along with updated information and services, is located on the World Wide Web at: /content/early/2016/08/18/peds.2016-1889.full.html

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From:	Perrine, Cria G. (CDC/ONDIEH/NCCDPHP)
Sent:	Wed, 21 Sep 2016 13:00:14 +0000
То:	Dee, Deborah L. (CDC/ONDIEH/NCCDPHP);Sharma, Andrea J.
(CDC/ONDIEH/NCC	CDPHP)
Subject:	FW: ACOG Endorsement of Ten Steps
Attachments:	ACOG Endorsement of Ten Steps_July 2016.pdf

FYI

From: Nelson, Jennifer M. (CDC/ONDIEH/NCCDPHP)
Sent: Wednesday, September 21, 2016 8:53 AM
To: Olson, Christine (CDC/ONDIEH/NCCDPHP) <cco7@cdc.gov>
Cc: Perrine, Cria G. (CDC/ONDIEH/NCCDPHP) <hgk3@cdc.gov>; Grossniklaus, Daurice
(CDC/ONDIEH/NCCDPHP) <dtg3@cdc.gov>; MacGowan, Carol (CDC/ONDIEH/NCCDPHP)
<dvx2@cdc.gov>
Subject: AGOC Endorsement of Ten Steps

Hey Christine,

We attended the Baby-Friendly USA board meeting on Friday where safe implementation of the Ten Steps was a key topic. They have made several recent changes to their website, including putting up a page titled "<u>Safety of Baby-Friendly Practices</u>" which discuss these safety issues and link to additional resources.

Further, they shared with us a recent letter from ACOG (attached) with their endorsement of Baby-Friendly USA.

Just wanted to ensure you guys were kept abreast of these recent changes.

Sincerely, Jennifer

Jennifer M. Nelson, MD, MPH, FAAP LCDR United States Public Health Service CDC/NCCDPHP/DNPAO/Nutrition Branch 4770 Buford Hwy, MS F-77, Atlanta, GA 30341-3717 Ph: 770-488-5157 | Email: <u>imnelson@cdc.gov</u>



The American College of Obstetricians and Gynecologists WOMEN'S HEALTH CARE PHYSICIANS

Vice President, Practice Activities Christopher M. Zahn, M.D. Telephone: 202/863-2529 Email: czahn@acog.org

July 1, 2016

Trish MacEnroe Executive Director Baby-Friendly USA, Inc. 125 Wolf Rd., Suite 402 Albany, NY 12205

Dear Ms. MacEnroe,

The American College of Obstetricians and Gynecologists (the College), a national medical organization representing over 57,000 members who provide health care for women, endorses the World Health Organization and UNICEF's Ten Steps to Successful Breastfeeding in its Committee Opinion No. 658. The College strongly encourages women to breastfeed and supports each woman's right to breastfeed. Committee Opinion No. 658, Optimizing Support for Breastfeeding as Part of Obstetric Practice\*, states that "The Ten Steps should be integrated into maternity care to increase the likelihood that a woman will initiate and sustain breastfeeding and achieve her personal breastfeeding goals."

I would like to request that the American College of Obstetricians and Gynecologists be listed among organizations endorsing the Ten Steps. The College's endorsement and promotion of the Ten Steps reflects ACOG clinical guidance and is one of the many ways the College supports breastfeeding and breastfeeding women. Should you have any questions, please do not hesitate to contact Amanda Guiliano, Committees and Task Forces Administrator at the College, at 202-863-2582 or <u>aguiliano@acog.org</u>.

Best regards,

Christopher M. Zahn, MD Vice President, Practice Activities American College of Obstetricians and Gynecologists

cc: Debra Hawks, MPH Joan Younger Meek, MD, MS, RD, FAAP, FABM, IBCLC Lauren E. Hanley, MD, IBCLC Margaret Villalonga Amanda Guiliano Lindsey Regallis

N.

\* Optimizing support for breastfeeding as part of obstetric practice. Committee Opinion No. 658. American College of Obstetricians and Gynecologists. Obstet Gynecol 2016;127:e86–92. Available at <u>http://www.acog.org/Resources-And-Publications/Committee-Opinions/Committee-on-Obstetric-Practice/Optimizing-Support-for-Breastfeeding-as-Part-of-Obstetric-Practice.</u>

From:	Perrine, Cria G. (CDC/ONDIEH/NCCDPHP)
Sent:	Tue, 2 May 2017 18:17:04 +0000
То:	Voetsch, Karen P. (CDC/ONDIEH/NCCDPHP)
Subject:	FW: Advice on response to inquiry about inadequate breastfeeding

From: Perrine, Cria G. (CDC/ONDIEH/NCCDPHP)
Sent: Monday, May 01, 2017 11:25 AM
To: Gunn, Janelle P. (CDC/ONDIEH/NCCDPHP) <bfy2@cdc.gov>
Subject: FW: Advice on response to inquiry about inadequate breastfeeding

Following the CDC-INFO inquiry from Christie del Castillo-Hegyi, we reached out to some AAP colleagues. Below is the response from Joan Meek – she is the Chair of AAP's Section on Breastfeeding.

From: Scanlon, Kelley (CDC/ONDIEH/NCCDPHP)
Sent: Monday, December 21, 2015 10:48 PM
To: Perrine, Cria G. (CDC/ONDIEH/NCCDPHP) <<u>hgk3@cdc.gov</u>>
Subject: FW: Advice on response to inquiry about inadequate breastfeeding

Joan Meek's response. We can discuss more when we are back in the office.

Response to the actual inquiry was a short response indicating that we are consulting with experts. I will see if it was sent to me but Erica will track it.

From: Meek, Joan [mailto:Joan.Meek@med.fsu.edu]
Sent: Monday, December 21, 2015 12:26 PM
To: Nelson, Jennifer M. (CDC/ONDIEH/NCCDPHP) <<u>zcn6@cdc.gov</u>>
Cc: Scanlon, Kelley (CDC/ONDIEH/NCCDPHP) <<u>kxs5@cdc.gov</u>>; Anstey, Erica Hesch
(CDC/ONDIEH/NCCDPHP) (CTR) <<u>yhm7@cdc.gov</u>>; 'Onyema-Melton, Ngozi' (b)(6); Lori
Winter <<u>Winter-Lori@cooperhealth.edu</u>>
Subject: RE: Advice on response to inquiry about inadequate breastfeeding

Jennifer,

Yes, I believe that the AAP has heard from the same individual. In fact, we have one pediatrician and one ER doc who routinely communicate with us about the dangers of breastfeeding and dispute all of the evidence supporting breastfeeding.

We, of course, are concerned about the babies who are discharged either not feeding well and/or who do not have close outpatient follow-up arranged. In fact, that is why all of our guidance recommends close follow-up, as do the Bright Futures materials. We do not currently have a guideline planned to address a longer hospital stay, but both the Guidelines for Perinatal Care and those on the hospital stay for the newborn, as well as discharge guidelines, mention that the baby should have feeds evaluated each shift and should have had two successful feedings prior to discharge. We also state direct breastfeeding first, expressed breast milk second or donor milk, but formula supplementation should be

given as appropriate, if the baby is not feeding adequately. We do not recommend withholding supplementation, when necessary, but recommend providing better support for breastfeeding as the first strategy.

(b)(5)

Guidance to either continue exclusive breastfeeding or supplement with formula at 15% weight loss is not appropriate without a careful evaluation of feeding pattern, milk transfer, stage of lactogenesis, specific recommendations about supplementation, and follow-up at no more than 24 hours, assuming that the patient does not appear clinically dehydrated and the baby is able to latch. Education about milk expression to use as a supplement would be recommended until regular weight gain is assured or baby is able to transfer adequate volumes of milk via direct breastfeeding.

Clearly, this is an area requiring ongoing education as we have more babies being exclusively breastfed and more Baby Friendly Hospitals. Babies born in Baby Friendly Hospitals tend to have less excessive weight loss because they tend to have earlier initiation of breastfeeding, more frequent breastfeeding and are getting better support, guidance, and follow-up. We still have education to do with the providers that are seeing all of the breastfeeding babies in follow-up. I am not sure that we need more policies to address, although we could consider this, but education about the policies and recommendations is really important. We have touched on this in previous webinars , but would you consider this as a topic for a joint webinar?

Joan

#### Joan Younger Meek, MD, MS, RD, FAAP, FABM, IBCLC

Associate Dean for Graduate Medical Education Designated Institutional Official Professor, Clinical Sciences Florida State University College of Medicine 1115 West Call St. Tallahassee, FL 32306-4300 Phone: 850.645.8449 Fax: 850.644.9399 joan.meek@med.fsu.edu

Please note: Florida has very broad public records laws. Most written communications to or from state/university employees and students are public records and available to the public and media upon request. Your e-mail communications may therefore be subject to public disclosure.

From: Nelson, Jennifer M. (CDC/ONDIEH/NCCDPHP) [mailto:zcn6@cdc.gov]
Sent: Saturday, December 19, 2015 8:25 AM
To: Meek, Joan <Joan.Meek@med.fsu.edu>; 'lbwinter@umdnj.edu' <lbwinter@umdnj.edu>; 'OnyemaMelton, Ngozi' (b)(6)
Cc: Scanlon, Kelley (CDC/ONDIEH/NCCDPHP) <kxs5@cdc.gov>; Anstey, Erica Hesch
(CDC/ONDIEH/NCCDPHP) (CTR) <yhm7@cdc.gov>
Subject: Advice on response to inquiry about inadequate breastfeeding

Greetings Joan and Lori,

We would like your advice on a response to a public inquire regarding the potential dangers of inadequate exclusive breastfeeding (EBF) during the early postpartum period.

As background, we received an email in March 2014 via our website (CDC-Info) from a physician, hypothesizing whether jaundice among exclusively breastfed infants could explain the rising incidence of Autism Spectrum Disorder (ASD). The physician derived this hypothesis from personal experience in which (b)(6)

(b)(6) (b)(6) Upon receiving this inquiry, Kelley Scanlon, CDC's Nutrition Branch Chief, and Cynthia Moore, CDC's Director for the Division on Birth and Developmental Disabilities, wrote a very thorough letter outlining the evidence that while there is a connection between breastfeeding difficulties, jaundice, and ASD that it is not known if there is a causal pathway or the direction of the pathway if it exists. In response to CDC's reply, she had some interesting ideas on how to improve patient safety for EBF infants during their birth hospitalization. She also indicated that she would be writing to AAP's president so you may have already heard from her.

Fast-forward to November 2015 when we received a second inquiry to CDC Info from the same physician, highlighting the problem of inadequate exclusive breastfeeding in the early post-partum period. She mentioned a recently published case series from Cincinnati Children's that reported on 11 term neonates who were admitted to their NICU for hypothesized breastfeeding-related hypoglycemia; of which, 5 of 6 (83%) had evidence of ischemic brain injury on MRI (article attached). She also mentioned her review of the scientific literature as well as antidotal evidence she has collected on this issue. We again sent a reply albeit shorter.

She then sent a third inquiry through CDC Info this week, voicing her concern about CDC's "lack of initiative to warn mothers of the possibility of severe disabl[ing] brain injury," resulting from inadequate EBF. She then requested that CDC issue an "urgent warning" to inform mothers of these dangers.

(b)(5) we do want to ensure providers and parents are sufficiently aware of this issue and are also aware of the indications for supplementation. As you know, hospitals need to ensure breastfeeding is going well prior to discharge. Mothers, especially those at high risk for breastfeeding problems, need to be educated about the signs of inadequate feeding and when/where to seek support for any issues. And pediatricians need to ensure adequate assessment and follow-up of EBF newborns, especially when discharged before breastfeeding is well established and before lactogenesis II (aside: (b)(6)

(b)(6)

We were wondering if AAP is working on any policy efforts related to extending the initial hospitalization for newborns and their mothers if they are having breastfeeding problems. Are there ways we could incorporate ensuring adequate EBF into patient safety initiatives in maternity care facilities (aside: she made an interesting point that EBF newborns are the only patients in a hospital for which there is no information about quality/quantity of food they receive)? Do you have any thoughts on efforts to improve patient and provider education on identification of inadequate breastfeeding and/or the need for supplementation? Do you have any other suggestions or comments?

We really appreciate your thoughts and comments regarding this issue.

Happy Holidays!

Sincerely, Jennifer

Jennifer M. Nelson, MD, MPH LT United States Public Health Service Epidemic Intelligence Service Officer CDC/NCCDPHP/DNPAO/Nutrition Branch 4770 Buford Hwy, MS F-77, Atlanta, GA 30341-3717 Ph: 770-488-5157 | Email: jmnelson@cdc.gov

From:	Perrine, Cria G. (CDC/ONDIEH/NCCDPHP)
Sent:	Wed, 21 Sep 2016 12:57:50 +0000
То:	Voetsch, Karen P. (CDC/ONDIEH/NCCDPHP)
Subject:	FW: AGOC Endorsement of Ten Steps
Attachments:	ACOG Endorsement of Ten Steps_July 2016.pdf

FYI, sharing with DRH.

From: Nelson, Jennifer M. (CDC/ONDIEH/NCCDPHP)
Sent: Wednesday, September 21, 2016 8:53 AM
To: Olson, Christine (CDC/ONDIEH/NCCDPHP) <cco7@cdc.gov>
Cc: Perrine, Cria G. (CDC/ONDIEH/NCCDPHP) <hgk3@cdc.gov>; Grossniklaus, Daurice
(CDC/ONDIEH/NCCDPHP) <dtg3@cdc.gov>; MacGowan, Carol (CDC/ONDIEH/NCCDPHP)
<dvx2@cdc.gov>
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The American College of Obstetricians and Gynecologists WOMEN'S HEALTH CARE PHYSICIANS

Vice President, Practice Activities Christopher M. Zahn, M.D. Telephone: 202/863-2529 Email: czahn@acog.org

July 1, 2016

Trish MacEnroe Executive Director Baby-Friendly USA, Inc. 125 Wolf Rd., Suite 402 Albany, NY 12205

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Christopher M. Zahn, MD Vice President, Practice Activities American College of Obstetricians and Gynecologists

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N.

\* Optimizing support for breastfeeding as part of obstetric practice. Committee Opinion No. 658. American College of Obstetricians and Gynecologists. Obstet Gynecol 2016;127:e86–92. Available at <u>http://www.acog.org/Resources-And-Publications/Committee-Opinions/Committee-on-Obstetric-Practice/Optimizing-Support-for-Breastfeeding-as-Part-of-Obstetric-Practice.</u>

From:	Heiser, Claire (CDC/ONDIEH/NCCDPHP)
Sent:	Thu, 4 Oct 2018 13:55:22 -0400
То:	CDC ONDIEH NCCDPHP NCCD DNPAO PDEB
Subject:	FW: Annual Report from the Association of State Public Health Nutritionists

From: Association of State Public Health Nutritionists(b)(6)On Behalf OfAssociation of State Public Health NutritionistsSent: Monday, October 1, 2018 8:51 PM

To: Heiser, Claire (CDC/ONDIEH/NCCDPHP) <beg9@cdc.gov>

Subject: Annual Report from the Association of State Public Health Nutritionists





## ASPHN 2017-2018 Annual Report

#### In This Issue

#### About ASPHN

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Council Updates

Policy Updates

# About ASPHN

# Association of State Public Health Nutritionists

ASPHN is a nonprofit membership organization that provides national and state leadership on food and nutrition policy, programs and services.



**Our Vision** 

Partnership Updates

Healthy eating and active living for everyone.

Liaison Corps Updates

What's Ahead

ASPHN 2017-2018 Board Members

ASPHN Consultants

#### **Our Mission**

To strengthen nutrition policy, programs and environments for all people through development of public health nutrition leaders and collective action of members nationwide.

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# Message from ASPHN's Past-President

#### **Greetings Members and Partners**,

I am proud to introduce the 2017-2018 ASPHN Annual Report. As you know, it has been a memorable year for public health nutrition and a banner year for ASPHN.



Thank you to the Board who approved new bylaws that made the Obesity Prevention Nutrition Steering Committee an official Council and opened membership in the National Fruit and Vegetable Council to any ASPHN member interested in affecting fruit and vegetable public health efforts. The Board also worked on the next fiveyear Strategic Plan, developed new policies related to social media, governance and contracting, and welcomed new consultants and subcontractors.

Thank you to our Consultants, Committees and Councils who guide the development of our trainings and products. ASPHN continues to strengthen the Public Health Nutrition Workforce by offering timely guidance in public health nutrition policy, systems and environmental changes that can make healthy choices easy and natural for all Americans. This is evident in the release of several new products, including PublicHealthNutrition.org. ASPHN also advances PHN through the <u>See It. Say It. Share It.</u> <u>campaign</u>, which promotes the role and value of the public health nutritionist.

In addition to the health equity-focused Annual Meeting, regular webinars, leadership and mentoring activities continue to be offered by ASPHN. Policy action alerts and letters of advocacy shape national policy. The Academy of Nutrition & Dietetics partnered with ASPHN on a fivemodule Public Health Nutrition Certificate of Training program. Additionally, in collaboration with the National WIC Association, ASPHN launched the Public Health Nutrition Webinar Series for local and state WIC staff and all ASPHN members.

Finally, thank you to the members. It has been my honor to serve as ASPHN President this past year. It is because of your participation with us that Public Health Nutrition messages, practices and plans are moving forward to build up the health of our nation.

Best Regards,

Takako Tagami, MS, MBA, RD, LD ASPHN Past-President

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# ASPHN Launches New Products

ASPHN seeks to create new environmental norms where healthy eating and active living are the easy and natural choice for all Americans.



### ASPHN Strengthens Public Health Nutrition Practice through the Launch of PublicHealthNutrition.org

PublicHealthNutrition.org is a new dynamic website

developed by ASPHN that serves up hundreds of resources and programs available to PHNs. Since October 2017 it has disseminated tips, tools and guides for greater public health impact through 4094 unique web visits.

The site's content is organized by our profession's broad categories of practice (Nutrition, Advocacy, Communication, Research, PSE, and Leadership) and

sub-categorized by "indicators." The indicator pages provide definitions of what they encompass and link to information and programs from government agencies, educational institutions, professional organizations and others.

"This website is a gold mine of resources for state public health nutritionists and public health nutrition students. It is a huge asset to the profession, made for us by us!," says Christina Thi, Obesity Prevention Coordinator, Texas Department of State Health Services.

ASPHN keeps the content on the site current by including any resource/training suggestions from members.

### ASPHN's New Compilation of Food Service Guidelines Products Delivers a Time-Saving Tool for Nutritionists

The brand new Food Service Guidelines resource page is an innovative tool containing a compilation of over 100

products related to Food Service



Guidelines (FSG) that have been used or developed by state agencies and other programs. These products include standards, policies and best practices that make healthy choices, easy choices for those purchasing or receiving food from state-run facilities.

The web page is well organized and easy to use. Products are identified by the category or setting for which they were implemented, and you can also find them listed by state. According to ASPHN member Mary Ann Ellsworth, MS, RD from the New Jersey State Department of Health, "I envision this will be a new favorite reference that members will suggest to partners working to create healthier food environments in a variety of settings. This is definitely another ASPHN SUCCESS STORY!"

### ASPHN Kicks-Off its See It. Say It. Share It. Campaign

In November 2017 ASPHN announced the kick-off of its

<u>See It. Say It. Share It.</u> campaign, a communications effort to promote



the value of public health nutritionists. The campaign is based on a series of sound bites that can be used to help others learn more about the profession. The sound bites will be shared on Facebook, Twitter and LinkedIn.

The first sound bite in the series is "Improving nutrition, decreasing disease." According to ASPHN executive director, Karen Probert, MS, RD, "a critical aspect of any public health nutritionist's job is developing strategies that offer greater access to healthy and affordable food and nutrition-related care. These strategies are improving nutrition, decreasing disease within our at-risk populations, which often suffer from preventable health conditions related to poor nutrition."

ASPHN's See It. Say It. Share It. campaign offers a web page that houses downloadable posters and videos highlighting individual state initiatives spearheaded by public health nutritionists who are ASPHN members.

The video related to the sound bite "Improving nutrition, decreasing disease" showcases Iowa's Guide for Growing Healthier Iowans, a document filled with practical steps that low-resource Iowans can use to get involved in food gardening.

The second sound bite "Shape healthy habits for life" was released in January 2018 with <u>this video</u> highlighting ASPHN member Diane Peck, MPH, RD, and her work in Alaska's Obesity Prevention and Control Program. The Salad Bars to Schools initiative was carefully implemented with safety and cost-effectiveness in mind. Today, it is shaping healthy habits for life for nearly 80,000 students.

ASPHN encourages its members, partners, colleagues and other stakeholders to visit its <u>See It. Say It. Share</u> <u>It. web page</u> to obtain the materials and get ideas on how to use the sound bites. "Together, we can raise awareness for the value of public health nutritionists and the wonderful work they do," says Probert. "The sound bites make it fun and easy."

### ASPHN Releases New Brief Titled Intersection of Public Health, Community and Clinical Dietetics

ASPHN's brief <u>Intersection of Public Health, Community</u> and <u>Clinical Dietetics</u> explores the relationship between community, public health and clinical nutrition and ideas for innovative strategies combining the strengths of each discipline and creating a synergistic effect that is greater than the sum of the parts.

## ASPHN Releases New Brief on Supporting Maternal Mental Health

ASPHN's new brief, <u>Supporting Maternal</u> <u>Mental Health in Public Health Nutrition</u> <u>Practice</u>, addresses how public health



nutritionists can strategically and positively influence the outcomes of maternal mental health.

This brief marks the latest in ASPHN's series on maternal and child health. It provides valuable insight into maternal depression and the potentially harmful effects it can have on mothers, families and children. It also highlights programs that use integrated maternal mental health screening and training to help those who are at risk, and offers resources that can be used to screen and treat maternal depression.

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# Professional Development Updates

ASPHN provides online and in-person leadership development resources and training programs to its members.

### ASPHN Trainings Enhance Skills and Build Career Success for Public Health Nutritionists

ASPHN enhances skills in the Public Health Nutrition workforce through timely and cutting-edge training topics offered throughout the year. An average of three engaging professional development



opportunities are offered each month. Ninety percent of trainings are available online, fitting easily into all schedules.

The 35 trainings offered in 2017-2018 drew 1180 participants.

Praise for trainings from the 2018 ASPHN Membership Survey:

"ASPHN has helped me be more assertive in taking on leadership roles within my organization and has assisted me with my communication and leadership style."

"ASPHN trainings have helped me advance leadership and nutrition expertise skills which in turn have helped me in my state role in public health."

Find ASPHN Trainings archived here. Click Show All.

### Growing ASPHN Leaders 2017-2018 Class Adds a Focus on Equity

The 2017-2018 class of Growing ASPHN Leaders (GAL) convened a circle of 11 members CA, MN, TX, MI, ND, and NY for learning, encouragement and network building. The ASPHN leadership class helps members grow in ways that enhance leadership skills and provides practical application.
GAL class members are challenged and supported in 5-6 leadership calls, 1 orientation call and a final debrief call from December through June.
This year, GAL class members' supervisors were asked to assist them in identifying an opportunity to practice their new leadership skills. Also, among the session topics, the class members chose to include a discussion on <u>Dream</u> with Me: Race, Love and the Struggle We Must Win by John Perkins. This was the first time that a leadership book was chosen that addressed race, disparities, and equity.
Class members join an ASPHN committee or council leadership team after they complete the program.
Praise for Growing ASPHN Leaders from the 2018 ASPHN Membership Survey:
"ASPHN training and the mentoring I received from Growing ASPHN Leaders equipped me well to grow and attain greater levels of supervisory and budget authority."
Learn more about Growing ASPHN Leaders by contacting Shana Patterson at <u>shana@asphn.org</u> .
ASPHN Builds Diversity Among Public Health Students Through the Health Equity Internship Program
Since October 2017 the ASPHN Health Equity Internship has placed

20 interns at 16 sites.

Like many professions, public health also needs help recruiting a new generation of diverse professionals. ASPHN selects undergraduate and graduated college student applicants, recruited mainly from Minority-Serving Institutions (MSI), and places them into 12-week internships during Fall and Spring semesters.

Federal, regional, state and local health agencies provide real-world work experience and students complete health equity projects in areas such as HIV, Cancer, Obesity, Cardiovascular Disease, Diabetes, Lupus, Nutrition, Mental Health, Program Planning, Health Policy, Tobacco, Injury/Violence Prevention, Aging and more. Hourly stipends are paid to interns at no cost to the host agency. Professional development opportunities, such as attending conferences and CHES/CPH exam fees are also covered.

#### **Intern Achievement Highlights**

Spring 2018

<ul> <li>Nordelle Bent received an award for her poster abstract from ASPHN at the Annul Meeting. Also,recently hired by Florida Department of Health</li> </ul>
<ul> <li>Helena Berlin received an award for her poster at ASPHN conference and present at the Florida Equity conference.</li> </ul>
<ul> <li>Shannen Johnson offered a traineeship in nutrition at the University of Alabama Birmingham.</li> </ul>
Fall 2017
<ul> <li>Mariah Russel was accepted to the masters of health science program at the University of Alabama Birmingham.</li> </ul>
<ul> <li>Kristie Sergerie was hired as the Crisis Response Coordinator with Nishnawbe Aski Nation.</li> </ul>
<ul> <li>Sequoia Garlington accepted a position at the US Department of State.</li> </ul>
<ul> <li>Carion Marcelin received a part-time position at her placement site continuing through her graduation</li> </ul>
Learn more about the ASPHN Health Equity Internship Program here.

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# **ASPHN Council Updates**

#### **ASPHN** facilitates peer support.

Councils, committees and workgroups bring members together in meaningful and productive ways.



# National Fruit and Vegetable Council Accomplishments

- Membership Gains: As of June 30, 2018 the National Fruit & Vegetable Nutrition Council has 81 members, an increase of almost 125% for the year.
- Reflection & Change: The National Fruit & Vegetable Nutrition Council is implementing changes based on member survey feedback. This time of reflection and change ensures the Council is meeting member needs and expectations.
- National Leadership: The National Fruit & Vegetable Nutrition Council advised CDC on the development of the 2018 State Indicator Report on Fruits and Vegetables.
- Engaging Trainings: September 2017 Healthy For Good: NGO Initiatives to Increase Fruit and Vegetable Consumption; December 2017 - Access to Nutritious Choices; April 2018 - 2018 State Indicator Report on Fruits and Vegetables; June 2018 - National Fruit and Vegetable Nutrition Council All Member Networking call.

Find <u>Fruit and Vegetable Nutrition Council webinars</u> here. Click Fruit & Veg Nutrition Trainings.

**MCH Nutrition Council Accomplishments** 

<ul> <li>Membership Gains: As of June 30, 2018 the ASPHN MCH Nutrition Council has 193 members including 31 liaisons (an increase of 44 members with a loss of 1 liaison from June 2017).</li> </ul>
National Leadership: Released 2 briefs: <u>The</u> <u>Intersection of Public Health, Community and</u> <u>Clinical Dietetics</u> ; <u>Supporting Maternal Mental</u> <u>Health In Public Health Nutrition Practice</u>
<ul> <li>In Development: Worked on development of a brief on the long-term implications of early infant feeding.</li> <li>Find <u>MCH Nutrition Council webinars</u> here. Click on MCH Nutrition Trainings.</li> </ul>
Obesity Prevention Nutrition Council Accomplishments
<ul> <li>Membership Gains: As of June 30, 2018 the Obesity Prevention Nutrition Council has 77 members.</li> </ul>
<ul> <li>Member Engagement: Engaged members with new 'spot light on practice' and 'spot light on policy'</li> </ul>
<ul> <li>Work Planning: Developed a 2-year Work Plan to guide continued work of the Council</li> </ul>
<ul> <li>Engaging Trainings: October 2017 - The New Child and Adult Care Food Program (CACFP) Meal Patterns; January 2018 - Breastfeeding in the Drug- Dependent Woman; April 2018 - Does Breastfeeding Protect Maternal Mental Health?; July 2018 - MCHB Update (streamed presentation from the June ASPHN Annual Meeting)</li> </ul>
Blueprint Seed Grant Congratulations to our ASPHN member Blueprint Seed Grant awardees!
On April 30th ASPHN awarded three seed grants for small, one-year projects that utilize the strategies listed in the <u>Cornerstones of a Healthy Lifestyle</u> <u>Blueprint for Nutrition &amp; Physical Activity</u> to support public health nutrition efforts in states.

Here are the state awardees and their objectives.

- Arkansas- Improve breastfeeding friendly policy and practices in ECE centers, with the ultimate goal of increasing breastfeeding rates among women whose infants are in childcare.
- Colorado- Increase awareness of maternal mental health and promote resources for supporting mental health to nutritionists and other professionals who support families.
- Nebraska- Train WIC employees to screen pregnant, postpartum and breastfeeding moms for depression and provide appropriate referrals.

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# **Policy Updates**

# ASPHN strengthens its members' work by keeping legislators informed of priority issues.

Our members offer state and national leadership on food and nutrition policy, programs and services that help improve the health of our population.



### **ASPHN Shapes National Policy**

Over the course of the 2017-2018 reporting period the ASPHN Policy Committee partook in an assortment of advocacy initiatives.

**Issued an Action eAlert** to all ASPHN members opposing the US House of Representative's proposed HR 2 - the Agriculture and Nutrition Action Act of 2018/farm bill.

#### **Submitted ASPHN Board approved comments**

on prominent nutrition guidance and federal policies to

the USDA and HHS on "Topics and Scientific Questions for the 2020-2025 Dietary Guidelines for Americans; to FDA on menu labeling guidance and implementation; and to the USDA on child nutrition programs in opposition to the proposed interim final rule (82 FR 56703) three year delay of the second sodium reduction targets for the National School Lunch and National School Breakfast programs.

**Co-signed ten letters of advocacy on national nutrition and health related regulations** in collaboration with ASPHN partner organizations.

- 1. The Academy of Nutrition and Dietetics' letter in support of the president's FY 2019 budget request of \$12,297 million for the development and release of the 2020-2025 Dietary Guidelines for Americans. The proposed funding for FY 19 would support the USDA and HHS in meeting the increased demands and responsibilities of the 2020 edition of the DGAs, including the increased scope of birth to 24 months mandated by the 2014 farm bill and increased transparency (which as it turns out, transparency is time intensive and expensive!). The letter is a joint effort between the Academy of Nutrition and Dietetics, the American Academy of Pediatrics, the American Heart Association, the Center for Science in the Public Interest, and the National WIC Association.
- 2. Center for Science in the Public Interest (CSPI) letters:
  - In opposition to the House Agriculture Appropriations bill that has a Rider which would exempt honey and maple syrup products from disclosing how much added sugars are in their products (they wouldn't have to have an added sugars line with the daily value).
  - To The Office of The United States Trade Representative (USTR) and members of Congress on the content of unhealthy food and beverages-such as on the front-of-pack labeling-in the North American Free Trade Agreement (NAFTA)
  - To the Senate, and particularly the Health, Education, Labor and Pensions' (HELP) committee opposing the anti-menu-labeling bill
  - 4. To the United States Department of

Agriculture (USDA) in opposition to the
proposed interim final rule (82 FR 56703) three year delay in implementing the second sodium reduction targets for USDA's child nutrition National School Lunch (NSL) and National School Breakfast (NSB) programs
3. The United States Breastfeeding Committee (USBC)
<ol> <li>To Senator J. Merkley and Rep. C. Maloney in support of the Supporting Working Moms Act (SWMA) which would protect and expand working moms' right to breastfeed by extending the existing federal law to ensure that executive, administrative, and professional employees, including elementary and secondary school teachers, have the right to reasonable break time and a private, non-bathroom place to express breast milk at work.</li> </ol>
<ol> <li>To Senator T. Duckworth and Rep. S. Knight in support of the Friendly Airports for Mothers (FAM) Act which would require all large and medium hub airports to provide a private, non-bathroom space in each terminal for mothers to express breast milk.</li> </ol>
<ol> <li>To the Fed is Best Foundation requesting a meeting with it's co-founders to discuss the recommended practice of exclusive breastfeeding.</li> </ol>
<ol> <li>The National WIC Association's appropriations letter for \$6.3 billion - FY 2019.</li> </ol>
<ol> <li>The Association of Maternal &amp; Child Health Programs' letter to the House and Senate Labor-H Subcommittee Chairmen and Ranking Members requesting \$660 million in FY2019.</li> <li>Learn more about the <u>ASPHN Policy Committee</u> here.</li> </ol>
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Dartnorshin Undates
Partnership Opuates

ASPHN builds strategic partnerships for successful outcomes in public health.

ASPHN partners with over a dozen organizations, ranging from Action for Healthy Kids, to the United States Breastfeeding Committee, to the National Physical Activity Society.



### **National WIC Association**

#### **Webinar Series**

The National WIC Association and ASPHN, through funding provided by The Centers for Disease Control and Prevention, have collaborated to provide public health nutrition education monthly webinars to all NWA and ASPHN members.

Participants will see how state, local and private partners are working together in unorthodox ways to create synergy and environmental changes that support low income populations.

Webinars have been popular, drawing upto 225 attendees. All webinars contain public health nutrition topics that have relevance to WIC clientele and/or WIC staff, but are broader than WIC-only content.

Find NWA-ASPHN webinars here.

# Online Certificate of Training Program: Beneficial at Any Stage of Career in Public Health Nutrition

As of August 2018, 772 individuals have begun the Public Health Nutrition Online Certificate of Training (CoT) module series. Plus, 68 individuals have completed all five modules and earned a Certificate of Training in Public Health Nutrition. More are beginning the series every month.

The five separate modules of the CoT build on one another and focus on the fundamental components of public health nutrition. The self-study series includes web links and resources for additional online learning opportunities.

Each module is available to the registered participant for 30 days. To receive the CoT, all five modules and related tests must first be completed, and a final exam must be passed with a minimum of 80 percent.

ASPHN Past-President Takako Tagami, MS, MBA, RD, LD, Nutrition Specialist with the Missouri Department of Health and Senior Services, has taken the online course and earned her Certificate of Training.

States Tagami, "Everyone in public health nutrition can benefit from this program. I have worked as a state public health nutritionist since the mid 1990s and hold a master's degree focused on nutrition and dietetics, yet I never had classes related to public health nutrition in grad school. This program exposed me to theoretical frameworks and strategies for successful outcomes that I had not considered."

Indeed, some states are finding the training so valuable that they are offering it to all employees involved in public health nutrition. Adds Tagami, "This is a great way to get everyone on the same page. Public health nutritionists work in partnership, and obtaining the same training allows us to effectively join forces for healthy food sources."

Learn more about the <u>Public Health Nutrition Online</u> <u>Certificate of Training</u> here.

### **Partnerships**

### & Collaborations

ASPHN currently maintains 30+ relationships that multiply the impacts of public health nutrition. These partner relationships are maintained through the work of the ASPHN Collaboration Committee. Here is a sampling of some of the represented collaborations and partnerships:

- Academy of Nutrition and Dietetics
- Breastfeeding Public Health Partners (BPHP)
- National Consortium for Public Health Workforce
   Development

- National Farm to School Network
- University of Tennessee Maternal and Child Health Nutrition Leadership Training Program Advisory Committee
- University of Washington, Center for Public Health Nutrition
- University of Wisconsin, Madison, LEND Program
- Young Invincibles
- Association of SNAP-Ed Nutrition Networks and Other Implementing Agencies (ASNNA)
- Trust for America's Health (TFAH)

Learn more about the <u>ASPHN Collaboration Committee</u> here.

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# Member Engagement Updates

ASPHN's active members build relationships with peers in other states and are able to learn how peers' work can be applied in their own communities.

From advancing the consumption of fruits and vegetables to promoting breastfeeding and maternal and child health and nutrition, to stemming the tide on the obesity epidemic, ASPHN's members share a common drive and passion for public health nutrition.



# Membership and Participation are Increasing

ASPHN has welcomed 53 new members in 2018. The total membership is now over 375 strong and new members are joining every month. Our membership is active, with 110 members volunteering on ASPHN committees & councils and 16 on the Board. <u>View the membership directory</u>.

### Membership Communications & Outreach Committee Accomplishments

Major activities: The ASPHN Membership Communications & Outreach (MC&O) Committee recently updated its work plan, identifying 7 high-priority projects to complete in order to carry out its purpose.

Exceeding goals: ASPHN's membership goal has already exceeded the goal set in the ASPHN Strategic Plan 2017-22 and required the ASPHN board to change the objective in the Strategic Plan.

Meeting goals: And every new ASPHN member is welcomed by a member of the MC&O Committee.

Learn more about the ASPHN Membership Communications & Outreach Committee by contacting Allison McGuigan at <u>allison@asphn.org</u>.

# ASPHN Advances Innovation Through CollNs

Collaboration and innovation are driving the success of state level nutrition programs. ASPHN supports Collaborative Innovation and Improvement Networks (CoIINs) that create teamwork across departments and programs to multiply the public health nutrition impact of resources.

#### **Children's Healthy Weight CoIIN**

The Children's Healthy Weight CoIIN (CHW-CoIIN) is a multi-year initiative including 31 states. It formally launched in July 2017 and continues through July 2019.

Goal: to develop, implement and/or integrate evidence informed policies and practices which will support State Title V programs in improving health behaviors related to breastfeeding, physical activity, and nutrition for children,

adolescents and young adults up to 21 years of age, including those with special health care needs.
CHW-CoIIN has the longterm intent of increasing the proportion of children and young adults ages birth to 21 years who fall within a healthy weight range.
State Activities: Eleven states are working on the Breastfeeding Work Stream by establishing new policies or practices that address social and ecological barriers to breastfeeding.
Seven states are working on the Physical Activity Work Stream to increase the number of schools and programs implementing select components of the Comprehensive School Physical Activity Program model.
Thirteen states are working to creatively integrate nutrition into Title V MCH Block Grant and other MCH programs.
States participate in either the Intensive Learning or the Technical Assistance level of the CHW-CoIIN.
Funding: In June 2018 ASPHN received additional funding that made it possible to move 4 state teams up from the Technical Assistance level to the Intensive Learning level. The CHW-CoIIN is funded by the Maternal and Child Health Bureau of the Health Resources and Services Administration.
Find <u>Children's Healthy Weight CoIIN webinars</u> here. Click on Children's Healthy Weight CoIIN.
Pediatric Obesity Mini CoIIN
ASPHN continued to manage the Pediatric Obesity Mini CoIIN until May 2018. The Pediatric Obesity Mini CoIIN supported 13 state teams working to embed policies and practices that support healthy weight behaviors in early care and education systems. The mini-CoIIN was funded by CDC's Division of Nutrition, Physical Activity and Obesity.
Find <u>Pediatric Obesity Mini CoIIN Success Celebrations</u> here.

### Mid-Year Meeting: Practice Promoting Public Health Nutritionists Through the See It. Say It. Share It. Sound Bites

During ASPHN's Mid-Year Board Meeting, board members explored communication techniques public health nutritionists can employ to effectively promote the value of their work.



Using the customizable posters available on the <u>See It.</u> <u>Say It. Share It. website</u>, members created marketing pieces about their initiatives using communication tools like hooks, benefits, features, calls-to-action and contact information.

The sound bites from the See It. Say It. Share It. campaign served as hooks to lure target audiences, and participants worked on reeling in support by describing the benefits their programs offer.

Learning to distinguish between their programs' benefits and features was an eye-opening exercise for attendees, and one they found could directly be applied to their work writing grants, securing partnerships and alliances, and even attracting outstanding employees.

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# **Liaison Corps Updates**

### **Liaison Corps Updates**

The purpose of the Liaison Corps is to expand ASPHN's influence. To be more effective, ASPHN maintains regular contact with a variety of nutrition and public health organizations around the country.

The Liaison Corps focuses on sharing ASPHN's goals,

objectives, and activities with these organizations and learning the same about our partner groups. Liaisons identify areas for networking, coordination and collaboration to expand our impact on public health nutrition issues.
Below is a list of the members who are active liaisons for ASPHN.
Becky Adams (AR)
Aurora Buffington (NV)
Alison Conneally (NY)
Mary Ann Ellsworth (NJ)
Susan Forester (CA)
Carole Garner (AR)
Suzanne Haydu (CA)
Michele Kawabe (MI)
Leslie Lewis (LA)
Carolyn Donohoe Mather (HI)
Kelli Stader (WI)
Robin Stanton (OR)
Jennifer Young (OR)
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What's Ahead
×
Watch for these ASPHN Advancements

ASPHN will continue to advance several exciting projects in the next fiscal year.



Workforce development projects including PublicHealthNutrition.org, the See It. Say It. Share It. campaign, and the Certificate of Training in Public Health Nutrition will continue.

Also, leadership opportunities such as the Growing ASPHN Leaders program and committee membership and council leadership team positions will continue.

The Health Equity Internship program will expand, recruiting 30 students a year, an increase from 20 students.

Early in 2019, the Moving to the Future website will be upgraded and ASPHN will release some new products related to work with blind vendors.

Also watch for these new projects:

- Work with U.S. Breastfeeding Committee to build capacity to increase access to breastfeeding
- Work with state WIC programs to incorporate the "Learn the Signs. Act Early." program into WIC clinics
- Improving nutrition environments, policies, and practices of early care and education providers by focusing on one area such as Farm to Preschool

Plus, ASPHN is just starting a contract with Maternal and Child Health Bureau to provide technical assistance and training to MCHB Title V Block Grant grantees on food and nutrition policy, programs and services with a focus on bolstering the public health nutrition workforce.

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## ASPHN 2018-2019 Board Members

Robin Stanton, MA, RD, LD (OR)

President
Takako Tagami, MS, MBA, RD, LD (MO) Past-President
<b>Diane Golzynsk</b> i, PhD, RD (MI) President-elect
Christina Thi, MPH, RD, LD (TX) Secretary
<b>Patricia Simmons</b> , MS, RD, LD (MO) Treasurer
Jennifer Dellaport, MPH, RD (CO) Director-at-large and Co-Chair, Policy Committee
Jennifer Young, MPH, RDN (OR) Director at Large and Co-Chair, Policy Committee
<b>Becky Adams</b> , DrPH, RD, LD, CDE (AR) Director at Large and Co-Chair, Collaboration Committee
<b>Jill Lange</b> , MPH, RD, LD (IA) Director at Large, Chair, Membership Communication & Outreach Committee
Jackie Rios-Avila, MS, RD, CDN (NY) Director at Large and Co-Chair, Collaboration Committee
Vacant, Chair, Fundraising Committee
Mikaela Schlosser, RD (ND) Board Member and Chair, Maternal and Child Health Nutrition Council
Heather Harrison-Catledge, BS, LDN, CLC (MA) Board Member and Chair-elect, MCH Nutrition Council
Helen Brown, RD, MPH (ID)

Board Member and Chair, Obesity Prevention Nutrition Council

**Elaine Russell**, MS, RD, LD (KY) Board Member and Chair-elect, Obesity Prevention Nutrition Council

Ashley Sweeny Davis, MA, RDN, LD (OH) Board Member and Chair, Fruit & Vegetable Nutrition Council

Lisa Gemlo, MPH, RD, LD (MN) Board Member and Chair, Fruit & Vegetable Nutrition Council

**Megan Hlavacek**, MS, RD, LN, CLC (ND) Board Member and Chair-elect, Fruit & Vegetable Nutrition Council

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#### Consultants

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karen@asphn.org

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**Thometta Cozart**, MS, MPH, CHES, CPH Consultant 814 255-2829 ext 706

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Association of State Public Health Nutrition, PO Box 1001, Johnstown, PA 15907

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From:	MacGowan, Carol (CDC/ONDIEH/NCCDPHP)		
Sent:	Thu, 2 Feb 2017 16:35:09 +0000		
To: Nelson, Jennifer M. (CDC/ONDIEH/NCCDPHP)			
Subject:	FW: AWARENESS: New Assignment SUPC in Newborns - Due 2/14/17		
Attachments:	AAP Skin to Skin Caution.pdf, Unintended Consequences Jama Peds.pdf,		
skintoskinsafesleep.pdf,	AAP News STS Safety.pdf, BF Bass Reply JAMAPeds.pdf		
Importance:	High		

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CII.	(0)(0)

From: Torres, Monica (CDC/ONDIEH/NCCDPHP)
Sent: Thursday, February 2, 2017 11:11 AM
To: MacGowan, Carol (CDC/ONDIEH/NCCDPHP) <dvx2@cdc.gov>; Flores-Ayala, Rafael C.
(CDC/ONDIEH/NCCDPHP) <rnf2@cdc.gov>
Cc: Voetsch, Karen P. (CDC/ONDIEH/NCCDPHP) <kmp9@cdc.gov>; DNPAO/Health Policy Team (CDC)
<DNPAOPolicy@cdc.gov>
Subject: AWARENESS: New Assignment SUPC in Newborns - Due 2/14/17
Importance: High

Hello, Carol and Rafa.

Dr. Bass sent the following email to Anne Schuchat on Monday (1/30):

I would like to bring to your attention an issue of great significance: the CDC has been promoting and funding implementation of The Baby-Friendly Hospital Initiative. It has become increasingly recognized in Europe and now in the US, that practices associated with the Baby Friendly initiative are significant risk factors for neonatal sentinel events (Sudden Unexpected Newborn Collapse (SUPC) and newborn falls). I have been in contact with the CDC for the past year about this concern, which in light or the most recently published data, merits expeditious review. I have attached a few articles for you to review on the subject including our most recent JAMA peds correspondence with the national data summarized below. I hope that you be willing to support a change in direction for the CDC , and a focus on safe and effective methods to promote breastfeeding. I would be willing to meet with you to discuss this in greater detail.

	(b)(5)
(b)(5)	Please let me know when you will be able to get this to us so that Janelle and Ruth
can have time to	o review.

Thanks! Monica

From: Smalls, Marcia V. (CDC/ONDIEH/NCCDPHP)
Sent: Thursday, February 02, 2017 10:36 AM
To: DNPAO/Health Policy Team (CDC) <<u>DNPAOPolicy@cdc.gov</u>>; Gunn, Janelle P.
(CDC/ONDIEH/NCCDPHP) <<u>bfy2@cdc.gov</u>>

Cc: Johnson, Abigail P. (CDC/ONDIEH/NCCDPHP) <<u>vmh3@cdc.gov</u>> Subject: NEW ASSIGNMENT - Direct Reply - FW: New Assignment SUPC in Newborns - Due 2/14/17 Importance: High

This is a Direct Reply for your director's or designee's signature. Joel Bass, chair of the Department of Pediatrics at Newton-Wellesley Hospital, wrote the CDC director to share recent articles that dispute the positive practices associated with the Baby Friendly initiative. Please send me a copy of the signed and dated response by February 14, 2017. Thanks.

Marcia Smalls OPEL/NCCDPHP (404) 702-1025

From: Dean, Contessa J. (CDC/OD/OCS)
Sent: Thursday, February 02, 2017 10:14 AM
To: Smalls, Marcia V. (CDC/ONDIEH/NCCDPHP) <<u>mvs2@cdc.gov</u>>; Johnson, Margaret Sarti (CDC/ONDIEH/NCCDPHP) <<u>kcy3@cdc.gov</u>>
Subject: New Assignment SUPC in Newborns

NCCDPHP has a new assignment as a Direct Reply for folder 2379661. Please pay attention to the note in the folder.

From: Bass, Joel L.,M.D. (b)(6) Sent: Monday, January 30, 2017 5:44 PM To: Schuchat, Anne MD (CDC/OD) <<u>acs1@cdc.gov</u>> Subject: SUPC in Newborns

Dr Schuchat,

I would like to bring to your attention an issue of great significance: the CDC has been promoting and funding implementation of The Baby-Friendly Hospital Initiative. It has become increasingly recognized in Europe and now in the US, that practices associated with the Baby Friendly initiative are significant risk factors for neonatal sentinel events (Sudden Unexpected Newborn Collapse (SUPC) and newborn falls). I have been in contact with the CDC for the past year about this concern, which in light or the most recently published data, merits expeditious review.

I have attached a few articles for you to review on the subject including our most recent JAMA peds correspondence with the national data summarized below. I hope that you be willing to support a change in direction for the CDC, and a focus on safe and effective methods to promote breastfeeding. I would be willing to meet with you to discuss this in greater detail.

Regards,

Joel

Joel L Bass MD Chair, Department of Pediatrics Newton-Wellesley Hospital Professor of Pediatrics, Part-time Harvard Medical School

From: Bass, Joel L.,M.D. Sent: Monday, January 30, 2017 4:58 PM To: 'Briss, Peter (CDC/ONDIEH/NCCDPHP)' Cc: 'Cono, Joanne (CDC/OD/OADS)' Subject: RE:

Peter... Since this last email, we have published a commentary in AAP News advising on the issues raised in the AAP Clinical report on skin to skin care. Also in response to correspondence from Baby-Friendly advocates who commented on our Viewpoint, we have published data on the National Statistics on SUID deaths in the US in the neonatal period, compiled from the CDC Wonder On-Line data base. I have summarized the results in the table below:

	SUID for US infants 2003-2013					
	0-1 hr	0-23 hr	1-6 d	0-6 d	7-27 d	0-27 d
SUID "n" total	301	666	755	1421	3730	5151
SUID "n"/Year	27	61	69	129	339	468

I am certain the CDC would now agree that this a national problem that must be addressed expeditiously. Of particular note, as I mentioned in the AAP News Commentary, the states with the highest percentage of births at Baby-Friendly Hospitals (taken from the CDC Breastfeeding report Card) were not attaining the Healthy People 2020 goals, while those states with the highest initiation rates (not exclusivity) consistently attained those goals. This information is quite consistent with the recent USPTF JAMA report which showed that there was a lack of consistent evidence that system level interventions, including the Baby-Friendly initiative improved breast feeding outcomes.

I hope the CDC will now be willing to move forward on this issue and recommend alternative safe and effective approaches to support breastfeeding which will not contribute to sentinel events (SUPC and Falls).

I would be happy to meet with the CDC leadership to discuss this in greater detail.

Joel

Joel L Bass MD Chair, Department of Pediatrics Newton-Wellesley Hospital Professor of Pediatrics, Part-time Harvard Medical School From: Bass, Joel L.,M.D. Sent: Tuesday, September 27, 2016 3:35 PM To: 'Briss, Peter (CDC/ONDIEH/NCCDPHP)' Subject: RE:

Dear Peter... I appreciate your message below and interest in continuing our ongoing dialogue about this important issue. A few points I think require clarification: It's important to recognize that, as we mentioned in our publication, the problem is not with the 10 Steps per se but with the Baby Friendly (BF) method of documenting compliance with the steps. Only the pacifier ban is inherently problematic.

It's also important to recognize that the recent AAP report you mention was prepared prior to the population-based data from Massachusetts which we published and will now be interpreted within that context. The AAP report describes in even greater detail all of the safety hazards which we have previously brought to your attention. Of particular note, the report points out the following critical issues: The BF hospital initiative encourages continued skin-to-skin care (SSC) throughout the hospital stay while rooming in (e2) and none of the checklists or procedures developed have been proven to reduce the risk or prevent the associated sentinel events (e4). I also think it is very important for your colleagues at the CDC to pay detailed attention to the Swedish study quoted in AAP report demonstrating the severe consequences of widespread adoption of SSC beyond the first hours of life. The posting of the link to the AAP report on the BF webpage in no way addresses the need to incorporate the safety issue into the actual BF Guidelines and Criteria as requested by the CDC last year. The new 2016 guidelines remain unchanged and do not in any way include parental or provider education of risks associated with some of these practices and retains their standard generic safety disclaimer which the CDC deemed unacceptable last year.

Regarding the issue of data collection you mentioned, while SUPC has been recognized for a number of years by our European colleagues, it is a relatively new diagnostic entity in the US and as there are no existing ICD 10 codes the CDC epidemiologists will need to seek out this information using the diagnostic codes for SUID. It's important to keep in mind that SUPC includes an equal number of survivors (many with significant impairment). FYI We have been able to apply the four ICD 10 codes which were used in Massachusetts to the CDC Wonder data base and have confirmed that the national data is very similar to our state data. Over a 7 year period (2007-2013) there were on average 341 SUID deaths/year in the first month of life including 70/yr within the first 6 days of life and 16/year in the first day of life. We are in the process of performing a detailed analysis of this data, and I would like to extend an offer to the CDC epidemiologists to collaborate on this effort, as we have considerable experience in understanding the data not only from an epidemiologic perspective but from a clinical one as well.

Although the CDC was certainly not initially aware of these safety hazards when it undertook active promotion of BF certification in the US, at this point, now that the AAP has confirmed the nature of risk of newborn death and injury associated with some of these practices, coupled with the emerging evidence from population-based data which points to a problem of unquestionable national significance, I hope that the CDC will now take decisive action in addressing this issue. Rather than continuing to encourage hospitals in United States to engage in practices that may expose healthy newborns to unnecessary risk, the CDC should now encourage alternate effective ways to promote breastfeeding safely. To put this in perspective, in 2001, when 90 cases of kernicterus were identified over a 17 year period, the CDC took bold action that resulted in the condition being designated a "never" event. The same type of leadership is now required.

Joel L Bass MD

Chair, Department of Pediatrics Newton-Wellesley Hospital Professor of Pediatrics, Part-time Harvard Medical School

From: Briss, Peter (CDC/ONDIEH/NCCDPHP) [mailto:pxb5@cdc.gov] Sent: Monday, September 26, 2016 11:01 AM To: Bass, Joel L.,M.D. Subject:

Dear Joel,

I wanted to share some additional information with you regarding our efforts to respond to your concerns about safety in implementing the Ten Steps to Successful Breastfeeding.

Last week, Baby Friendly USA updated language on their Guidelines and Evaluation Criteria webpage that includes specific information about enhancing safety of baby friendly practices. https://www.babyfriendlyusa.org/get-started/the-guidelines-evaluation-criteria/safety-of-baby-friendly-practices. The webpage links to AAP protocols and guidelines regarding infant stability and care prior to encouraging skin to skin contact and also links to the recently published AAP Guidelines on safe sleep and skin to skin practices.

In addition, our epidemiologists within the National Center for Chronic Disease Prevention and Health Promotion are researching whether there are national and state datasets that may be helpful in examining trends in SUPC and/or SUID. We have also contacted several partners, including the Joint Commission, to identify other potential sources of data.

We understand that you are communicating with the Massachusetts Department of Health and we would be interested in hearing about any data or analysis that can better document this issue.

Again, we share your interest in promoting breastfeeding safely and want to assure you that we are working hard to address the concerns that you raise.

Peter

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#### Hospitals should balance skin-to-skin contact with safe sleep policies Jay P. Goldsmith AAP News 2013;34;22 DOI: 10.1542/aapnews.20133411-22

The online version of this article, along with updated information and services, is located on the World Wide Web at: http://aapnews.aappublications.org/content/34/11/22

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# Pediatricians and the Law

# Hospitals should balance skin-to-skin contact with safe sleep policies

#### by Jay P. Goldsmith, M.D., FAAP

Many hospitals are encouraging the initiation of skinto-skin contact and breastfeeding shortly after birth to facilitate mother-baby bonding and exclusive breastfeeding. Hospitals should balance these practices with safe sleep recommendations to avoid potential dangers when certain newborns are not monitored appropriately.

Several international studies have described the unexpected postnatal collapse of presumably healthy newborns in the hospital.

In addition, several cases in the United States of unexpected arrest in a mother's room have resulted in litigation against the hospital and various pediatric providers. In general, these cases involved apparently healthy babies who were placed with their mothers within the first two hours after birth for skin-to-skin contact, bonding and/or breastfeeding.

#### 'Baby Friendly' initiative gains ground

Many U.S. hospitals have received the designation "Baby Friendly," meaning they have met certain criteria regarding breastfeeding and support of the mother-baby

dyad. These criteria include having a written policy that is communicated to all staff calling for initiation of breastfeeding within a half hour of birth. Hospitals also give newborns no food or drink other than breast milk, give no pacifiers, and practice continuous "rooming in" where newborns remain with their mothers 24 hours a day. At least one study has shown that mothers who participate in the program are more likely to breastfeed exclusively.

The Baby Friendly Hospital Initiative was launched in 1991 by the World Health Organization and UNICEF to promote breastfeeding worldwide and give babies the best start in life. Initially aimed at the use of commercial formulas in the under-resourced world, the project quickly was adopted in the United States. The program has gained national acceptance, and many hospitals have received the designation.

The many benefits of exclusive breastfeeding (e.g., decreased incidence of gastroenteritis, asthma, eczema, respiratory and ear infections) are well-known (http://pediatrics. aappublications.org/content/129/



Hospitals should encourage skin-to-skin contact between mothers and babies while also emphasizing safe sleep practices that prevent potential dangers to newborns.

3/e827.full.pdf+html). Studies also have shown that babies who are placed in skin-to-skin contact exhibit better control of respiratory patterns.

However, some risks of early initiation of bonding with skin-toskin contact and breastfeeding in the hospital recently have come to light.

#### **Studies identify dangers**

A study in Sweden found that 15 of 26 newborns who suffered arrests without an underlying pathologic etiology were in a prone position while participating in skin-to-skin contact in the hospital, and 13 arrests occurred during unsupervised breastfeeding in the first two hours of life (Pejovic NJ, Herlenius E. *Acta Paediatr*. 2013;102(7)680-688). None of the babies died.

In Germany, a national survey found an incidence of 2.6 arrests per 100,000 births (Poets A, et al. *Pediatrics*. 2011;127(4):e869-e873). Twelve of 43 babies who arrested shortly after birth were found

lying on their mother's chest or abdomen, or very close to her and facing her. Nine of these events occurred in the first two hours after birth, and most were noticed by a health care professional in the room rather than the mother. Seven babies died.

In both of these studies, other significant pathologic and metabolic causes for the arrests were ruled out.

While the etiology of these arrests is unknown, the "Triple Risk Model" proposed in 1994 to conceptualize the etiology of sudden infant death syndrome may be illustrative in these cases. The model emphasizes that multiple factors must act simultaneously to result in these unexpected events. The baby must have an intrinsic vulnerability, possibly blunting of the arousal response. In older babies, it was thought that the period from 2-4 months was a critical developmental period, but the early neonatal period also may have increased vulnerability due to post-delivery stress, presence of narcotics or magnesium sulfate given to the mother. Thirdly, there must be an additional exogenous stressor (e.g., prone position, nose in breast, covers over face with carbon dioxide retention, etc.).

#### **Risk management tips**

The advantages of early skin-to-skin contact and breastfeeding are important, but health care professionals should be aware of the potential dangers. Mothers often are fatigued or may be sedated with narcotics or magnesium sulfate after delivery. Observation by trained personnel may not be continuous.

The Academy recommends that mothers not sleep with babies in their beds (http://pediatrics.aappublications.org/content/128/5/ 1030.full.pdf+html), yet this practice is common post-delivery. Moreover, if the baby has required some resuscitation (i.e., positive pressure ventilation in the delivery room), the Neonatal Resuscitation Program advises triage to "post resuscitation care" defined as management in an "environment where ongoing evaluation and monitoring are available."

Hospitals that participate in the "Baby Friendly" program should evaluate the mother after delivery and prior to early skin-to-skin contact or breastfeeding. Staff should be trained to identify high-risk situations that require closer monitoring such as when the mother has received sedatives. Babies should be monitored by a hospital employee (not a relative) or electronically if no appropriately trained person can be in the room continuously.

This also is an excellent opportunity for health care professionals to have discussions with parents linking early breastfeeding policies with safe infant sleep policies. Mothers should be reminded not to sleep with the baby in their bed, either in the hospital or at home. Staff also should be trained to model safe infant sleep practices.



**Dr. Goldsmith** is a member of the AAP Committee on Medical Liability and Risk Management.
#### Hospitals should balance skin-to-skin contact with safe sleep policies Jay P. Goldsmith AAP News 2013;34;22 DOI: 10.1542/aapnews.20133411-22

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## Unintended Consequences of Current Breastfeeding Initiatives

Promoting and supporting breastfeeding during the postpartum period has been an important and appropriate priority for maternity units in recent years. The "10 Steps to Successful Breastfeeding" of the Baby-Friendly Hospital Initiative have been implemented by an increasing number of hospitals as the standard of care for optimally supporting breastfeeding from birth to hospital discharge.<sup>1</sup> As some or all of these steps are increasingly being promoted as standard of care by government agencies (eg, the Centers for Disease Control and Prevention) and by The Joint Commission, it is important to be certain that the basis for the recommendations has been documented in reproducible scientific studies and that the benefits of the practices recommended outweigh the risks. Unfortunately, there is now emerging evidence that full compliance with the 10 steps of the initiative may inadvertently be promoting potentially hazardous practices and/or having counterproductive outcomes.

The wording of the 10 steps themselves may not suggest a potential for risk. However, the specific guidelines for Baby-Friendly designation provide the cause for concern. For example, to comply with step 4 (help mothers initiate breastfeeding within 1 hour of birth), the guidelines state that all mothers should have continuous skin-to-skin contact with their baby immediately after birth until completion of the first feeding and that skin-to-skin contact should also be encouraged throughout the hospital stay,<sup>1</sup> a time period when direct continuous observation by medical care professionals is not likely to occur. Although a recent Cochrane Review provides evidence for the benefits of skin-to-skin care for healthy full-term and late preterm infants for the first hour after birth, it also stipulates that mother and baby not be left unattended while skin-to-skin care takes place during this early period.<sup>2</sup> Reports of sudden unexpected postnatal collapse (SUPC) in association with the skin-to-skin practice, published over the past several years, have focused attention on the importance of this caveat.3

Reports of SUPC include both severe apparent lifethreatening events (recently referred to as brief resolved unexplained events) and sudden unexpected death in infancy occurring within the first postnatal week of life.<sup>3</sup> A comprehensive review of this issue identified 400 case reports in the literature, mostly occurring during skin-to-skin care, with one-third of the events occurring in the first 2 hours after birth and the remainder in the subsequent week of life.<sup>3</sup> The review reported death in half of the cases and persistent disability in the majority of survivors. European rates of SUPC varied from 2.6 to 74 cases per 100 000 births, with higher rates related to the length of the inclusion period and infant care practices related to prone sleeping and co-bedding.<sup>3</sup> Furthermore, a recent publication from the American Academy of Pediatrics observed that lawsuits have surfaced in US hospitals attributed to unexpected respiratory arrest in apparently healthy newborns during early skin-to-skin care and cautioned that this practice needs to be balanced with the need to implement safe sleep practices with monitoring of infants during skin-to-skin care unless direct observation takes place.<sup>4</sup>

While breastfeeding exclusivity (step 6) and 24hour rooming in (step 7) have demonstrated benefits in the postpartum period, these practices may also engender risk. An overly rigid insistence on these steps in order to comply with Baby-Friendly Hospital Initiative criteria may inadvertently result in a potentially exhausted or sedated postpartum mother being persuaded to feed her infant while she is in bed overnight, when she is not physically able to do so safely. This may result in prone positioning and co-sleeping on a soft warm surface in direct contradiction to the Safe Sleep Recommendations of the National Institutes of Health. In addition, cosleeping also poses a risk for a newborn falling out of the mother's bed in the hospital, which can have serious consequences.<sup>5</sup> There is also the possibility that unsafe sleep practices modeled in the hospital may continue at home.6

The justification for breastfeeding exclusivity is based on a 1998 World Health Organization review of the evidence for the 10 steps.<sup>7</sup> However, that review included evidence that when supplementation was given for a medical indication, there was no adverse effect on the duration of breastfeeding. It also concluded, based on the available evidence, that it was not clear to what extent supplementation in other circumstances was a marker of breastfeeding difficulty rather than an actual cause of breastfeeding failure.

Another issue of concern is the ban on pacifier use (step 9). Compliance requires that mothers be educated repeatedly that pacifiers may interfere with the development of optimal breastfeeding.<sup>1</sup> Because there is strong evidence that pacifiers may have a protective effect against sudden infant death syndrome (SIDS), the American Academy of Pediatrics has suggested avoidance of pacifiers only until breastfeeding is established at approximately 3 to 4 weeks of age.<sup>8</sup> Because a substantial number of SUPC events occur during the first week of life,<sup>3</sup> this recommendation to proscribe the use of pacifiers is difficult to defend based on risk.

Preventing the unintended serious outcomes from these practices has been made more challenging by the emphasis on breastfeeding exclusivity in the perinatal measures recently promulgated by The Joint Commis-

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sion. Measure PC-05 requires documentation of the reasons for not exclusively breastfeeding, with no allowable exceptions for newborn conditions. In addition, the Centers for Disease Control and Prevention actively promotes the "10 Steps" and Baby-Friendly designation, and monitors "10 Steps" compliance in the United States. In Massachusetts, the recently enacted Massachusetts Health Quality Measure 3A requires increasing rates of breastfeeding exclusivity, with soon to be implemented financial implications.

In an effort to explore the potential effect of these initiatives, we reviewed data from the Massachusetts Department of Public Health Registry of Vital Records and Statistics concerning statewide rates of sudden unexplained infant deaths among newborns. This includes *International Classification of Diseases* codes R95 (SIDS), R99 (undetermined cause and manner), W75 (accidental suffocation), and W84 (unspecified threat to breathing). While SIDS in the first month of life is generally considered an uncommon event, in Massachusetts (2004-2013), 14% of the cases of SIDS occurred in the first 28 days of life. Of note, 8 (22.2%) of the cases of SIDS among newborns and 20 (35.1%) of the newborn sudden unexplained infant deaths occurred in the first 5 days of life, suggesting that the concerns raised in the recent American Academy of Pediatrics report<sup>4</sup> may be more common than previously recognized.

In 2011, the Office of the Surgeon General issued a call to action to support breastfeeding that proposed the accelerated implementation of the Baby-Friendly Hospital Initiative in the United States.<sup>9</sup> Considering the available evidence, that recommendation should be reconsidered. If government and accreditation agencies wish to encourage and support breastfeeding, their focus should shift from monitoring Baby-Friendly practices and breastfeeding exclusivity to monitoring breastfeeding initiation rates coupled with evidence of lactation support both during and after the hospital stay. More attention should also be placed on ensuring compliance with established safe sleep programs, emphasizing the need to integrate safe sleep practices with breastfeeding. Hospitals should direct their efforts toward implementing practices that will promote breastfeeding safely, the common goal of both private and public groups with an interest in these issues.

#### **ARTICLE INFORMATION**

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#### REFERENCES

 Guidelines and Evaluation Criteria. Facilities seeking designation. Baby-Friendly USA website. https://www.babyfriendlyusa.org/get-started/theguidelines-evaluation-criteria. Accessed January 14 2016.

2. Moore ER, Anderson GC, Bergman N, Dowsewell T. Early skin-to-skin contact for mother and their healthy newborn infants. *Cochrane Database Syst Rev.* 2012;(5):CD003519. 3. Herlenius E, Kuhn P. Sudden unexpected postnatal collapse of newborn infants: a review of cases, definitions, risks, and preventive measures. *Transl Stroke Res.* 2013;4(2):236-247.

4. Goldsmith JP. Hospitals should balance skin-to-skin contact with safe sleep practices. *AAP News*. October 28, 2013. http://www .aappublications.org/content/34/11/22. Accessed July 14, 2016.

 Helsley L, McDonald JV, Stewart VT. Addressing in-hospital "falls" of newborn infants. Jt Comm J Qual Patient Saf. 2010;36(7):327-333.

6. Moon RY; Task Force on Sudden Infant Death Syndrome. SIDS and other sleep-related infant deaths: expansion of recommendations for a safe infant sleeping environment. *Pediatrics*. 2011;128 (5):e1341-e1367. 7. Step 6: use of supplements. In: Vallenas C, Savage F, eds. *Evidence for the Ten Steps to Successful Breastfeeding*. Geneva, Switzerland: Division of Child Health and Development/World Health Organization; 1998:48-56.

8. Section on Breastfeeding. Breastfeeding and the use of human milk. *Pediatrics*. 2012;129(3):e827-e841.

**9**. Action 7: ensure that maternity care practices throughout the United States are fully supportive of breastfeeding. In: Benjamin R, Frieden TR, Jones WK, et al, eds. *The Surgeon General's Call to Action to Support Breastfeeding*. Washington, DC: US Dept Health and Human Services/Office of the Surgeon General; 2011:44-45.

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 $\label{eq:clinical relative} CLINICAL \ REPORT \quad {\it Guidance for the Clinician in Rendering Pediatric Care}$ 

American Academy of Pediatrics



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# Safe Sleep and Skin-to-Skin Care in the Neonatal Period for Healthy Term Newborns

Lori Feldman-Winter, MD, MPH, FAAP, Jay P. Goldsmith, MD, FAAP, COMMITTEE ON FETUS -AND NEWBORN, TASK FORCE ON SUDDEN INFANT DEATH SYNDROME

Skin-to-skin care (SSC) and rooming-in have become common practice in the newborn period for healthy newborns with the implementation of maternity care practices that support breastfeeding as delineated in the World Health Organization's "Ten Steps to Successful Breastfeeding." SSC and rooming-in are supported by evidence that indicates that the implementation of these practices increases overall and exclusive breastfeeding, safer and healthier transitions, and improved maternal-infant bonding. In some cases, however, the practice of SSC and rooming-in may pose safety concerns, particularly with regard to sleep. There have been several recent case reports and case series of severe and sudden unexpected postnatal collapse in the neonatal period among otherwise healthy newborns and near fatal or fatal events related to sleep, suffocation, and falls from adult hospital beds. Although these are largely case reports, there are potential dangers of unobserved SSC immediately after birth and throughout the postpartum hospital period as well as with unobserved rooming-in for at-risk situations. Moreover, behaviors that are modeled in the hospital after birth, such as sleep position, are likely to influence sleeping practices after discharge. Hospitals and birthing centers have found it difficult to develop policies that will allow SSC and rooming-in to continue in a safe manner. This clinical report is intended for birthing centers and delivery hospitals caring for healthy newborns to assist in the establishment of appropriate SSC and safe sleep policies.

#### INTRODUCTION

#### **Definition of Skin-to-Skin Care and Rooming-In**

Skin-to-skin care (SSC) is defined as the practice of placing infants in direct contact with their mothers or other caregivers with the ventral skin of the infant facing and touching the ventral skin of the mother/

#### abstract

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To cite: Feldman-Winter L, Goldsmith JP, AAP COMMITTEE ON FETUS AND NEWBORN, AAP TASK FORCE ON SUDDEN INFANT DEATH SYNDROME. Safe Sleep and Skin-to-Skin Care in the Neonatal Period for Healthy Term Newborns. *Pediatrics*. 2016;138(3):e20161889 caregiver (chest-to-chest). The infant is typically naked or dressed only in a diaper to maximize the surface-tosurface contact between mother/ caregiver and the infant, and the dyad is covered with prewarmed blankets, leaving the infant's head exposed. SSC is recommended for all mothers and newborns, regardless of feeding or delivery method, immediately after birth (as soon as the mother is medically stable, awake, and able to respond to her newborn) and to continue for at least 1 hour, as defined by the World Health Organization's (WHO's) "Ten Steps to Successful Breastfeeding."1,2 SSC is also a term used to describe continued holding of the infant in the manner described above and beyond the immediate delivery period and lasting throughout infancy, whenever the mother/ caregiver and infant have the opportunity. For mothers planning to breastfeed, SSC immediately after delivery and continued throughout the postpartum period also involves encouraging mothers to recognize when their infants are ready to breastfeed and providing help if needed.<sup>2</sup> Additional recommendations by the WHO, as part of the Baby-Friendly Hospital Initiative and endorsed by the American Academy of Pediatrics (AAP) in 2009, include the following specifications for the period of time immediately after delivery: routine procedures such as assessments and Apgar scores are conducted while SSC is underway, and procedures that may be painful or require separation should be delayed until after the first hour; if breastfeeding, these procedures should occur after the first breastfeeding is completed.<sup>3</sup> The AAP further delineates that the administration of vitamin K and ophthalmic prophylaxis can be delayed for at least 1 hour and up to 4 hours after delivery. The **Baby-Friendly Hospital Initiative** encourages continued SSC

throughout the hospital stay while rooming-in.<sup>4</sup>

Unless there is a medical reason for separation, such as resuscitation, SSC may be provided for all newborns. In the case of cesarean deliveries, SSC may also be provided when the mother is awake and able to respond to her infant. In some settings, SSC may be initiated in the operating room following cesarean deliveries, while in other settings SSC may begin in the recovery room. SSC for healthy newborns shall be distinguished from "kangaroo care" in this clinical report, because the latter applies to preterm newborns or infants cared for in the NICU.<sup>5</sup> This report is intended for mothers and infants who are well, are being cared for in the routine postpartum or motherinfant setting, and have not required resuscitation. Although sick or preterm newborns may benefit from SSC, this review is intended only for healthy term newborns. Late preterm infants (defined as a gestational age of 34-37 weeks) may also benefit from early SSC but are at increased risk of a number of early neonatal morbidities.6

Rooming-in is defined as allowing mothers and infants to remain together 24 hours per day while in the delivery hospital. This procedure is recommended for all mothers and their healthy newborns, regardless of feeding or delivery method, and in some cases applies to older late preterm (>35 weeks' gestation) or early term (37-39 weeks' gestation) newborns who are otherwise healthy and receiving routine care, who represent up to 70% of this population.<sup>7</sup> Mothers are expected to be more involved with routine care, such as feeding, holding, and bathing. Newborns may remain with their mothers unless there is a medical reason for separation for either the mother or the infant. Procedures that can be performed at the bedside can be performed while the infant is preferably being held skin-to-skin or

at least in the room with the mother. Being held skin-to-skin by the mother has been shown to decrease pain in newborns undergoing painful procedures such as blood draws.<sup>8,9</sup> Mothers may nap, shower, or leave the room with the expectation that the mother-infant staff members monitor the newborn at routine intervals. Mothers are encouraged to use call bells for assistance with their own care or that of their newborns.

#### **Evidence for SSC and Rooming-In**

SSC has been researched extensively as a method to provide improved physiologic stability for newborns and potential benefits for mothers. SSC immediately after birth stabilizes the newborn body temperature and can help prevent hypothermia.10,11 SSC also helps stabilize blood glucose concentrations, decreases crying, and provides cardiorespiratory stability, especially in late preterm newborns.<sup>12</sup> SSC has been shown in numerous studies as a method to decrease pain in newborns being held by mothers<sup>13-16</sup> and fathers.<sup>17</sup> In preterm infants, SSC has been shown to result in improved autonomic and neurobehavioral maturation and gastrointestinal adaptation, more restful sleep patterns, less crying, and better growth.<sup>18–21</sup> Although not specifically studied in full-term infants, it is likely that these infants also benefit in similar ways.

SSC also benefits mothers. Immediately after birth, SSC decreases maternal stress and improves paternal perception of stress in their relationship.<sup>22</sup> A recent study suggested that SSC and breastfeeding within 30 minutes of birth reduce postpartum hemorrhage.23 Experimental models indicate that mother-infant separation causes significant stress, and the consequences of this stress on the hypothalamicpituitary-adrenal axis persist.<sup>24</sup> In a randomized trial examining the relationship between SSC and

maternal depression and stress, both depression scores and salivary cortisol concentrations were lower over the first month among postpartum mothers providing SSC compared with mothers who were provided no guidance about SSC.22 For breastfeeding mother-infant dyads, SSC enhances the opportunity for an early first breastfeeding, which, in turn, leads to more readiness to breastfeed, an organized breastfeeding suckling pattern, and more success in exclusive and overall breastfeeding, 12, 25, 26 even after cesarean deliveries.27 Further evidence shows a benefit for mothers after cesarean deliveries who practice SSC as soon as the mother is alert and responsive in increased breastfeeding initiation, decreased time to the first breastfeeding, reduced formula supplementation, and increased bonding and maternal satisfaction.28 Increasing rates of breastfeeding ultimately have short- and long-term health benefits, such as decreased risk of infections, obesity, cancer, and sudden infant death syndrome.3

The evidence for rooming-in also extends beyond infant feeding practices and is consistent with contemporary models of familycentered care.<sup>29</sup> Rooming-in and the maternity care practices aligned with keeping mothers and newborns together in a hospital setting were defined as best practice but not fully implemented in the post-World War II era, largely because of nursing culture and the presumption that newborns were safer in a sterile nursery environment.30 Rooming-in leads to improved patient satisfaction.31,32 Integrated mother-infant care leads to optimal outcomes for healthy mothers and infants, including those with neonatal abstinence syndrome.33 Rooming-in also provides more security, may avoid newborn abductions or switches, leads to decreased infant abandonment,34 and provides more

opportunity for supervised maternalnewborn interactions.35 Hospital staff members caring for mother-infant dyads have more opportunities to empower mothers to care for their infants than when infant care is conducted without the mother and in a separate nursery. For the breastfeeding mother-infant dyad, rooming-in may help to support cuebased feeding, leading to increased frequency of breastfeeding, especially in the first few days<sup>36</sup>; decreased hyperbilirubinemia; and increased likelihood of continued breastfeeding up to 6 months.37

SSC and rooming-in are 2 of the important steps in the WHO's "Ten Steps to Successful Breastfeeding" and serve as the basic tenets for a baby-friendly-designated delivery hospital.<sup>1,38,39</sup> The Ten Steps include practices that also improve patient safety and outcomes by supporting a more physiologic transition immediately after delivery; maintaining close contact between the mother and her newborn, which decreases the risk of infection and sepsis; increasing the opportunity for the development of a protective immunologic environment; decreasing stress responses by the mother and her infant; and enhancing sleep patterns in the mother.40-42

#### SAFETY CONCERNS REGARDING IMMEDIATE SSC

Rarely are there contraindications to providing SSC; however, there are potential safety concerns to address. A newborn requiring positive-pressure resuscitation should be continuously monitored, and SSC should be postponed until the infant is stabilized.<sup>43</sup> Furthermore, certain conditions, such as low Apgar scores (less than 7 at 5 minutes) or medical complications from birth, may require careful observation and monitoring of the newborn during SSC and in some cases may prevent SSC.<sup>11</sup> Other

safety concerns are attributable to the lack of standardization in the approach, discontinuous observation of the mother-infant dyad (with lapses exceeding 10 to 15 minutes during the first few hours of life), lack of education and skills among staff supporting the dyad during transition while skin-to-skin, and unfamiliarity with the potential risks of unsafe positioning and methods of assessment that may avert problems.44 The main concerns regarding immediate postnatal SSC include sudden unexpected postnatal collapse (SUPC), which includes any condition resulting in temporary or permanent cessation of breathing or cardiorespiratory failure.45-48 Many, but not all, of these events are related to suffocation or entrapment. In addition, falls may occur during SSC, particularly if unobserved, and other situations or conditions may occur that prevent SSC from continuing safely.44,49

SUPC is a rare but potentially fatal event in otherwise healthy-appearing term newborns. The definition of SUPC varies slightly depending on the author and population studied. One definition offered by the British Association of Perinatal Medicine<sup>50</sup> includes any term or near-term (defined as >35 weeks' gestation in this review) infant who meets the following criteria: (1) is well at birth (normal 5-minute Apgar and deemed well enough for routine care), (2) collapses unexpectedly in a state of cardiorespiratory extremis such that resuscitation with intermittent positive-pressure ventilation is required, (3) collapses within the first 7 days of life, and (4) either dies, goes on to require intensive care, or develops encephalopathy. Other potential medical conditions should be excluded (eg, sepsis, cardiac disease) for SUPC to be diagnosed. The incidence of SUPC in the first hours to days of life varies widely because of different definitions, inclusion and exclusion criteria of

newborns being described, and lack of standardized reporting and may be higher in certain settings. The incidence is estimated to be 2.6 to 133 cases per 100 000 newborns. In 1 case series, the authors described one-third of SUPC events occurring in the first 2 hours of life, one-third occurring between 2 and 24 hours of life, and the final third occurring between 1 and 7 days of life.51 Other authors suggested that 73% of SUPC events occur in the first 2 hours of life.<sup>52</sup> In the case series by Pejovic and Herlenius,<sup>51</sup> 15 of the 26 cases of SUPC were found to have occurred during SSC in a prone position. Eighteen were in primiparous mothers, 13 occurred during unsupervised breastfeeding at <2 hours of age, and 3 occurred during smart cellular phone use by the mother. Five developed grade 2 hypoxic-ischemic encephalopathy (moderate encephalopathy), with 4 requiring hypothermia treatment. Twenty-five of the 26 cases had favorable neurologic outcomes in 1 series; however, in another review, mortality was as high as 50%, and among survivors, 50% had neurologic sequelae.53 Experimental models suggest that autoresuscitation of breathing after hypoxic challenge takes longer with lower postnatal age and decreased core body temperature.54

SUPC, in some definitions, includes acute life-threatening episodes; however, the latter is presumed to be more benign. An apparent lifethreatening episode, or what may be referred to as a brief resolved unexplained event, may be low risk and require simple interventions such as positional changes, brief stimulation, or procedures to resolve airway obstruction.<sup>46,53</sup>

Falls are another concern in the immediate postnatal period. Mothers who are awake and able to respond to their newborn infant immediately after birth may become suddenly and unexpectedly sleepy, ill, or unable to continue holding their infant. Fathers or other support people providing SSC may also suddenly become unable to continue to safely hold the newborn because of lightheadedness, fatigue, incoordination, or other factors. If a hospital staff member is not immediately available to take over, unsafe situations may occur, and newborns may fall to the floor or may be positioned in a manner that obstructs their airway.

#### SUGGESTIONS TO IMPROVE SAFETY IMMEDIATELY AFTER DELIVERY

Several authors have suggested mechanisms for standardizing the procedure of immediate postnatal SSC to prevent sentinel events; however, none of the checklists or procedures developed have been proven to reduce the risk. Frequent and repetitive assessments, including observation of newborn breathing, activity, color, tone, and position, may avert positions that obstruct breathing or events leading to sudden collapse.41 In addition, continuous monitoring by trained staff members and the use of checklists may improve safety.35 Some have suggested continuous pulse oximetry; however, there is no evidence that this practice would improve safety, and it may be impractical. Given the occurrence of events in the first few hours of life, it is prudent to consider staffing the delivery unit to permit continuous staff observation with frequent recording of neonatal vital signs. A procedure manual that is implemented in a standardized fashion and practiced with simulation drills may include sequential steps identified in Box 1.55

#### BOX 1: PROCEDURE FOR IMMEDIATE SKIN-TO-SKIN CARE

- 1. Delivery of newborn
- Dry and stimulate for first breath/cry, and assess newborn

- If the newborn is stable, place skin to skin with cord attached (with option to milk cord), clamp cord after 1 minute or after placenta delivered, and reassess newborn to permit physiological circulatory transition<sup>56</sup>
- 4. Continue to dry entire newborn except hands to allow the infant to suckle hands bathed in amniotic fluid (which smells and tastes similar to colostrum), which facilitates rooting and first breastfeeding<sup>57</sup>
- Cover head with cap (optional) and place prewarmed blankets to cover body of newborn on mother's chest, leaving face exposed<sup>58</sup>
- 6. Assess Apgar scores at 1 and 5 minutes
- 7. Replace wet blankets and cap with dry warm blankets and cap
- 8. Assist and support to breastfeed

Risk stratification and associated monitoring and care may avert SUPC, falls, and suffocation.<sup>59</sup> Highrisk situations may include infants who required resuscitation (ie, any positive-pressure ventilation), those with low Apgar scores, late preterm and early term (37-39 weeks' gestation) infants, difficult delivery, mother receiving codeine<sup>60</sup> or other medications that may affect the newborn (eg, general anesthesia or magnesium sulfate), sedated mother, and excessively sleepy mothers and/or newborns. Mothers may be assessed to determine their level of fatigue and sleep deprivation.<sup>61</sup> In situations such as those described, increased staff vigilance with continuous monitoring, as described previously, is important to assist with SSC throughout the immediate postpartum period.62 Additional suggestions to improve safety include enhancements to the environment, such as stabilizing the ambient temperature,<sup>63</sup> use

of appropriate lighting so that the infant's color and condition can be easily assessed, and facilitating an unobstructed view of the newborn (Box 2). Additional support persons, such as doulas and family members, may augment but not replace staff monitoring. Furthermore, staff education, appropriate staffing, and awareness of genetic risks may limit sentinel events such as SUPC. These suggestions, however, have not yet been tested in prospective studies to determine efficacy.

#### BOX 2. COMPONENTS OF SAFE POSITIONING FOR THE NEWBORN WHILE SKIN-TO-SKIN<sup>62</sup>:

- 1. Infant's face can be seen
- Infant's head is in "sniffing" position
- 3. Infant's nose and mouth are not covered
- 4. Infant's head is turned to one side
- 5. Infant's neck is straight, not bent
- 6. Infant's shoulders and chest face mother
- 7. Infant's legs are flexed
- 8. Infant's back is covered with blankets
- Mother-infant dyad is monitored continuously by staff in the delivery environment and regularly on the postpartum unit
- When mother wants to sleep, infant is placed in bassinet or with another support person who is awake and alert

SSC may be continued while moving a mother from a delivery surface (either in a delivery room or operating room) to the postpartum maternal bed. Transitions of mother-infant dyads throughout this period, and from delivery settings to postpartum settings,



FIGURE 1 Side-car bassinet for in-hospital use. Photo courtesy of Kristin Tully, PhD.

facilitate continued bonding, thermoregulation, and increased opportunities for breastfeeding. These transitions may be accomplished safely with skilled staff members by using a standardized procedure.<sup>64</sup> A newborn who is not properly secured may pose a risk for falls or unsafe positioning, leading to suffocation.

#### SAFETY CONCERNS REGARDING ROOMING-IN

Despite all of the advantages of rooming-in, there are specific conditions that pose risks for the newborn. Many of the same concerns that occur during SSC in the immediate postnatal period continue to be of concern while rooming-in, especially if the mother and infant are sleeping together in the mother's bed on the postpartum unit.65 In addition, breastfeeding mothers may fall asleep unintentionally while breastfeeding in bed, which can result in suffocation.<sup>66</sup> Infant falls may be more common in the postpartum setting because of less frequent

monitoring and increased time that a potentially fatigued mother is alone with her newborn(s).67 The Oregon Patient Safety Review evaluated 7 hospitals that were part of 1 larger health system and identified 9 cases of newborn falls (from 22866 births), for a rate of 3.94 falls per 10 000 births over a 2-year period from 2006 to 2007, which is higher than previous reports of 1.6 per 100 000.<sup>68–70</sup> It is not clear whether this higher incidence was attributable to an actual increase or better reporting. For hospitals transitioning to mother-infant dyad care (1 nurse providing care for both mother and infant) or separate mothernewborn care while rooming-in, it is important to communicate to staff that the same level of attention and care is necessary to provide optimal safety. Mothers will be naturally exhausted and potentially sleep-deprived or may sleep in short bursts.<sup>61</sup> They may also be unable to adjust their position or ambulate safely while carrying a newborn. The postpartum period provides unique challenges regarding falls/drops and is understudied compared with

falls in the neurologically impaired or elderly patient. Checklists and scoring tools may be appropriate and have the potential to decrease these adverse events, particularly if geared to the unique needs of the postpartum period, such as shortterm disability from numbness or pain, sleepiness or lethargy related to pregnancy and delivery, and effects from medication.<sup>71</sup>

Even though mothers and family members may be educated about the avoidance of bed-sharing, falling asleep while breastfeeding or holding the newborn during SSC is common. Staff can educate support persons and/or be immediately available to safely place newborns on a close but separate sleep surface when mothers fall asleep. Mothers may be reassured that they or their support persons can safely provide SSC and that staff will be available to assist with the transition to a safe sleep surface as needed. Mothers who have had cesarean deliveries are particularly at risk because of limited mobility and effects of anesthesia and warrant closer monitoring.72

Several studies examining safety while rooming-in have been conducted. Sixty-four mother-infant dyads were studied in the United Kingdom and randomly assigned to have newborns sleep in a standalone bassinet, a side-car bassinet (Fig 1), or the mother's bed to determine perception of safety (by video monitoring) and breastfeeding outcomes.73 Breastfeeding was more frequent among those sharing a bed and using a side-car than a separate bassinet, but there were more hazards associated with bedsharing than using a side-car or bassinet. Although there were no adverse events in this study, the authors concluded that the side-car provided the best opportunities for breastfeeding with the safest conditions. In a similar study

examining dyads after cesarean delivery, more hazards were associated with stand-alone bassinets than side-car bassinets. However, side-car technology for hospital beds is not yet well established in the United States, and safety data are not yet available. Given the level of disability in mothers who have had a cesarean delivery, sidecar technology holds promise for improvement in the safety of the rooming-in environment.<sup>74</sup>

#### SUGGESTIONS TO IMPROVE SAFETY WHILE ROOMING-IN

Healthy mother-infant dyads are safest when kept together and cared for as a unit in a motherinfant setting. Staffing ratios are determined to meet the needs of both the mother and her newborn(s) and to ensure the best possible outcomes. The Association of Women's Health, Obstetric and Neonatal Nurses' recommendations are to have no more than 3 dyads assigned to 1 nurse to avoid situations in which nursing staff are not immediately available and able to regularly monitor the mother-infant dyads throughout the postpartum period.75 These ratios may permit routine monitoring, rapid response to call bells, and adequate time for teaching; however, nursing staff extenders, such as health educators and nursing assistants, may augment care. Mothers and families who are informed of the risks of bed-sharing and guided to place newborns on separate sleep surfaces for sleep are more likely to follow these recommendations while in the hospital and after going home. Family members and staff can be available to assist mothers with transitioning the newborn to a safe sleep location, and regular staff supervision facilitates the recognition of sleepy family members and safer placement of the newborns in bassinets or side-cars.

#### SUGGESTIONS FOR ROOMING-IN

- Use a patient safety contract with a particular focus on high-risk situations (see parent handout Newborn Safety Information for Parents<sup>68</sup> and sample contract<sup>71</sup>).
- Monitor mothers according to their risk assessment: for example, observing every 30 minutes during nighttime and early morning hours for higher-risk dyads.<sup>69</sup>
- 3. Use fall risk assessment tools.<sup>76</sup>
- 4. Implement maternal egress testing (a modification of a tool originally designed to transfer obese patients from bed to stand, chair, or ambulation by using repetition to verify stability), especially if the mother is using medications that may affect stability in ambulating.<sup>69</sup>
- 5. Review mother-infant equipment to ensure proper function and demonstrate the appropriate use of equipment, such as bed rails and call bells, with mothers and families.
- 6. Publicize information about how to prevent newborn falls throughout the hospital system.
- Use risk assessment tools to avoid hazards of SSC and rooming-in practices.<sup>77</sup>

#### TRANSITIONING TO HOME AND SAFE SLEEP BEYOND DISCHARGE

Information provided to parents at the time of hospital discharge should include anticipatory guidance about breastfeeding and sleep safety.<sup>3,78,79</sup> Pediatricians, hospitals, and other clinical staff should abide by AAP recommendations/guidance on breastfeeding and safe sleep, pacifier introduction, maternal smoking, use of alcohol, sleep positioning, bed-sharing, and appropriate sleep surfaces, especially when practicing SSC.<sup>79</sup> In addition, the AAP recommends the avoidance of practices that increase the risk of sudden and unexpected infant death, such as smoking, the use of alcohol, placing the infant in a nonsupine position for sleep, nonexclusive breastfeeding, and placing the infant to sleep (with or without another person) on sofas or chairs.79,80 To facilitate continued exclusive breastfeeding, the coordination of postdischarge support is recommended to enable the best opportunity to meet breastfeeding goals. Mothers may be referred to peer support groups and trained lactation specialists if breastfeeding problems occur. Community support is optimized by coordination with the medical home.<sup>81</sup>

#### CONCLUSIONS

Pediatricians and other providers have important roles in the implementation of safe SSC and rooming-in practices. Safe implementation with the use of a standardized approach may prevent adverse events such as SUPC and falls.

The following suggestions support safe implementation of these practices:

- Develop standardized methods and procedures of providing immediate and continued SSC with attention to continuous monitoring and assessment.
- 2. Standardize the sequence of events immediately after delivery to promote safe transition, thermoregulation, uninterrupted SSC, and direct observation of the first breastfeeding session.
- 3. Document maternal and newborn assessments and any changes in conditions.
- 4. Provide direct observation of the mother-infant dyad while in the delivery room setting.
- Position the newborn in a manner that provides an unobstructed airway.

- 6. Conduct frequent assessments and monitoring of the motherinfant dyad during postpartum rooming-in settings, with particular attention to high-risk situations such as nighttime and early morning hours.
- 7. Assess the level of maternal fatigue periodically. If the mother is tired or sleepy, move the infant to a separate sleep surface (eg, side-car or bassinet) next to the mother's bed.
- 8. Avoid bed-sharing in the immediate postpartum period by assisting mothers to use a separate sleep surface for the infant.
- 9. Promote supine sleep for all infants. SSC may involve the prone or side position of the newborn, especially if the dyad is recumbent; therefore, it is imperative that the mother/ caregiver who is providing SSC be awake and alert.
- 10. Train all health care personnel in standardized methods of providing immediate SSC after delivery, transitioning the mother-infant dyad, and monitoring the dyad during SSC and rooming-in throughout the delivery hospital period.

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#### ABBREVIATIONS

AAP: American Academy of Pediatrics
SIDS: sudden infant death syndrome
SSC: skin-to-skin care
SUPC: sudden unexpected postnatal collapse
WHO: World Health Organization

#### REFERENCES

- World Health Organization. Evidence for the ten steps to successful breastfeeding. Geneva, Switzerland: World Health Organization; 1998. Available at: www.who.int/nutrition/ publications/evidence\_ten\_step\_eng. pdf. Accessed May 5, 2016
- World Health Organization; UNICEF. Baby-Friendly Hospital Initiative: revised, updated, and expanded for integrated care. 2009. Available at: http://apps.who.int/iris/bitstream/ 10665/43593/1/9789241594967\_eng. pdf. Accessed May 5, 2016
- Eidelman Al, Schanler RJ; Section on Breastfeeding. Breastfeeding and the use of human milk. *Pediatrics*.

2012;129(3). Available at: www. pediatrics.org/cgi/content/full/129/3/ e827

- Baby-Friendly USA. Guidelines and evaluation criteria for facilities seeking Baby-Friendly designation. 2012. Available at: https://www. babyfriendlyusa.org/get-started/ the-guidelines-evaluation-criteria. Accessed May 5, 2016
- World Health Organization. Kangaroo mother care: a practical guide. 2003. Available at: http://apps.who.int/iris/ bitstream/10665/42587/1/9241590351. pdf. Accessed May 5, 2016
- Baley J, ; Committee on Fetus and Newborn. Skin-to-skin care for term and preterm infants in the neonatal ICU. *Pediatrics*. 2015;136(3):596–599
- Horgan MJ. Management of the late preterm infant: not quite ready for prime time. *Pediatr Clin North Am.* 2015;62(2):439–451
- Codipietro L, Ceccarelli M, Ponzone A. Breastfeeding or oral sucrose solution in term neonates receiving heel lance: a randomized, controlled trial. *Pediatrics*. 2008;122(3). Available at: www.pediatrics.org/cgi/content/full/ 122/3/e716
- Gray L, Miller LW, Philipp BL, Blass EM. Breastfeeding is analgesic in healthy newborns. *Pediatrics*. 2002;109(4):590–593
- Nimbalkar SM, Patel VK, Patel DV, Nimbalkar AS, Sethi A, Phatak A. Effect of early skin-to-skin contact following normal delivery on incidence of hypothermia in neonates more than 1800 g: randomized control trial. J Perinatol. 2014;34(5):364–368
- Moore ER, Anderson GC. Randomized controlled trial of very early motherinfant skin-to-skin contact and breastfeeding status. J Midwifery Womens Health. 2007;52(2):116–125
- Moore ER, Anderson GC, Bergman N, Dowswell T. Early skin-to-skin contact for mothers and their healthy newborn infants. *Cochrane Database Syst Rev.* 2012;5:CD003519
- Johnston C, Campbell-Yeo M, Fernandes A, Inglis D, Streiner D, Zee R. Skin-to-skin care for procedural pain in neonates. *Cochrane Database Syst Rev.* 2014;1:CD008435

- Kostandy R, Anderson GC, Good M. Skin-to-skin contact diminishes pain from hepatitis B vaccine injection in healthy full-term neonates. *Neonatal Netw.* 2013;32(4):274–280
- Okan F, Ozdil A, Bulbul A, Yapici Z, Nuhoglu A. Analgesic effects of skinto-skin contact and breastfeeding in procedural pain in healthy term neonates. *Ann Trop Paediatr*. 2010;30(2):119–128
- Castral TC, Warnock F, Leite AM, Haas VJ, Scochi CG. The effects of skinto-skin contact during acute pain in preterm newborns. *Eur J Pain*. 2008;12(4):464–471
- Erlandsson K, Dsilna A, Fagerberg I, Christensson K. Skin-to-skin care with the father after cesarean birth and its effect on newborn crying and prefeeding behavior. *Birth.* 2007;34(2):105–114
- Feldman R, Eidelman AI, Sirota L, Weller A. Comparison of skin-to-skin (kangaroo) and traditional care: parenting outcomes and preterm infant development. *Pediatrics*. 2002;110(1 pt 1):16–26
- Feldman R, Weller A, Sirota L, Eidelman Al. Skin-to-skin contact (Kangaroo care) promotes self-regulation in premature infants: sleep-wake cyclicity, arousal modulation, and sustained exploration. *Dev Psychol.* 2002;38(2):194–207
- Feldman R, Eidelman Al. Skin-to-skin contact (kangaroo care) accelerates autonomic and neurobehavioural maturation in preterm infants. *Dev Med Child Neurol.* 2003;45(4):274–281
- Chwo M-J, Anderson GC, Good M, Dowling DA, Shiau S-HH, Chu D-M. A randomized controlled trial of early kangaroo care for preterm infants: effects on temperature, weight, behavior, and acuity. *J Nurs Res.* 2002;10(2):129–142
- 22. Mörelius E, Örtenstrand A, Theodorsson E, Frostell A. A randomised trial of continuous skin-to-skin contact after preterm birth and the effects on salivary cortisol, parental stress, depression, and breastfeeding. *Early Hum Dev.* 2015;91(1):63–70
- 23. Saxton A, Fahy K, Rolfe M, Skinner V, Hastie C. Does skin-to-skin contact and

breast feeding at birth affect the rate of primary postpartum haemorrhage: results of a cohort study. *Midwifery*. 2015;31(11):1110–1117

- 24. Vetulani J. Early maternal separation: a rodent model of depression and a prevailing human condition. *Pharmacol Rep.* 2013;65(6):1451–1461
- Dani C, Cecchi A, Commare A, Rapisardi G, Breschi R, Pratesi S. Behavior of the newborn during skin-to-skin. *J Hum Lact.* 2015;31(3):452–457
- Dumas L, Lepage M, Bystrova K, Matthiesen A-S, Welles-Nyström B, Widström A-M. Influence of skinto-skin contact and rooming-in on early mother-infant interaction: a randomized controlled trial. *Clin Nurs Res.* 2013;22(3):310–336
- Beiranvand S, Valizadeh F, Hosseinabadi R, Pournia Y. The effects of skin-to-skin contact on temperature and breastfeeding successfulness in full-term newborns after cesarean delivery. *Int J Pediatr.* 2014;2014:846486
- Stevens J, Schmied V, Burns E, Dahlen H. Immediate or early skin-to-skin contact after a Caesarean section: a review of the literature. *Matern Child Nutr.* 2014;10(4):456–473
- 29. Phillips CR. *Family-Centered Maternity Care*. Sudbury, MA: Jones & Bartlett Learning; 2003
- Silberman SL. Pioneering in familycentered maternity and infant care: Edith B. Jackson and the Yale rooming-in research project. *Bull Hist Med.* 1990;64(2):262–287
- Mullen K, Conrad L, Hoadley G, lannone D. Family-centered maternity care: one hospital's quest for excellence. *Nurs Womens Health*. 2007;11(3):282–290
- Martell LK. Postpartum women's perceptions of the hospital environment. J Obstet Gynecol Neonatal Nurs. 2003;32(4):478–485
- Ordean A, Kahan M, Graves L, Abrahams R, Kim T. Obstetrical and neonatal outcomes of methadonemaintained pregnant women: a Canadian multisite cohort study. J Obstet Gynaecol Can. 2015;37 (3):252–257
- 34. Lvoff NM, Lvoff V, Klaus MH. Effect of the baby-friendly initiative on

infant abandonment in a Russian hospital. *Arch Pediatr Adolesc Med.* 2000;154(5):474–477

- O'Connor S, Vietze PM, Sherrod KB, Sandler HM, Altemeier WA III. Reduced incidence of parenting inadequacy following rooming-in. *Pediatrics*. 1980;66(2):176–182
- Jaafar SH, Lee KS, Ho JJ. Separate care for new mother and infant versus rooming-in for increasing the duration of breastfeeding. *Cochrane Database Syst Rev.* 2012;9:CD006641
- Chiou ST, Chen LC, Yeh H, Wu SR, Chien LY. Early skin-to-skin contact, rooming-in, and breastfeeding: a comparison of the 2004 and 2011 National Surveys in Taiwan. *Birth*. 2014;41(1):33–38
- Merewood A, Patel B, Newton KN, et al Breastfeeding duration rates and factors affecting continued breastfeeding among infants born at an inner-city US Baby-Friendly hospital. J Hum Lact. 2007;23(2):157–164
- Aghdas K, Talat K, Sepideh B. Effect of immediate and continuous mother-infant skin-to-skin contact on breastfeeding self-efficacy of primiparous women: a randomised control trial. *Women Birth*. 2014;27(1):37–40
- Montgomery-Downs HE, Clawges HM, Santy EE. Infant feeding methods and maternal sleep and daytime functioning. *Pediatrics*. 2010;126(6). Available at: www.pediatrics.org/cgi/ content/full/126/6/e1562
- 41. Takahashi Y, Tamakoshi K, Matsushima M, Kawabe T. Comparison of salivary cortisol, heart rate, and oxygen saturation between early skin-toskin contact with different initiation and duration times in healthy, full-term infants. *Early Hum Dev.* 2011;87 (3):151–157
- Daschner FD. Nosocomial infections in maternity wards and newborn nurseries: rooming-in or not? *J Hosp Infect*. 1986;7 (1):1–3
- Swanson JR, Sinkin RA. Transition from fetus to newborn. *Pediatr Clin North Am*. 2015;62(2):329–343
- 44. Davanzo R, De Cunto A, Paviotti G, et al. Making the first days of life safer: preventing sudden

unexpected postnatal collapse while promoting breastfeeding. *J Hum Lact.* 2015;31(1):47–52

- Poets A, Steinfeldt R, Poets CF. Sudden deaths and severe apparent lifethreatening events in term infants within 24 hours of birth. *Pediatrics*. 2011;127(4). Available at: www. pediatrics.org/cgi/content/full/127/4/ e869
- 46. Andres V, Garcia P, Rimet Y, Nicaise C, Simeoni U. Apparent life-threatening events in presumably healthy newborns during early skin-to-skin contact. *Pediatrics*. 2011;127(4). Available at: www.pediatrics.org/cgi/ content/full/127/4/e1073
- Dageville C, Pignol J, De Smet S. Very early neonatal apparent lifethreatening events and sudden unexpected deaths: incidence and risk factors. *Acta Paediatr*. 2008;97(7):866–869
- Leow JY, Platt MP. Sudden, unexpected and unexplained early neonatal deaths in the North of England. *Arch Dis Child Fetal Neonatal Ed.* 2011;96(6):F440–F442
- Goldsmith JP. Hospitals should balance skin-to-skin contact with safe sleep policies. AAP News. 2013;34(11):22
- Nassi N, Piumelli R, Nardini V, et al. Sudden unexpected perinatal collapse and sudden unexpected early neonatal death. *Early Hum Dev.* 2013;89(suppl 4):S25–S26
- Pejovic NJ, Herlenius E. Unexpected collapse of healthy newborn infants: risk factors, supervision and hypothermia treatment. *Acta Paediatr.* 2013;102(7):680–688
- 52. Becher JC, Bhushan SS, Lyon AJ. Unexpected collapse in apparently healthy newborns—a prospective national study of a missing cohort of neonatal deaths and near-death events. Arch Dis Child Fetal Neonatal Ed. 2012;97(1):F30–F34
- Herlenius E, Kuhn P. Sudden unexpected postnatal collapse of newborn infants: a review of cases, definitions, risks, and preventive measures. *Transl Stroke Res.* 2013;4(2):236–247
- Fewell JE. Protective responses of the newborn to hypoxia. *Respir Physiol Neurobiol.* 2005;149(1–3):243–255

- 55. Schoch DE, Lawhon G, Wicker LA, Yecco G. An interdisciplinary multidepartmental educational program toward baby friendly hospital designation. *Adv Neonatal Care*. 2014;14(1):38–43
- 56. Niermeyer S, Velaphi S. Promoting physiologic transition at birth: re-examining resuscitation and the timing of cord clamping. *Semin Fetal Neonatal Med*.2013;18(6):385–392
- 57. Widström AM, Lilja G, Aaltomaa-Michalias P, Dahllöf A, Lintula M, Nissen E. Newborn behaviour to locate the breast when skin-to-skin: a possible method for enabling early self-regulation. *Acta Paediatr*. 2011;100(1):79–85
- Christensson K, Siles C, Moreno L, et al. Temperature, metabolic adaptation and crying in healthy full-term newborns cared for skin-to-skin or in a cot. Acta Paediatr. 1992;81(6–7):488–493
- Abike F, Tiras S, Dunder I, Bahtiyar A, Akturk Uzun O, Demircan O. A new scale for evaluating the risks for in-hospital falls of newborn infants: a failure modes and effects analysis study. Int J Pediatr. 2010;2010:547528
- Madadi P, Ross CJ, Hayden MR, et al. Pharmacogenetics of neonatal opioid toxicity following maternal use of codeine during breastfeeding: a casecontrol study. *Clin Pharmacol Ther*. 2009;85(1):31–35
- 61. Rychnovsky J, Hunter LP. The relationship between sleep characteristics and fatigue in healthy postpartum women. *Womens Health Issues.* 2009;19(1):38–44
- Ludington-Hoe Sm MK, Morgan K. Infant assessment and reduction of sudden unexpected postnatal collapse risk during skin-to-skin contact. *Newborn Infant Nurs Rev.* 2014;14(1):28–33
- 63. Delavar M, Akbarianrad Z, Mansouri M, Yahyapour M. Neonatal hypothermia and associated risk factors at baby friendly hospital in Babol, Iran. *Ann Med Health Sci Res.* 2014;4(8, suppl 2):S99–S103
- Elliott-Carter N, Harper J. Keeping mothers and newborns together after cesarean: how one hospital made the change. *Nurs Womens Health*. 2012;16(4):290–295

- Thach BT. Deaths and near deaths of healthy newborn infants while bed sharing on maternity wards. *J Perinatol.* 2014;34(4):275–279
- Feldman K, Whyte RK. Two cases of apparent suffocation of newborns during side-lying breastfeeding. *Nurs Womens Health.* 2013;17(4):337–341
- 67. Wallace SC; Pennsylvania Patient Safety Authority. Balancing family bonding with newborn safety. *Pennsylvania Patient Safety Advisory*. 2014;11(3). Available at: http://patientsafetyauth ority.org/ADVISORIES/AdvisoryLibrary/ 2014/Sep;11(3)/Pages/102.aspx
- Helsley L, McDonald JV, Stewart VT. Addressing in-hospital "falls" of newborn infants. *Jt Comm J Qual Patient Saf.* 2010;36(7):327–333
- Gaffey AD. Fall prevention in our healthiest patients: assessing risk and preventing injury for moms and babies. *J Healthc Risk Manag.* 2015;34(3):37–40
- Monson SA, Henry E, Lambert DK, Schmutz N, Christensen RD. In-hospital falls of newborn infants: data from a multihospital health care system. *Pediatrics*. 2008;122(2). Available at: www.pediatrics.org/cgi/content/full/ 122/2/e277
- 71. Lockwood S, Anderson K. Postpartum safety: a patient-centered approach to

fall prevention. *MCN Am J Matern Child Nurs.* 2013;38(1):15–18, quiz 19–20

- Mahlmeister LR. Couplet care after cesarean delivery: creating a safe environment for mother and baby. *J Perinat Neonatal Nurs*. 2005;19(3):212–214
- Ball HL, Ward-Platt MP, Heslop E, Leech SJ, Brown KA. Randomised trial of infant sleep location on the postnatal ward. *Arch Dis Child*. 2006;91(12):1005–1010
- Tully KP, Ball HL. Postnatal unit bassinet types when rooming-in after cesarean birth: implications for breastfeeding and infant safety. *J Hum Lact.* 2012;28(4):495–505
- Scheich B, Bingham D; AWHONN Perinatal Staffing Data Collaborative. Key findings from the AWHONN perinatal staffing data collaborative. *J Obstet Gynecol Neonatal Nurs.* 2015;44(2):317–328
- Heafner L, Suda D, Casalenuovo N, Leach LS, Erickson V, Gawlinski A. Development of a tool to assess risk for falls in women in hospital obstetric units. *Nurs Womens Health*. 2013;17 (2):98–107
- Slogar A, Gargiulo D, Bodrock J. Tracking 'near misses' to keep newborns safe from falls. Nurs Womens Health. 2013;17(3):219–223

- 78. American Academy of Pediatrics. Education in quality improvement for pediatric practice: safe and healthy beginnings. 2012. Available at: https:// www.aap.org/en-us/professionalresources/quality-improvement/ Quality-Improvement-Innovation-Networks/Pages/Safe-and-Healthy-Beginnings-Improvement-Project.aspx. Accessed May 5, 2016
- Moon RY; Task Force on Sudden Infant Death Syndrome. SIDS and other sleeprelated infant deaths: expansion of recommendations for a safe infant sleeping environment. *Pediatrics*. 2011;128(5). Available at: www.pediatrics. org/cgi/content/full/128/5/e1341
- Hauck FR, Thompson JM, Tanabe KO, Moon RY, Vennemann MM. Breastfeeding and reduced risk of sudden infant death syndrome: a meta-analysis. *Pediatrics*. 2011;128(1):103–110
- 81. Turchi RM, Antonelli RC, Norwood KW, et al; Council on Children with Disabilities and Medical Home Implementation Project Advisory Committee. Patient- and familycentered care coordination: a framework for integrating care for children and youth across multiple systems. *Pediatrics*. 2014;133(5). Available at: www.pediatrics.org/cgi/ content/full/133/5/e1451

# Safe Sleep and Skin-to-Skin Care in the Neonatal Period for Healthy Term Newborns

Lori Feldman-Winter, Jay P. Goldsmith, COMMITTEE ON FETUS AND NEWBORN and TASK FORCE ON SUDDEN INFANT DEATH SYNDROME *Pediatrics*; originally published online August 22, 2016; DOI: 10.1542/peds.2016-1889

Updated Information & Services	including high resolution figures, can be found at: /content/early/2016/08/18/peds.2016-1889.full.html
References	This article cites 70 articles, 18 of which can be accessed free at: /content/early/2016/08/18/peds.2016-1889.full.html#ref-list-1
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The online version of this article, along with updated information and services, is located on the World Wide Web at: /content/early/2016/08/18/peds.2016-1889.full.html

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## Commentary, News Articles, Fetus/Newborn Infant, Sleep Medicine

# Commentary: Safety issues with skin-to-skin care must be acknowledged

by Joel L. Bass M.D., FAAP; Tina Gartley M.D., FAAP

The recent AAP clinical report *Safe Sleep and Skin-to-Skin Care in the Neonatal Period for Healthy Term Newborns* (http://bit.ly/2cKSXck) represents a significant contribution to our understanding of the importance of safe sleep in the early days of life and to practices that contribute to the risk of newborn falls in the hospital.

The report reviews the evidence supporting skin-to-skin care (SSC) and rooming-in, while addressing safety issues that need to be considered regarding both practices. The association of these practices with newborn sentinel events has been well-described in Europe and now is being recognized increasingly in the U.S.

Sudden unexplained postnatal collapse (SUPC) is a serious event in otherwise healthy term newborns resulting in death in about half the babies and significant impairment in many survivors (Herlenius E, Kuhn P. *Transl Stroke Res.* 2013;4:236-247). The events often happen during SSC.

The AAP report also sheds light on the serious issue of newborn falls in the hospital related to maternal sleeping during bed-sharing. The common link between SUPC events and newborn hospital falls is their association with mother-baby co-sleeping in the prone position.

The potential relationship of SUPC to compliance with breastfeeding practices related to the Baby Friendly Hospital Initiative (BFHI) recently was discussed in a review of hospital deaths of newborns while bed-sharing using data from the National Association of Medical Examiners (Thach BT. *J Perinatol.* 2013;34:275-279). A 2013 article in *AAP News* expressed similar concerns and suggested a need to integrate safe sleep policies with SSC (http://www.aappublications.org/content/34/11/22).

Although the AAP report described the SUPC events as rare, we published population-based data from Massachusetts just prior to the report's release documenting 57 deaths over 10 years attributed to sudden unexplained infant deaths in the first month of life. Twenty of the deaths occurred in the first five days of life (Bass JL, et al. *JAMA Pediatr.* 2016;170:923-924).

As Massachusetts represents 1.8% of U.S. births, one could reasonably project that the likely number of cases nationally would be cause for great concern. To put this in perspective, in response to 90 cases of kernicterus over 17 years (*MMWR Morb Mortal Wkly Rep.* 2001;50:491-494), the Centers for Disease Control and Prevention (CDC) took steps that resulted in kernicterus being considered a " never" event.

In light of these data, application of recommendations in the AAP report requires thoughtful evaluation of the risks and benefits of current breastfeeding practices. SSC generally is considered beneficial for preterm newborns well beyond the initial hours of birth. Safety concerns are mitigated by monitoring available in neonatal intensive care units. For healthy term newborns, efficacy has been demonstrated only immediately after birth and during painful procedures when most hospitals can closely monitor the newborn.

The same cannot be said for SSC beyond the immediate newborn period, as close observation may not be available 24 hours a day on postpartum units, and prone sleeping may continue at home unobserved. This is a particularly important issue for hospitals complying with the BFHI which, as the report notes, encourages SSC throughout the hospital stay while rooming-in.

The potential impact of widespread SSC can be appreciated from the Swedish experience cited in the AAP report (Pejovic NJ, Herlenius E. *Acta Paediatr.* 2013;102:680-688). In response to a cluster of events over a 30-month period in Stockholm, the records of 26 survivors of SUPC were reviewed. Investigators found that half of



## Commentary, News Articles, Fetus/Newborn Infant, Sleep Medicine

the events occurred beyond the first two hours of life, four were treated with rapid hypothermia and two required mechanical ventilation.

The authors state that the SUPC rate in Sweden is 10 times the expected rate of the U.K. or Germany, which they associated with widespread adoption of SSC in their units. Of note, Sweden is the only European country reported to have 100% of hospitals with BFHI designation (http://bit.ly/2dOG5EF); rates in the U.K. and Germany are 17% and 4%, respectively.

Given that experience, hospitals will need to decide whether to encourage late SSC. For those that choose to do so, as the AAP report indicates that late SSC has not been specifically studied in full-term infants and no procedure has yet been shown to prevent associated sentinel events, parents must be informed of potential risks and hospitals must be equipped to manage adverse events expeditiously. Even hospitals that do not encourage late SSC must educate and safely support parents who initiate it on their own.

Concerns have been raised that this heightened awareness of safety issues could result in modification of practices that may conflict with BFHI designation guidelines and prove counterproductive to breastfeeding success. Fortunately, this is not a binary choice.

Data from the 2016 CDC Breastfeeding Report Card show that the 12 states with the highest breastfeeding initiation rates (86.6%-94.4%) almost always attained or exceeded all four Healthy People 2020 Objectives targets for breastfeeding duration despite low ranges (2%-38%) of BFHI designation. In contrast, neither of the high range BFHI states (85.8%-98.3%) attained a similar level of performance, mostly falling below targets. Clearly, there is more than one pathway to achieve successful breastfeeding outcomes.

In summary, the Academy again has shown leadership in placing the well-being of children as its top priority. While it is always difficult to change direction, this compelling new information will greatly enhance our ability to support breastfeeding safely.

Dr. Bass is department chair and Dr. Gartley is a hospitalist at Newton-Wellesley Hospital Department of Pediatrics.

#### **Related Content**

AAP News story "Updated safe sleep guidance warns against using soft bedding, sofa sleeping"

## Letters

#### **COMMENT & RESPONSE**

In Reply We appreciate the comments from the respondents about concerns we expressed regarding the Baby-Friendly Hospital Initiative (BFHI) in our Viewpoint.<sup>1</sup> They question our conclusions about the relationship between the BFHI guidelines encouraging skin-to-skin care beyond the first hours of life, inhospital breastfeeding exclusivity, and pacifier restriction with an increased risk for sudden unexpected postnatal collapse and newborn falls. These relationships are supported by evidencebased citations in the recently published American Academy of Pediatrics clinical guideline<sup>2</sup> and our subsequent commentary.<sup>3</sup> In addition, the recent US Preventive Services Task Force report on Primary Care Interventions to Support Breastfeeding<sup>4</sup> concluded there is a lack of consistent evidence that demonstrates system-level interventions, including the BFHI, improve breastfeeding outcomes. The accompanying editorial by Flaherman<sup>5</sup> offers further insight into issues raised with the BFHI and provides additional evidence substantiating our Viewpoint.<sup>1</sup> Walker's criticism of pacifier use has been definitively refuted by this evidence.<sup>5</sup> We share Flaherman's concern that pacifier restriction might be ethically problematic.

Gartner et al comment that, under the BFHI Guidelines and Criteria, mothers are fully informed of the benefits of breastfeeding and supportive practices. The criteria do mandate that mothers be informed about these issues whenever they request a breastmilk substitute, nursery care, or pacifier. However, they do not require that mothers also be informed of the important safety risks of late skin-to-skin care identified in the American Academy of Pediatrics guideline<sup>2</sup> or of the established benefit that a pacifier confers to prevent sudden infant death syndrome,<sup>5</sup> very significant omissions.

Philipp describes impressive success implementing the BFHI in a safety-net hospital with a very low initial breastfeeding initiation rate. However, as the US Preventive Services Task Force report demonstrated,<sup>4</sup> the same results have not been shown for other populations, and enhancement of individual lactation support efforts might have proven equally effective.

Wasser et al discuss using sidecar bassinets, which are currently under development, as a safety improvement for postpartum rooms. Properly designed, these might help prevent some falls. However, the devices do not reduce the risk of the mother falling asleep with newborn inadvertently in the prone position. In any case, current safe practice can only be initiated with presently available equipment.

Boyd et al state that they were unable to document any deaths from sudden infant death syndrome before 28 days of life in New York City between 2012 and 2014 when they implemented BFHI designation in several facilities. This is not surprising given their reported rate of sudden infant death syndrome of 3.6 in 100 000 live births and that their intervention took place in only 8 birthing facilities in a city that has 50 hospitals with maternity services. Submitting the same *International Statistical Classification of Diseases and Related Health Problems, Tenth Revision* codes cited by Boyd et al to the Centers for Disease Control and Prevention Wonder Online Data Base,<sup>6</sup> we were able to ascertain there were 31 sudden unexpected infant deaths at less than 28 days of age in New York City between 2007 and 2013.

Ferrarello characterizes sudden infant death syndrome in newborns as "exceedingly rare," a position that other respondents also implied. While our Viewpoint reported populationbased data only from Massachusetts,<sup>1</sup> national data on sudden unexpected infant death for US infants for 2003 to 20136 reveal that during that interval, there were 5152 sudden unexpected infant death cases in the first 27 days of life including 1421 in the first 6 days, of which 666 occurred on the first day of life. Annually, there were a mean 468 deaths attributed to sudden unexpected infant death in the first month of life, of which 129 occurred in the first 6 days. These compelling data provide a perspective on the potential magnitude and significance of this problem, which, as we stated in our Viewpoint,<sup>1</sup> should encourage government and regulatory agencies, as well as concerned breastfeeding advocates, to focus on alternative effective strategies3,5 to promote breastfeeding safely.

Finally, it has come to our attention that one of us did not include relevant conflict of interest disclosures in the original Viewpoint. As the Viewpoint addresses nutrition, we should have indicated the following: "Dr Kleinman reports having had received payment for serving as an editor for the American Academy of Pediatrics book, *Pediatric Nutrition*, 7th edition, and an honorarium for serving as chair of the Mead Johnson Pediatric Nutrition Iron Expert Panel." We regret this omission and have asked that the article be corrected online to include this information.

Joel L. Bass, MD Tina Gartley, MD Ronald E. Kleinman, MD

Author Affiliations: Harvard Medical School, Boston, Massachusetts (Bass, Gartley, Kleinman); Department of Pediatrics, Newton-Wellesley Hospital, Newton, Massachusetts (Bass, Gartley); Massachusetts General Hospital, Boston (Kleinman).

Corresponding Author: Joel L. Bass, MD, Department of Pediatrics, Newton-Wellesley Hospital, 2014 Washington St, Newton, MA 02462 (jbass@partners.org).

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**Conflict of Interest Disclosures:** Dr Kleinman reports having had received payment for serving as an editor for the American Academy of Pediatrics book, Pediatric Nutrition, 7th edition, and an honorarium for serving as chair of the Mead Johnson Pediatric Nutrition Iron Expert Panel.

1. Bass JL, Gartley T, Kleinman R. Unintended consequences of current breastfeeding initiatives. *JAMA Pediatr*. 2016;170(10):923-924.

jamapediatrics.com

2. Feldman-Winter L, Goldsmith JP; Committee on Fetus and Newborn; Task Force on Sudden Infant Death Syndrome. Safe sleep and skin-to-skin care in the neonatal period for healthy term newborns. *Pediatrics*. 2016;138(3):e20161889.

3. Bass JL, Gartley T. Safety issues with skin-to skin care must be acknowledged. AAP News. October 24, 2016. http://www.aappublications.org /news/2016/10/24/SleepCommentary102416. Accessed December 28, 2016.

4. Patnode CD, Henninger ML, Senger CA, Perdue LA, Whitlock EP. Primary care interventions to support breastfeeding: updated evidence report and systematic review for the US Preventive Services Task Force [published correction appears in JAMA. 2016;316(20):2155]. JAMA. 2016;316(16):1694-1705.  Flaherman V, Von Kohorn I. Interventions intended to support breastfeeding: updated assessment of benefits and harms. JAMA. 2016;316(16):1685-1687. doi:10.1001/jama.2016.15083

6. United States Department of Health and Human Services (US DHHS), Centers of Disease Control and Prevention (CDC), National Center for Health Statistics (NCHS), Division of Vital Statistics (DVS). Linked Birth / Infant Death Records 2003-2006 and 2007-2013, as compiled from data provided by 57 vital statistics jurisdictions through the Vital Statistics Cooperative Program, on CDC WONDER On-Line Database. https://wonder.cdc.gov/lbd-current.html. Accessed November 3, 2016.

From:	Flores-Ayala, Rafael C. (CDC/ONDIEH/NCCDPHP)
Sent:	Thu, 2 Feb 2017 11:32:20 -0500
То:	Nelson, Jennifer M. (CDC/DDNID/NCCDPHP/DNPAO); Grossniklaus, Daurice
(CDC/DDNID/NCCDPHP,	/DNPAO)
Subject:	FW: AWARENESS: New Assignment SUPC in Newborns - Due 2/14/17
Attachments:	AAP Skin to Skin Caution.pdf, Unintended Consequences Jama Peds.pdf,
skintoskinsafesleep.pdf	, AAP News STS Safety.pdf, BF Bass Reply JAMAPeds.pdf
Importance:	High

### Hi Jennifer:

#### Please send me the latest draft when you have it. Thank you

#### Rafa

From: Torres, Monica (CDC/ONDIEH/NCCDPHP)
Sent: Thursday, February 02, 2017 11:11 AM
To: MacGowan, Carol (CDC/ONDIEH/NCCDPHP) ; Flores-Ayala, Rafael C. (CDC/ONDIEH/NCCDPHP)
Cc: Voetsch, Karen P. (CDC/ONDIEH/NCCDPHP) ; DNPAO/Health Policy Team (CDC)
Subject: AWARENESS: New Assignment SUPC in Newborns - Due 2/14/17
Importance: High

Hello, Carol and Rafa.

Dr. Bass sent the following email to Anne Schuchat on Monday (1/30):

I would like to bring to your attention an issue of great significance: the CDC has been promoting and funding implementation of The Baby-Friendly Hospital Initiative. It has become increasingly recognized in Europe and now in the US, that practices associated with the Baby Friendly initiative are significant risk factors for neonatal sentinel events (Sudden Unexpected Newborn Collapse (SUPC) and newborn falls). I have been in contact with the CDC for the past year about this concern, which in light or the most recently published data, merits expeditious review. I have attached a few articles for you to review on the subject including our most recent JAMA peds correspondence with the national data summarized below. I hope that you be willing to support a change in direction for the CDC , and a focus on safe and effective methods to promote breastfeeding. I would be willing to meet with you to discuss this in greater detail.

(b)(5)

(b)(5) Please let me know when you will be able to get this to us so that Janelle and Ruth can have time to review.

Thanks! Monica From: Smalls, Marcia V. (CDC/ONDIEH/NCCDPHP)
Sent: Thursday, February 02, 2017 10:36 AM
To: DNPAO/Health Policy Team (CDC) <<u>DNPAOPolicy@cdc.gov</u>>; Gunn, Janelle P.
(CDC/ONDIEH/NCCDPHP) <<u>bfy2@cdc.gov</u>>
Cc: Johnson, Abigail P. (CDC/ONDIEH/NCCDPHP) <<u>vmh3@cdc.gov</u>>
Subject: NEW ASSIGNMENT - Direct Reply - FW: New Assignment SUPC in Newborns - Due 2/14/17
Importance: High

This is a Direct Reply for your director's or designee's signature. Joel Bass, chair of the Department of Pediatrics at Newton-Wellesley Hospital, wrote the CDC director to share recent articles that dispute the positive practices associated with the Baby Friendly initiative. Please send me a copy of the signed and dated response by February 14, 2017. Thanks.

Marcia Smalls OPEL/NCCDPHP (404) 702-1025

From: Dean, Contessa J. (CDC/OD/OCS)
Sent: Thursday, February 02, 2017 10:14 AM
To: Smalls, Marcia V. (CDC/ONDIEH/NCCDPHP) <<u>mvs2@cdc.gov</u>>; Johnson, Margaret Sarti (CDC/ONDIEH/NCCDPHP) <<u>kcy3@cdc.gov</u>>
Subject: New Assignment SUPC in Newborns

NCCDPHP has a new assignment as a Direct Reply for folder 2379661. Please pay attention to the note in the folder.

From: Bass, Joel L.,M.D. (b)(6) Sent: Monday, January 30, 2017 5:44 PM To: Schuchat, Anne MD (CDC/OD) <<u>acs1@cdc.gov</u>> Subject: SUPC in Newborns

Dr Schuchat,

I would like to bring to your attention an issue of great significance: the CDC has been promoting and funding implementation of The Baby-Friendly Hospital Initiative. It has become increasingly recognized in Europe and now in the US, that practices associated with the Baby Friendly initiative are significant risk factors for neonatal sentinel events (Sudden Unexpected Newborn Collapse (SUPC) and newborn falls). I have been in contact with the CDC for the past year about this concern, which in light or the most recently published data, merits expeditious review.

I have attached a few articles for you to review on the subject including our most recent JAMA peds correspondence with the national data summarized below. I hope that you be willing to support a change in direction for the CDC, and a focus on safe and effective methods to promote breastfeeding. I would be willing to meet with you to discuss this in greater detail.

Regards,

Joel

Joel L Bass MD Chair, Department of Pediatrics Newton-Wellesley Hospital Professor of Pediatrics, Part-time Harvard Medical School

From: Bass, Joel L.,M.D. Sent: Monday, January 30, 2017 4:58 PM To: 'Briss, Peter (CDC/ONDIEH/NCCDPHP)' Cc: 'Cono, Joanne (CDC/OD/OADS)' Subject: RE:

Peter... Since this last email, we have published a commentary in AAP News advising on the issues raised in the AAP Clinical report on skin to skin care. Also in response to correspondence from Baby-Friendly advocates who commented on our Viewpoint, we have published data on the National Statistics on SUID deaths in the US in the neonatal period, compiled from the CDC Wonder On-Line data base. I have summarized the results in the table below:

SUID for US infants 2003-2013					
0-1 hr	0-23 hr	1-6 d	0-6 d	7-27 d	0-27 d
301	666	755	1421	3730	5151
27	61	69	129	339	468
	SUID for 0-1 hr 301 27	SUID for US infant: 0-1 hr 0-23 hr 301 666 27 61	SUID for US infants 2003-20           0-1 hr         0-23 hr         1-6 d           301         666         755           27         61         69	SUID for US infants 2003-2013           0-1 hr         0-23 hr         1-6 d         0-6 d           301         666         755         1421           201         27         61         69         129	SUID for US infants 2003-2013           O-1 hr         O-23 hr         1-6 d         O-6 d         7-27 d           301         666         755         1421         3730           201         27         61         69         129         339

I am certain the CDC would now agree that this a national problem that must be addressed expeditiously. Of particular note, as I mentioned in the AAP News Commentary, the states with the highest percentage of births at Baby-Friendly Hospitals (taken from the CDC Breastfeeding report Card) were not attaining the Healthy People 2020 goals, while those states with the highest initiation rates (not exclusivity) consistently attained those goals. This information is quite consistent with the recent USPTF JAMA report which showed that there was a lack of consistent evidence that system level interventions, including the Baby-Friendly initiative improved breast feeding outcomes.

I hope the CDC will now be willing to move forward on this issue and recommend alternative safe and effective approaches to support breastfeeding which will not contribute to sentinel events (SUPC and Falls).

I would be happy to meet with the CDC leadership to discuss this in greater detail.

Joel

Joel L Bass MD

Chair, Department of Pediatrics Newton-Wellesley Hospital Professor of Pediatrics, Part-time Harvard Medical School

From: Bass, Joel L.,M.D. Sent: Tuesday, September 27, 2016 3:35 PM To: 'Briss, Peter (CDC/ONDIEH/NCCDPHP)' Subject: RE:

Dear Peter... I appreciate your message below and interest in continuing our ongoing dialogue about this important issue. A few points I think require clarification: It's important to recognize that, as we mentioned in our publication, the problem is not with the 10 Steps per se but with the Baby Friendly (BF) method of documenting compliance with the steps. Only the pacifier ban is inherently problematic. It's also important to recognize that the recent AAP report you mention was prepared prior to the population-based data from Massachusetts which we published and will now be interpreted within that context. The AAP report describes in even greater detail all of the safety hazards which we have previously brought to your attention. Of particular note, the report points out the following critical issues: The BF hospital initiative encourages continued skin-to-skin care (SSC) throughout the hospital stay while rooming in (e2) and none of the checklists or procedures developed have been proven to reduce the risk or prevent the associated sentinel events (e4). I also think it is very important for your colleagues at the CDC to pay detailed attention to the Swedish study quoted in AAP report demonstrating the severe consequences of widespread adoption of SSC beyond the first hours of life. The posting of the link to the AAP report on the BF webpage in no way addresses the need to incorporate the safety issue into the actual BF Guidelines and Criteria as requested by the CDC last year. The new 2016 guidelines remain unchanged and do not in any way include parental or provider education of risks associated with some of these practices and retains their standard generic safety disclaimer which the CDC deemed unacceptable last year.

Regarding the issue of data collection you mentioned, while SUPC has been recognized for a number of years by our European colleagues, it is a relatively new diagnostic entity in the US and as there are no existing ICD 10 codes the CDC epidemiologists will need to seek out this information using the diagnostic codes for SUID. It's important to keep in mind that SUPC includes an equal number of survivors (many with significant impairment). FYI We have been able to apply the four ICD 10 codes which were used in Massachusetts to the CDC Wonder data base and have confirmed that the national data is very similar to our state data. Over a 7 year period (2007-2013) there were on average 341 SUID deaths/year in the first month of life including 70/yr within the first 6 days of life and 16/year in the first day of life. We are in the process of performing a detailed analysis of this data, and I would like to extend an offer to the CDC epidemiologists to collaborate on this effort, as we have considerable experience in understanding the data not only from an epidemiologic perspective but from a clinical one as well.

Although the CDC was certainly not initially aware of these safety hazards when it undertook active promotion of BF certification in the US, at this point, now that the AAP has confirmed the nature of risk of newborn death and injury associated with some of these practices, coupled with the emerging evidence from population-based data which points to a problem of unquestionable national significance, I hope that the CDC will now take decisive action in addressing this issue. Rather than continuing to encourage hospitals in United States to engage in practices that may expose healthy newborns to unnecessary risk, the CDC should now encourage alternate effective ways to promote breastfeeding safely. To put this in perspective, in 2001, when 90 cases of kernicterus were identified over a 17 year period, the CDC took bold action that resulted in the condition being designated a "never" event. The same type of leadership is now required.

Joel L Bass MD Chair, Department of Pediatrics Newton-Wellesley Hospital Professor of Pediatrics, Part-time Harvard Medical School

From: Briss, Peter (CDC/ONDIEH/NCCDPHP) [mailto:pxb5@cdc.gov] Sent: Monday, September 26, 2016 11:01 AM To: Bass, Joel L.,M.D. Subject:

Dear Joel,

I wanted to share some additional information with you regarding our efforts to respond to your concerns about safety in implementing the Ten Steps to Successful Breastfeeding.

Last week, Baby Friendly USA updated language on their Guidelines and Evaluation Criteria webpage that includes specific information about enhancing safety of baby friendly practices. <u>https://www.babyfriendlyusa.org/get-started/the-guidelines-evaluation-criteria/safety-of-baby-friendly-practices</u>. The webpage links to AAP protocols and guidelines regarding infant stability and care prior to encouraging skin to skin contact and also links to the recently published AAP Guidelines on safe sleep and skin to skin practices.

In addition, our epidemiologists within the National Center for Chronic Disease Prevention and Health Promotion are researching whether there are national and state datasets that may be helpful in examining trends in SUPC and/or SUID. We have also contacted several partners, including the Joint Commission, to identify other potential sources of data.

We understand that you are communicating with the Massachusetts Department of Health and we would be interested in hearing about any data or analysis that can better document this issue.

Again, we share your interest in promoting breastfeeding safely and want to assure you that we are working hard to address the concerns that you raise.

Peter

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#### Hospitals should balance skin-to-skin contact with safe sleep policies Jay P. Goldsmith AAP News 2013;34;22 DOI: 10.1542/aapnews.20133411-22

The online version of this article, along with updated information and services, is located on the World Wide Web at: http://aapnews.aappublications.org/content/34/11/22

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## Pediatricians and the Law

# Hospitals should balance skin-to-skin contact with safe sleep policies

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Many hospitals are encouraging the initiation of skinto-skin contact and breastfeeding shortly after birth to facilitate mother-baby bonding and exclusive breastfeeding. Hospitals should balance these practices with safe sleep recommendations to avoid potential dangers when certain newborns are not monitored appropriately.

Several international studies have described the unexpected postnatal collapse of presumably healthy newborns in the hospital.

In addition, several cases in the United States of unexpected arrest in a mother's room have resulted in litigation against the hospital and various pediatric providers. In general, these cases involved apparently healthy babies who were placed with their mothers within the first two hours after birth for skin-to-skin contact, bonding and/or breastfeeding.

#### 'Baby Friendly' initiative gains ground

Many U.S. hospitals have received the designation "Baby Friendly," meaning they have met certain criteria regarding breastfeeding and support of the mother-baby

dyad. These criteria include having a written policy that is communicated to all staff calling for initiation of breastfeeding within a half hour of birth. Hospitals also give newborns no food or drink other than breast milk, give no pacifiers, and practice continuous "rooming in" where newborns remain with their mothers 24 hours a day. At least one study has shown that mothers who participate in the program are more likely to breastfeed exclusively.

The Baby Friendly Hospital Initiative was launched in 1991 by the World Health Organization and UNICEF to promote breastfeeding worldwide and give babies the best start in life. Initially aimed at the use of commercial formulas in the under-resourced world, the project quickly was adopted in the United States. The program has gained national acceptance, and many hospitals have received the designation.

The many benefits of exclusive breastfeeding (e.g., decreased incidence of gastroenteritis, asthma, eczema, respiratory and ear infections) are well-known (http://pediatrics. aappublications.org/content/129/



Hospitals should encourage skin-to-skin contact between mothers and babies while also emphasizing safe sleep practices that prevent potential dangers to newborns.

3/e827.full.pdf+html). Studies also have shown that babies who are placed in skin-to-skin contact exhibit better control of respiratory patterns.

However, some risks of early initiation of bonding with skin-toskin contact and breastfeeding in the hospital recently have come to light.

#### **Studies identify dangers**

A study in Sweden found that 15 of 26 newborns who suffered arrests without an underlying pathologic etiology were in a prone position while participating in skin-to-skin contact in the hospital, and 13 arrests occurred during unsupervised breastfeeding in the first two hours of life (Pejovic NJ, Herlenius E. *Acta Paediatr*. 2013;102(7)680-688). None of the babies died.

In Germany, a national survey found an incidence of 2.6 arrests per 100,000 births (Poets A, et al. *Pediatrics*. 2011;127(4):e869-e873). Twelve of 43 babies who arrested shortly after birth were found

lying on their mother's chest or abdomen, or very close to her and facing her. Nine of these events occurred in the first two hours after birth, and most were noticed by a health care professional in the room rather than the mother. Seven babies died.

In both of these studies, other significant pathologic and metabolic causes for the arrests were ruled out.

While the etiology of these arrests is unknown, the "Triple Risk Model" proposed in 1994 to conceptualize the etiology of sudden infant death syndrome may be illustrative in these cases. The model emphasizes that multiple factors must act simultaneously to result in these unexpected events. The baby must have an intrinsic vulnerability, possibly blunting of the arousal response. In older babies, it was thought that the period from 2-4 months was a critical developmental period, but the early neonatal period also may have increased vulnerability due to post-delivery stress, presence of narcotics or magnesium sulfate given to the mother. Thirdly, there must be an additional exogenous stressor (e.g., prone position, nose in breast, covers over face with carbon dioxide retention, etc.).

#### **Risk management tips**

The advantages of early skin-to-skin contact and breastfeeding are important, but health care professionals should be aware of the potential dangers. Mothers often are fatigued or may be sedated with narcotics or magnesium sulfate after delivery. Observation by trained personnel may not be continuous.

The Academy recommends that mothers not sleep with babies in their beds (http://pediatrics.aappublications.org/content/128/5/ 1030.full.pdf+html), yet this practice is common post-delivery. Moreover, if the baby has required some resuscitation (i.e., positive pressure ventilation in the delivery room), the Neonatal Resuscitation Program advises triage to "post resuscitation care" defined as management in an "environment where ongoing evaluation and monitoring are available."

Hospitals that participate in the "Baby Friendly" program should evaluate the mother after delivery and prior to early skin-to-skin contact or breastfeeding. Staff should be trained to identify high-risk situations that require closer monitoring such as when the mother has received sedatives. Babies should be monitored by a hospital employee (not a relative) or electronically if no appropriately trained person can be in the room continuously.

This also is an excellent opportunity for health care professionals to have discussions with parents linking early breastfeeding policies with safe infant sleep policies. Mothers should be reminded not to sleep with the baby in their bed, either in the hospital or at home. Staff also should be trained to model safe infant sleep practices.



**Dr. Goldsmith** is a member of the AAP Committee on Medical Liability and Risk Management.

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## Unintended Consequences of Current Breastfeeding Initiatives

Promoting and supporting breastfeeding during the postpartum period has been an important and appropriate priority for maternity units in recent years. The "10 Steps to Successful Breastfeeding" of the Baby-Friendly Hospital Initiative have been implemented by an increasing number of hospitals as the standard of care for optimally supporting breastfeeding from birth to hospital discharge.<sup>1</sup> As some or all of these steps are increasingly being promoted as standard of care by government agencies (eg, the Centers for Disease Control and Prevention) and by The Joint Commission, it is important to be certain that the basis for the recommendations has been documented in reproducible scientific studies and that the benefits of the practices recommended outweigh the risks. Unfortunately, there is now emerging evidence that full compliance with the 10 steps of the initiative may inadvertently be promoting potentially hazardous practices and/or having counterproductive outcomes.

The wording of the 10 steps themselves may not suggest a potential for risk. However, the specific guidelines for Baby-Friendly designation provide the cause for concern. For example, to comply with step 4 (help mothers initiate breastfeeding within 1 hour of birth), the guidelines state that all mothers should have continuous skin-to-skin contact with their baby immediately after birth until completion of the first feeding and that skin-to-skin contact should also be encouraged throughout the hospital stay,<sup>1</sup> a time period when direct continuous observation by medical care professionals is not likely to occur. Although a recent Cochrane Review provides evidence for the benefits of skin-to-skin care for healthy full-term and late preterm infants for the first hour after birth, it also stipulates that mother and baby not be left unattended while skin-to-skin care takes place during this early period.<sup>2</sup> Reports of sudden unexpected postnatal collapse (SUPC) in association with the skin-to-skin practice, published over the past several years, have focused attention on the importance of this caveat.3

Reports of SUPC include both severe apparent lifethreatening events (recently referred to as brief resolved unexplained events) and sudden unexpected death in infancy occurring within the first postnatal week of life.<sup>3</sup> A comprehensive review of this issue identified 400 case reports in the literature, mostly occurring during skin-to-skin care, with one-third of the events occurring in the first 2 hours after birth and the remainder in the subsequent week of life.<sup>3</sup> The review reported death in half of the cases and persistent disability in the majority of survivors. European rates of SUPC varied from 2.6 to 74 cases per 100 000 births, with higher rates related to the length of the inclusion period and infant care practices related to prone sleeping and co-bedding.<sup>3</sup> Furthermore, a recent publication from the American Academy of Pediatrics observed that lawsuits have surfaced in US hospitals attributed to unexpected respiratory arrest in apparently healthy newborns during early skin-to-skin care and cautioned that this practice needs to be balanced with the need to implement safe sleep practices with monitoring of infants during skin-to-skin care unless direct observation takes place.<sup>4</sup>

While breastfeeding exclusivity (step 6) and 24hour rooming in (step 7) have demonstrated benefits in the postpartum period, these practices may also engender risk. An overly rigid insistence on these steps in order to comply with Baby-Friendly Hospital Initiative criteria may inadvertently result in a potentially exhausted or sedated postpartum mother being persuaded to feed her infant while she is in bed overnight, when she is not physically able to do so safely. This may result in prone positioning and co-sleeping on a soft warm surface in direct contradiction to the Safe Sleep Recommendations of the National Institutes of Health. In addition, cosleeping also poses a risk for a newborn falling out of the mother's bed in the hospital, which can have serious consequences.<sup>5</sup> There is also the possibility that unsafe sleep practices modeled in the hospital may continue at home.6

The justification for breastfeeding exclusivity is based on a 1998 World Health Organization review of the evidence for the 10 steps.<sup>7</sup> However, that review included evidence that when supplementation was given for a medical indication, there was no adverse effect on the duration of breastfeeding. It also concluded, based on the available evidence, that it was not clear to what extent supplementation in other circumstances was a marker of breastfeeding difficulty rather than an actual cause of breastfeeding failure.

Another issue of concern is the ban on pacifier use (step 9). Compliance requires that mothers be educated repeatedly that pacifiers may interfere with the development of optimal breastfeeding.<sup>1</sup> Because there is strong evidence that pacifiers may have a protective effect against sudden infant death syndrome (SIDS), the American Academy of Pediatrics has suggested avoidance of pacifiers only until breastfeeding is established at approximately 3 to 4 weeks of age.<sup>8</sup> Because a substantial number of SUPC events occur during the first week of life,<sup>3</sup> this recommendation to proscribe the use of pacifiers is difficult to defend based on risk.

Preventing the unintended serious outcomes from these practices has been made more challenging by the emphasis on breastfeeding exclusivity in the perinatal measures recently promulgated by The Joint Commis-

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sion. Measure PC-05 requires documentation of the reasons for not exclusively breastfeeding, with no allowable exceptions for newborn conditions. In addition, the Centers for Disease Control and Prevention actively promotes the "10 Steps" and Baby-Friendly designation, and monitors "10 Steps" compliance in the United States. In Massachusetts, the recently enacted Massachusetts Health Quality Measure 3A requires increasing rates of breastfeeding exclusivity, with soon to be implemented financial implications.

In an effort to explore the potential effect of these initiatives, we reviewed data from the Massachusetts Department of Public Health Registry of Vital Records and Statistics concerning statewide rates of sudden unexplained infant deaths among newborns. This includes *International Classification of Diseases* codes R95 (SIDS), R99 (undetermined cause and manner), W75 (accidental suffocation), and W84 (unspecified threat to breathing). While SIDS in the first month of life is generally considered an uncommon event, in Massachusetts (2004-2013), 14% of the cases of SIDS occurred in the first 28 days of life. Of note, 8 (22.2%) of the cases of SIDS among newborns and 20 (35.1%) of the newborn sudden unexplained infant deaths occurred in the first 5 days of life, suggesting that the concerns raised in the recent American Academy of Pediatrics report<sup>4</sup> may be more common than previously recognized.

In 2011, the Office of the Surgeon General issued a call to action to support breastfeeding that proposed the accelerated implementation of the Baby-Friendly Hospital Initiative in the United States.<sup>9</sup> Considering the available evidence, that recommendation should be reconsidered. If government and accreditation agencies wish to encourage and support breastfeeding, their focus should shift from monitoring Baby-Friendly practices and breastfeeding exclusivity to monitoring breastfeeding initiation rates coupled with evidence of lactation support both during and after the hospital stay. More attention should also be placed on ensuring compliance with established safe sleep programs, emphasizing the need to integrate safe sleep practices with breastfeeding. Hospitals should direct their efforts toward implementing practices that will promote breastfeeding safely, the common goal of both private and public groups with an interest in these issues.

#### **ARTICLE INFORMATION**

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#### REFERENCES

 Guidelines and Evaluation Criteria. Facilities seeking designation. Baby-Friendly USA website. https://www.babyfriendlyusa.org/get-started/theguidelines-evaluation-criteria. Accessed January 14 2016.

2. Moore ER, Anderson GC, Bergman N, Dowsewell T. Early skin-to-skin contact for mother and their healthy newborn infants. *Cochrane Database Syst Rev.* 2012;(5):CD003519. 3. Herlenius E, Kuhn P. Sudden unexpected postnatal collapse of newborn infants: a review of cases, definitions, risks, and preventive measures. *Transl Stroke Res.* 2013;4(2):236-247.

4. Goldsmith JP. Hospitals should balance skin-to-skin contact with safe sleep practices. *AAP News*. October 28, 2013. http://www .aappublications.org/content/34/11/22. Accessed July 14, 2016.

 Helsley L, McDonald JV, Stewart VT. Addressing in-hospital "falls" of newborn infants. *Jt Comm J Qual Patient Saf*. 2010;36(7):327-333.

6. Moon RY; Task Force on Sudden Infant Death Syndrome. SIDS and other sleep-related infant deaths: expansion of recommendations for a safe infant sleeping environment. *Pediatrics*. 2011;128 (5):e1341-e1367. 7. Step 6: use of supplements. In: Vallenas C, Savage F, eds. *Evidence for the Ten Steps to Successful Breastfeeding*. Geneva, Switzerland: Division of Child Health and Development/World Health Organization; 1998:48-56.

8. Section on Breastfeeding. Breastfeeding and the use of human milk. *Pediatrics*. 2012;129(3):e827-e841.

**9**. Action 7: ensure that maternity care practices throughout the United States are fully supportive of breastfeeding. In: Benjamin R, Frieden TR, Jones WK, et al, eds. *The Surgeon General's Call to Action to Support Breastfeeding*. Washington, DC: US Dept Health and Human Services/Office of the Surgeon General; 2011:44-45.

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# Safe Sleep and Skin-to-Skin Care in the Neonatal Period for Healthy Term Newborns

Lori Feldman-Winter, MD, MPH, FAAP, Jay P. Goldsmith, MD, FAAP, COMMITTEE ON FETUS -AND NEWBORN, TASK FORCE ON SUDDEN INFANT DEATH SYNDROME

Skin-to-skin care (SSC) and rooming-in have become common practice in the newborn period for healthy newborns with the implementation of maternity care practices that support breastfeeding as delineated in the World Health Organization's "Ten Steps to Successful Breastfeeding." SSC and rooming-in are supported by evidence that indicates that the implementation of these practices increases overall and exclusive breastfeeding, safer and healthier transitions, and improved maternal-infant bonding. In some cases, however, the practice of SSC and rooming-in may pose safety concerns, particularly with regard to sleep. There have been several recent case reports and case series of severe and sudden unexpected postnatal collapse in the neonatal period among otherwise healthy newborns and near fatal or fatal events related to sleep, suffocation, and falls from adult hospital beds. Although these are largely case reports, there are potential dangers of unobserved SSC immediately after birth and throughout the postpartum hospital period as well as with unobserved rooming-in for at-risk situations. Moreover, behaviors that are modeled in the hospital after birth, such as sleep position, are likely to influence sleeping practices after discharge. Hospitals and birthing centers have found it difficult to develop policies that will allow SSC and rooming-in to continue in a safe manner. This clinical report is intended for birthing centers and delivery hospitals caring for healthy newborns to assist in the establishment of appropriate SSC and safe sleep policies.

#### INTRODUCTION

#### **Definition of Skin-to-Skin Care and Rooming-In**

Skin-to-skin care (SSC) is defined as the practice of placing infants in direct contact with their mothers or other caregivers with the ventral skin of the infant facing and touching the ventral skin of the mother/

#### abstract

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throughout the hospital stay while rooming-in.<sup>4</sup>

Unless there is a medical reason for separation, such as resuscitation, SSC may be provided for all newborns. In the case of cesarean deliveries, SSC may also be provided when the mother is awake and able to respond to her infant. In some settings, SSC may be initiated in the operating room following cesarean deliveries, while in other settings SSC may begin in the recovery room. SSC for healthy newborns shall be distinguished from "kangaroo care" in this clinical report, because the latter applies to preterm newborns or infants cared for in the NICU.<sup>5</sup> This report is intended for mothers and infants who are well, are being cared for in the routine postpartum or motherinfant setting, and have not required resuscitation. Although sick or preterm newborns may benefit from SSC, this review is intended only for healthy term newborns. Late preterm infants (defined as a gestational age of 34-37 weeks) may also benefit from early SSC but are at increased risk of a number of early neonatal morbidities.6

Rooming-in is defined as allowing mothers and infants to remain together 24 hours per day while in the delivery hospital. This procedure is recommended for all mothers and their healthy newborns, regardless of feeding or delivery method, and in some cases applies to older late preterm (>35 weeks' gestation) or early term (37-39 weeks' gestation) newborns who are otherwise healthy and receiving routine care, who represent up to 70% of this population.<sup>7</sup> Mothers are expected to be more involved with routine care, such as feeding, holding, and bathing. Newborns may remain with their mothers unless there is a medical reason for separation for either the mother or the infant. Procedures that can be performed at the bedside can be performed while the infant is preferably being held skin-to-skin or

at least in the room with the mother. Being held skin-to-skin by the mother has been shown to decrease pain in newborns undergoing painful procedures such as blood draws.<sup>8,9</sup> Mothers may nap, shower, or leave the room with the expectation that the mother-infant staff members monitor the newborn at routine intervals. Mothers are encouraged to use call bells for assistance with their own care or that of their newborns.

#### **Evidence for SSC and Rooming-In**

SSC has been researched extensively as a method to provide improved physiologic stability for newborns and potential benefits for mothers. SSC immediately after birth stabilizes the newborn body temperature and can help prevent hypothermia.10,11 SSC also helps stabilize blood glucose concentrations, decreases crying, and provides cardiorespiratory stability, especially in late preterm newborns.<sup>12</sup> SSC has been shown in numerous studies as a method to decrease pain in newborns being held by mothers<sup>13-16</sup> and fathers.<sup>17</sup> In preterm infants, SSC has been shown to result in improved autonomic and neurobehavioral maturation and gastrointestinal adaptation, more restful sleep patterns, less crying, and better growth.<sup>18–21</sup> Although not specifically studied in full-term infants, it is likely that these infants also benefit in similar ways.

SSC also benefits mothers. Immediately after birth, SSC decreases maternal stress and improves paternal perception of stress in their relationship.<sup>22</sup> A recent study suggested that SSC and breastfeeding within 30 minutes of birth reduce postpartum hemorrhage.23 Experimental models indicate that mother-infant separation causes significant stress, and the consequences of this stress on the hypothalamicpituitary-adrenal axis persist.<sup>24</sup> In a randomized trial examining the relationship between SSC and

maternal depression and stress, both depression scores and salivary cortisol concentrations were lower over the first month among postpartum mothers providing SSC compared with mothers who were provided no guidance about SSC.22 For breastfeeding mother-infant dyads, SSC enhances the opportunity for an early first breastfeeding, which, in turn, leads to more readiness to breastfeed, an organized breastfeeding suckling pattern, and more success in exclusive and overall breastfeeding, 12, 25, 26 even after cesarean deliveries.27 Further evidence shows a benefit for mothers after cesarean deliveries who practice SSC as soon as the mother is alert and responsive in increased breastfeeding initiation, decreased time to the first breastfeeding, reduced formula supplementation, and increased bonding and maternal satisfaction.28 Increasing rates of breastfeeding ultimately have short- and long-term health benefits, such as decreased risk of infections, obesity, cancer, and sudden infant death syndrome.3

The evidence for rooming-in also extends beyond infant feeding practices and is consistent with contemporary models of familycentered care.<sup>29</sup> Rooming-in and the maternity care practices aligned with keeping mothers and newborns together in a hospital setting were defined as best practice but not fully implemented in the post-World War II era, largely because of nursing culture and the presumption that newborns were safer in a sterile nursery environment.30 Rooming-in leads to improved patient satisfaction.31,32 Integrated mother-infant care leads to optimal outcomes for healthy mothers and infants, including those with neonatal abstinence syndrome.33 Rooming-in also provides more security, may avoid newborn abductions or switches, leads to decreased infant abandonment,34 and provides more

opportunity for supervised maternalnewborn interactions.35 Hospital staff members caring for mother-infant dyads have more opportunities to empower mothers to care for their infants than when infant care is conducted without the mother and in a separate nursery. For the breastfeeding mother-infant dyad, rooming-in may help to support cuebased feeding, leading to increased frequency of breastfeeding, especially in the first few days<sup>36</sup>; decreased hyperbilirubinemia; and increased likelihood of continued breastfeeding up to 6 months.37

SSC and rooming-in are 2 of the important steps in the WHO's "Ten Steps to Successful Breastfeeding" and serve as the basic tenets for a baby-friendly-designated delivery hospital.<sup>1,38,39</sup> The Ten Steps include practices that also improve patient safety and outcomes by supporting a more physiologic transition immediately after delivery; maintaining close contact between the mother and her newborn, which decreases the risk of infection and sepsis; increasing the opportunity for the development of a protective immunologic environment; decreasing stress responses by the mother and her infant; and enhancing sleep patterns in the mother.40-42

#### SAFETY CONCERNS REGARDING IMMEDIATE SSC

Rarely are there contraindications to providing SSC; however, there are potential safety concerns to address. A newborn requiring positive-pressure resuscitation should be continuously monitored, and SSC should be postponed until the infant is stabilized.<sup>43</sup> Furthermore, certain conditions, such as low Apgar scores (less than 7 at 5 minutes) or medical complications from birth, may require careful observation and monitoring of the newborn during SSC and in some cases may prevent SSC.<sup>11</sup> Other

safety concerns are attributable to the lack of standardization in the approach, discontinuous observation of the mother-infant dyad (with lapses exceeding 10 to 15 minutes during the first few hours of life), lack of education and skills among staff supporting the dyad during transition while skin-to-skin, and unfamiliarity with the potential risks of unsafe positioning and methods of assessment that may avert problems.44 The main concerns regarding immediate postnatal SSC include sudden unexpected postnatal collapse (SUPC), which includes any condition resulting in temporary or permanent cessation of breathing or cardiorespiratory failure.45-48 Many, but not all, of these events are related to suffocation or entrapment. In addition, falls may occur during SSC, particularly if unobserved, and other situations or conditions may occur that prevent SSC from continuing safely.44,49

SUPC is a rare but potentially fatal event in otherwise healthy-appearing term newborns. The definition of SUPC varies slightly depending on the author and population studied. One definition offered by the British Association of Perinatal Medicine<sup>50</sup> includes any term or near-term (defined as >35 weeks' gestation in this review) infant who meets the following criteria: (1) is well at birth (normal 5-minute Apgar and deemed well enough for routine care), (2) collapses unexpectedly in a state of cardiorespiratory extremis such that resuscitation with intermittent positive-pressure ventilation is required, (3) collapses within the first 7 days of life, and (4) either dies, goes on to require intensive care, or develops encephalopathy. Other potential medical conditions should be excluded (eg, sepsis, cardiac disease) for SUPC to be diagnosed. The incidence of SUPC in the first hours to days of life varies widely because of different definitions, inclusion and exclusion criteria of

newborns being described, and lack of standardized reporting and may be higher in certain settings. The incidence is estimated to be 2.6 to 133 cases per 100 000 newborns. In 1 case series, the authors described one-third of SUPC events occurring in the first 2 hours of life, one-third occurring between 2 and 24 hours of life, and the final third occurring between 1 and 7 days of life.51 Other authors suggested that 73% of SUPC events occur in the first 2 hours of life.<sup>52</sup> In the case series by Pejovic and Herlenius,<sup>51</sup> 15 of the 26 cases of SUPC were found to have occurred during SSC in a prone position. Eighteen were in primiparous mothers, 13 occurred during unsupervised breastfeeding at <2 hours of age, and 3 occurred during smart cellular phone use by the mother. Five developed grade 2 hypoxic-ischemic encephalopathy (moderate encephalopathy), with 4 requiring hypothermia treatment. Twenty-five of the 26 cases had favorable neurologic outcomes in 1 series; however, in another review, mortality was as high as 50%, and among survivors, 50% had neurologic sequelae.53 Experimental models suggest that autoresuscitation of breathing after hypoxic challenge takes longer with lower postnatal age and decreased core body temperature.54

SUPC, in some definitions, includes acute life-threatening episodes; however, the latter is presumed to be more benign. An apparent lifethreatening episode, or what may be referred to as a brief resolved unexplained event, may be low risk and require simple interventions such as positional changes, brief stimulation, or procedures to resolve airway obstruction.<sup>46,53</sup>

Falls are another concern in the immediate postnatal period. Mothers who are awake and able to respond to their newborn infant immediately after birth may become suddenly and unexpectedly sleepy, ill, or unable to continue holding their infant. Fathers or other support people providing SSC may also suddenly become unable to continue to safely hold the newborn because of lightheadedness, fatigue, incoordination, or other factors. If a hospital staff member is not immediately available to take over, unsafe situations may occur, and newborns may fall to the floor or may be positioned in a manner that obstructs their airway.

#### SUGGESTIONS TO IMPROVE SAFETY IMMEDIATELY AFTER DELIVERY

Several authors have suggested mechanisms for standardizing the procedure of immediate postnatal SSC to prevent sentinel events; however, none of the checklists or procedures developed have been proven to reduce the risk. Frequent and repetitive assessments, including observation of newborn breathing, activity, color, tone, and position, may avert positions that obstruct breathing or events leading to sudden collapse.41 In addition, continuous monitoring by trained staff members and the use of checklists may improve safety.35 Some have suggested continuous pulse oximetry; however, there is no evidence that this practice would improve safety, and it may be impractical. Given the occurrence of events in the first few hours of life, it is prudent to consider staffing the delivery unit to permit continuous staff observation with frequent recording of neonatal vital signs. A procedure manual that is implemented in a standardized fashion and practiced with simulation drills may include sequential steps identified in Box 1.55

#### BOX 1: PROCEDURE FOR IMMEDIATE SKIN-TO-SKIN CARE

- 1. Delivery of newborn
- Dry and stimulate for first breath/cry, and assess newborn

- If the newborn is stable, place skin to skin with cord attached (with option to milk cord), clamp cord after 1 minute or after placenta delivered, and reassess newborn to permit physiological circulatory transition<sup>56</sup>
- 4. Continue to dry entire newborn except hands to allow the infant to suckle hands bathed in amniotic fluid (which smells and tastes similar to colostrum), which facilitates rooting and first breastfeeding<sup>57</sup>
- Cover head with cap (optional) and place prewarmed blankets to cover body of newborn on mother's chest, leaving face exposed<sup>58</sup>
- 6. Assess Apgar scores at 1 and 5 minutes
- 7. Replace wet blankets and cap with dry warm blankets and cap
- 8. Assist and support to breastfeed

Risk stratification and associated monitoring and care may avert SUPC, falls, and suffocation.<sup>59</sup> Highrisk situations may include infants who required resuscitation (ie, any positive-pressure ventilation), those with low Apgar scores, late preterm and early term (37-39 weeks' gestation) infants, difficult delivery, mother receiving codeine<sup>60</sup> or other medications that may affect the newborn (eg, general anesthesia or magnesium sulfate), sedated mother, and excessively sleepy mothers and/or newborns. Mothers may be assessed to determine their level of fatigue and sleep deprivation.<sup>61</sup> In situations such as those described, increased staff vigilance with continuous monitoring, as described previously, is important to assist with SSC throughout the immediate postpartum period.62 Additional suggestions to improve safety include enhancements to the environment, such as stabilizing the ambient temperature,<sup>63</sup> use

of appropriate lighting so that the infant's color and condition can be easily assessed, and facilitating an unobstructed view of the newborn (Box 2). Additional support persons, such as doulas and family members, may augment but not replace staff monitoring. Furthermore, staff education, appropriate staffing, and awareness of genetic risks may limit sentinel events such as SUPC. These suggestions, however, have not yet been tested in prospective studies to determine efficacy.

#### BOX 2. COMPONENTS OF SAFE POSITIONING FOR THE NEWBORN WHILE SKIN-TO-SKIN<sup>62</sup>:

- 1. Infant's face can be seen
- Infant's head is in "sniffing" position
- 3. Infant's nose and mouth are not covered
- 4. Infant's head is turned to one side
- 5. Infant's neck is straight, not bent
- 6. Infant's shoulders and chest face mother
- 7. Infant's legs are flexed
- 8. Infant's back is covered with blankets
- Mother-infant dyad is monitored continuously by staff in the delivery environment and regularly on the postpartum unit
- When mother wants to sleep, infant is placed in bassinet or with another support person who is awake and alert

SSC may be continued while moving a mother from a delivery surface (either in a delivery room or operating room) to the postpartum maternal bed. Transitions of mother-infant dyads throughout this period, and from delivery settings to postpartum settings,



FIGURE 1 Side-car bassinet for in-hospital use. Photo courtesy of Kristin Tully, PhD.

facilitate continued bonding, thermoregulation, and increased opportunities for breastfeeding. These transitions may be accomplished safely with skilled staff members by using a standardized procedure.<sup>64</sup> A newborn who is not properly secured may pose a risk for falls or unsafe positioning, leading to suffocation.

#### SAFETY CONCERNS REGARDING ROOMING-IN

Despite all of the advantages of rooming-in, there are specific conditions that pose risks for the newborn. Many of the same concerns that occur during SSC in the immediate postnatal period continue to be of concern while rooming-in, especially if the mother and infant are sleeping together in the mother's bed on the postpartum unit.65 In addition, breastfeeding mothers may fall asleep unintentionally while breastfeeding in bed, which can result in suffocation.<sup>66</sup> Infant falls may be more common in the postpartum setting because of less frequent

monitoring and increased time that a potentially fatigued mother is alone with her newborn(s).67 The Oregon Patient Safety Review evaluated 7 hospitals that were part of 1 larger health system and identified 9 cases of newborn falls (from 22866 births), for a rate of 3.94 falls per 10 000 births over a 2-year period from 2006 to 2007, which is higher than previous reports of 1.6 per 100 000.<sup>68–70</sup> It is not clear whether this higher incidence was attributable to an actual increase or better reporting. For hospitals transitioning to mother-infant dyad care (1 nurse providing care for both mother and infant) or separate mothernewborn care while rooming-in, it is important to communicate to staff that the same level of attention and care is necessary to provide optimal safety. Mothers will be naturally exhausted and potentially sleep-deprived or may sleep in short bursts.<sup>61</sup> They may also be unable to adjust their position or ambulate safely while carrying a newborn. The postpartum period provides unique challenges regarding falls/drops and is understudied compared with

falls in the neurologically impaired or elderly patient. Checklists and scoring tools may be appropriate and have the potential to decrease these adverse events, particularly if geared to the unique needs of the postpartum period, such as shortterm disability from numbness or pain, sleepiness or lethargy related to pregnancy and delivery, and effects from medication.<sup>71</sup>

Even though mothers and family members may be educated about the avoidance of bed-sharing, falling asleep while breastfeeding or holding the newborn during SSC is common. Staff can educate support persons and/or be immediately available to safely place newborns on a close but separate sleep surface when mothers fall asleep. Mothers may be reassured that they or their support persons can safely provide SSC and that staff will be available to assist with the transition to a safe sleep surface as needed. Mothers who have had cesarean deliveries are particularly at risk because of limited mobility and effects of anesthesia and warrant closer monitoring.72

Several studies examining safety while rooming-in have been conducted. Sixty-four mother-infant dyads were studied in the United Kingdom and randomly assigned to have newborns sleep in a standalone bassinet, a side-car bassinet (Fig 1), or the mother's bed to determine perception of safety (by video monitoring) and breastfeeding outcomes.73 Breastfeeding was more frequent among those sharing a bed and using a side-car than a separate bassinet, but there were more hazards associated with bedsharing than using a side-car or bassinet. Although there were no adverse events in this study, the authors concluded that the side-car provided the best opportunities for breastfeeding with the safest conditions. In a similar study

examining dyads after cesarean delivery, more hazards were associated with stand-alone bassinets than side-car bassinets. However, side-car technology for hospital beds is not yet well established in the United States, and safety data are not yet available. Given the level of disability in mothers who have had a cesarean delivery, sidecar technology holds promise for improvement in the safety of the rooming-in environment.<sup>74</sup>

#### SUGGESTIONS TO IMPROVE SAFETY WHILE ROOMING-IN

Healthy mother-infant dyads are safest when kept together and cared for as a unit in a motherinfant setting. Staffing ratios are determined to meet the needs of both the mother and her newborn(s) and to ensure the best possible outcomes. The Association of Women's Health, Obstetric and Neonatal Nurses' recommendations are to have no more than 3 dyads assigned to 1 nurse to avoid situations in which nursing staff are not immediately available and able to regularly monitor the mother-infant dyads throughout the postpartum period.75 These ratios may permit routine monitoring, rapid response to call bells, and adequate time for teaching; however, nursing staff extenders, such as health educators and nursing assistants, may augment care. Mothers and families who are informed of the risks of bed-sharing and guided to place newborns on separate sleep surfaces for sleep are more likely to follow these recommendations while in the hospital and after going home. Family members and staff can be available to assist mothers with transitioning the newborn to a safe sleep location, and regular staff supervision facilitates the recognition of sleepy family members and safer placement of the newborns in bassinets or side-cars.

#### SUGGESTIONS FOR ROOMING-IN

- Use a patient safety contract with a particular focus on high-risk situations (see parent handout Newborn Safety Information for Parents<sup>68</sup> and sample contract<sup>71</sup>).
- Monitor mothers according to their risk assessment: for example, observing every 30 minutes during nighttime and early morning hours for higher-risk dyads.<sup>69</sup>
- 3. Use fall risk assessment tools.76
- 4. Implement maternal egress testing (a modification of a tool originally designed to transfer obese patients from bed to stand, chair, or ambulation by using repetition to verify stability), especially if the mother is using medications that may affect stability in ambulating.<sup>69</sup>
- 5. Review mother-infant equipment to ensure proper function and demonstrate the appropriate use of equipment, such as bed rails and call bells, with mothers and families.
- 6. Publicize information about how to prevent newborn falls throughout the hospital system.
- Use risk assessment tools to avoid hazards of SSC and rooming-in practices.<sup>77</sup>

#### TRANSITIONING TO HOME AND SAFE SLEEP BEYOND DISCHARGE

Information provided to parents at the time of hospital discharge should include anticipatory guidance about breastfeeding and sleep safety.<sup>3,78,79</sup> Pediatricians, hospitals, and other clinical staff should abide by AAP recommendations/guidance on breastfeeding and safe sleep, pacifier introduction, maternal smoking, use of alcohol, sleep positioning, bed-sharing, and appropriate sleep surfaces, especially when practicing SSC.<sup>79</sup> In addition, the AAP recommends the avoidance of
practices that increase the risk of sudden and unexpected infant death, such as smoking, the use of alcohol, placing the infant in a nonsupine position for sleep, nonexclusive breastfeeding, and placing the infant to sleep (with or without another person) on sofas or chairs.79,80 To facilitate continued exclusive breastfeeding, the coordination of postdischarge support is recommended to enable the best opportunity to meet breastfeeding goals. Mothers may be referred to peer support groups and trained lactation specialists if breastfeeding problems occur. Community support is optimized by coordination with the medical home.<sup>81</sup>

#### CONCLUSIONS

Pediatricians and other providers have important roles in the implementation of safe SSC and rooming-in practices. Safe implementation with the use of a standardized approach may prevent adverse events such as SUPC and falls.

The following suggestions support safe implementation of these practices:

- Develop standardized methods and procedures of providing immediate and continued SSC with attention to continuous monitoring and assessment.
- 2. Standardize the sequence of events immediately after delivery to promote safe transition, thermoregulation, uninterrupted SSC, and direct observation of the first breastfeeding session.
- 3. Document maternal and newborn assessments and any changes in conditions.
- 4. Provide direct observation of the mother-infant dyad while in the delivery room setting.
- Position the newborn in a manner that provides an unobstructed airway.

- 6. Conduct frequent assessments and monitoring of the motherinfant dyad during postpartum rooming-in settings, with particular attention to high-risk situations such as nighttime and early morning hours.
- 7. Assess the level of maternal fatigue periodically. If the mother is tired or sleepy, move the infant to a separate sleep surface (eg, side-car or bassinet) next to the mother's bed.
- 8. Avoid bed-sharing in the immediate postpartum period by assisting mothers to use a separate sleep surface for the infant.
- 9. Promote supine sleep for all infants. SSC may involve the prone or side position of the newborn, especially if the dyad is recumbent; therefore, it is imperative that the mother/ caregiver who is providing SSC be awake and alert.
- 10. Train all health care personnel in standardized methods of providing immediate SSC after delivery, transitioning the mother-infant dyad, and monitoring the dyad during SSC and rooming-in throughout the delivery hospital period.

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#### ABBREVIATIONS

AAP: American Academy of Pediatrics
SIDS: sudden infant death syndrome
SSC: skin-to-skin care
SUPC: sudden unexpected postnatal collapse
WHO: World Health Organization

#### REFERENCES

- World Health Organization. Evidence for the ten steps to successful breastfeeding. Geneva, Switzerland: World Health Organization; 1998. Available at: www.who.int/nutrition/ publications/evidence\_ten\_step\_eng. pdf. Accessed May 5, 2016
- World Health Organization; UNICEF. Baby-Friendly Hospital Initiative: revised, updated, and expanded for integrated care. 2009. Available at: http://apps.who.int/iris/bitstream/ 10665/43593/1/9789241594967\_eng. pdf. Accessed May 5, 2016
- Eidelman Al, Schanler RJ; Section on Breastfeeding. Breastfeeding and the use of human milk. *Pediatrics*.

2012;129(3). Available at: www. pediatrics.org/cgi/content/full/129/3/ e827

- Baby-Friendly USA. Guidelines and evaluation criteria for facilities seeking Baby-Friendly designation. 2012. Available at: https://www. babyfriendlyusa.org/get-started/ the-guidelines-evaluation-criteria. Accessed May 5, 2016
- World Health Organization. Kangaroo mother care: a practical guide. 2003. Available at: http://apps.who.int/iris/ bitstream/10665/42587/1/9241590351. pdf. Accessed May 5, 2016
- Baley J, ; Committee on Fetus and Newborn. Skin-to-skin care for term and preterm infants in the neonatal ICU. *Pediatrics*. 2015;136(3):596–599
- Horgan MJ. Management of the late preterm infant: not quite ready for prime time. *Pediatr Clin North Am.* 2015;62(2):439–451
- Codipietro L, Ceccarelli M, Ponzone A. Breastfeeding or oral sucrose solution in term neonates receiving heel lance: a randomized, controlled trial. *Pediatrics*. 2008;122(3). Available at: www.pediatrics.org/cgi/content/full/ 122/3/e716
- Gray L, Miller LW, Philipp BL, Blass EM. Breastfeeding is analgesic in healthy newborns. *Pediatrics*. 2002;109(4):590–593
- Nimbalkar SM, Patel VK, Patel DV, Nimbalkar AS, Sethi A, Phatak A. Effect of early skin-to-skin contact following normal delivery on incidence of hypothermia in neonates more than 1800 g: randomized control trial. J Perinatol. 2014;34(5):364–368
- Moore ER, Anderson GC. Randomized controlled trial of very early motherinfant skin-to-skin contact and breastfeeding status. J Midwifery Womens Health. 2007;52(2):116–125
- Moore ER, Anderson GC, Bergman N, Dowswell T. Early skin-to-skin contact for mothers and their healthy newborn infants. *Cochrane Database Syst Rev.* 2012;5:CD003519
- Johnston C, Campbell-Yeo M, Fernandes A, Inglis D, Streiner D, Zee R. Skin-to-skin care for procedural pain in neonates. *Cochrane Database Syst Rev.* 2014;1:CD008435

- Kostandy R, Anderson GC, Good M. Skin-to-skin contact diminishes pain from hepatitis B vaccine injection in healthy full-term neonates. *Neonatal Netw.* 2013;32(4):274–280
- Okan F, Ozdil A, Bulbul A, Yapici Z, Nuhoglu A. Analgesic effects of skinto-skin contact and breastfeeding in procedural pain in healthy term neonates. *Ann Trop Paediatr*. 2010;30(2):119–128
- Castral TC, Warnock F, Leite AM, Haas VJ, Scochi CG. The effects of skinto-skin contact during acute pain in preterm newborns. *Eur J Pain*. 2008;12(4):464–471
- Erlandsson K, Dsilna A, Fagerberg I, Christensson K. Skin-to-skin care with the father after cesarean birth and its effect on newborn crying and prefeeding behavior. *Birth.* 2007;34(2):105–114
- Feldman R, Eidelman AI, Sirota L, Weller A. Comparison of skin-to-skin (kangaroo) and traditional care: parenting outcomes and preterm infant development. *Pediatrics*. 2002;110(1 pt 1):16–26
- Feldman R, Weller A, Sirota L, Eidelman Al. Skin-to-skin contact (Kangaroo care) promotes self-regulation in premature infants: sleep-wake cyclicity, arousal modulation, and sustained exploration. *Dev Psychol.* 2002;38(2):194–207
- Feldman R, Eidelman Al. Skin-to-skin contact (kangaroo care) accelerates autonomic and neurobehavioural maturation in preterm infants. *Dev Med Child Neurol.* 2003;45(4):274–281
- 21. Chwo M-J, Anderson GC, Good M, Dowling DA, Shiau S-HH, Chu D-M. A randomized controlled trial of early kangaroo care for preterm infants: effects on temperature, weight, behavior, and acuity. *J Nurs Res.* 2002;10(2):129–142
- 22. Mörelius E, Örtenstrand A, Theodorsson E, Frostell A. A randomised trial of continuous skin-to-skin contact after preterm birth and the effects on salivary cortisol, parental stress, depression, and breastfeeding. *Early Hum Dev.* 2015;91(1):63–70
- 23. Saxton A, Fahy K, Rolfe M, Skinner V, Hastie C. Does skin-to-skin contact and

breast feeding at birth affect the rate of primary postpartum haemorrhage: results of a cohort study. *Midwifery*. 2015;31(11):1110–1117

- 24. Vetulani J. Early maternal separation: a rodent model of depression and a prevailing human condition. *Pharmacol Rep.* 2013;65(6):1451–1461
- Dani C, Cecchi A, Commare A, Rapisardi G, Breschi R, Pratesi S. Behavior of the newborn during skin-to-skin. *J Hum Lact.* 2015;31(3):452–457
- Dumas L, Lepage M, Bystrova K, Matthiesen A-S, Welles-Nyström B, Widström A-M. Influence of skinto-skin contact and rooming-in on early mother-infant interaction: a randomized controlled trial. *Clin Nurs Res.* 2013;22(3):310–336
- Beiranvand S, Valizadeh F, Hosseinabadi R, Pournia Y. The effects of skin-to-skin contact on temperature and breastfeeding successfulness in full-term newborns after cesarean delivery. *Int J Pediatr.* 2014;2014:846486
- Stevens J, Schmied V, Burns E, Dahlen H. Immediate or early skin-to-skin contact after a Caesarean section: a review of the literature. *Matern Child Nutr.* 2014;10(4):456–473
- 29. Phillips CR. *Family-Centered Maternity Care*. Sudbury, MA: Jones & Bartlett Learning; 2003
- Silberman SL. Pioneering in familycentered maternity and infant care: Edith B. Jackson and the Yale rooming-in research project. *Bull Hist Med.* 1990;64(2):262–287
- Mullen K, Conrad L, Hoadley G, lannone D. Family-centered maternity care: one hospital's quest for excellence. *Nurs Womens Health*. 2007;11(3):282–290
- Martell LK. Postpartum women's perceptions of the hospital environment. J Obstet Gynecol Neonatal Nurs. 2003;32(4):478–485
- Ordean A, Kahan M, Graves L, Abrahams R, Kim T. Obstetrical and neonatal outcomes of methadonemaintained pregnant women: a Canadian multisite cohort study. J Obstet Gynaecol Can. 2015;37 (3):252–257
- 34. Lvoff NM, Lvoff V, Klaus MH. Effect of the baby-friendly initiative on

infant abandonment in a Russian hospital. *Arch Pediatr Adolesc Med.* 2000;154(5):474–477

- O'Connor S, Vietze PM, Sherrod KB, Sandler HM, Altemeier WA III. Reduced incidence of parenting inadequacy following rooming-in. *Pediatrics*. 1980;66(2):176–182
- Jaafar SH, Lee KS, Ho JJ. Separate care for new mother and infant versus rooming-in for increasing the duration of breastfeeding. *Cochrane Database Syst Rev.* 2012;9:CD006641
- Chiou ST, Chen LC, Yeh H, Wu SR, Chien LY. Early skin-to-skin contact, rooming-in, and breastfeeding: a comparison of the 2004 and 2011 National Surveys in Taiwan. *Birth*. 2014;41(1):33–38
- Merewood A, Patel B, Newton KN, et al Breastfeeding duration rates and factors affecting continued breastfeeding among infants born at an inner-city US Baby-Friendly hospital. J Hum Lact. 2007;23(2):157–164
- Aghdas K, Talat K, Sepideh B. Effect of immediate and continuous mother-infant skin-to-skin contact on breastfeeding self-efficacy of primiparous women: a randomised control trial. *Women Birth*. 2014;27(1):37–40
- Montgomery-Downs HE, Clawges HM, Santy EE. Infant feeding methods and maternal sleep and daytime functioning. *Pediatrics*. 2010;126(6). Available at: www.pediatrics.org/cgi/ content/full/126/6/e1562
- 41. Takahashi Y, Tamakoshi K, Matsushima M, Kawabe T. Comparison of salivary cortisol, heart rate, and oxygen saturation between early skin-toskin contact with different initiation and duration times in healthy, full-term infants. *Early Hum Dev.* 2011;87 (3):151–157
- Daschner FD. Nosocomial infections in maternity wards and newborn nurseries: rooming-in or not? *J Hosp Infect*. 1986;7 (1):1–3
- Swanson JR, Sinkin RA. Transition from fetus to newborn. *Pediatr Clin North Am*. 2015;62(2):329–343
- 44. Davanzo R, De Cunto A, Paviotti G, et al. Making the first days of life safer: preventing sudden

unexpected postnatal collapse while promoting breastfeeding. *J Hum Lact.* 2015;31(1):47–52

- Poets A, Steinfeldt R, Poets CF. Sudden deaths and severe apparent lifethreatening events in term infants within 24 hours of birth. *Pediatrics*. 2011;127(4). Available at: www. pediatrics.org/cgi/content/full/127/4/ e869
- 46. Andres V, Garcia P, Rimet Y, Nicaise C, Simeoni U. Apparent life-threatening events in presumably healthy newborns during early skin-to-skin contact. *Pediatrics*. 2011;127(4). Available at: www.pediatrics.org/cgi/ content/full/127/4/e1073
- Dageville C, Pignol J, De Smet S. Very early neonatal apparent lifethreatening events and sudden unexpected deaths: incidence and risk factors. *Acta Paediatr*. 2008;97(7):866–869
- Leow JY, Platt MP. Sudden, unexpected and unexplained early neonatal deaths in the North of England. *Arch Dis Child Fetal Neonatal Ed.* 2011;96(6):F440–F442
- Goldsmith JP. Hospitals should balance skin-to-skin contact with safe sleep policies. AAP News. 2013;34(11):22
- Nassi N, Piumelli R, Nardini V, et al. Sudden unexpected perinatal collapse and sudden unexpected early neonatal death. *Early Hum Dev.* 2013;89(suppl 4):S25–S26
- Pejovic NJ, Herlenius E. Unexpected collapse of healthy newborn infants: risk factors, supervision and hypothermia treatment. *Acta Paediatr.* 2013;102(7):680–688
- 52. Becher JC, Bhushan SS, Lyon AJ. Unexpected collapse in apparently healthy newborns—a prospective national study of a missing cohort of neonatal deaths and near-death events. Arch Dis Child Fetal Neonatal Ed. 2012;97(1):F30–F34
- Herlenius E, Kuhn P. Sudden unexpected postnatal collapse of newborn infants: a review of cases, definitions, risks, and preventive measures. *Transl Stroke Res.* 2013;4(2):236–247
- Fewell JE. Protective responses of the newborn to hypoxia. *Respir Physiol Neurobiol.* 2005;149(1–3):243–255

- 55. Schoch DE, Lawhon G, Wicker LA, Yecco G. An interdisciplinary multidepartmental educational program toward baby friendly hospital designation. *Adv Neonatal Care*. 2014;14(1):38–43
- 56. Niermeyer S, Velaphi S. Promoting physiologic transition at birth: re-examining resuscitation and the timing of cord clamping. *Semin Fetal Neonatal Med*.2013;18(6):385–392
- 57. Widström AM, Lilja G, Aaltomaa-Michalias P, Dahllöf A, Lintula M, Nissen E. Newborn behaviour to locate the breast when skin-to-skin: a possible method for enabling early self-regulation. *Acta Paediatr*. 2011;100(1):79–85
- Christensson K, Siles C, Moreno L, et al. Temperature, metabolic adaptation and crying in healthy full-term newborns cared for skin-to-skin or in a cot. Acta Paediatr. 1992;81(6–7):488–493
- Abike F, Tiras S, Dunder I, Bahtiyar A, Akturk Uzun O, Demircan O. A new scale for evaluating the risks for in-hospital falls of newborn infants: a failure modes and effects analysis study. Int J Pediatr. 2010;2010:547528
- Madadi P, Ross CJ, Hayden MR, et al. Pharmacogenetics of neonatal opioid toxicity following maternal use of codeine during breastfeeding: a casecontrol study. *Clin Pharmacol Ther*. 2009;85(1):31–35
- 61. Rychnovsky J, Hunter LP. The relationship between sleep characteristics and fatigue in healthy postpartum women. *Womens Health Issues.* 2009;19(1):38–44
- 62. Ludington-Hoe Sm MK, Morgan K. Infant assessment and reduction of sudden unexpected postnatal collapse risk during skin-to-skin contact. *Newborn Infant Nurs Rev.* 2014;14(1):28–33
- 63. Delavar M, Akbarianrad Z, Mansouri M, Yahyapour M. Neonatal hypothermia and associated risk factors at baby friendly hospital in Babol, Iran. *Ann Med Health Sci Res.* 2014;4(8, suppl 2):S99–S103
- Elliott-Carter N, Harper J. Keeping mothers and newborns together after cesarean: how one hospital made the change. *Nurs Womens Health*. 2012;16(4):290–295

- Thach BT. Deaths and near deaths of healthy newborn infants while bed sharing on maternity wards. *J Perinatol.* 2014;34(4):275–279
- Feldman K, Whyte RK. Two cases of apparent suffocation of newborns during side-lying breastfeeding. Nurs Womens Health. 2013;17(4):337–341
- 67. Wallace SC; Pennsylvania Patient Safety Authority. Balancing family bonding with newborn safety. *Pennsylvania Patient Safety Advisory*. 2014;11(3). Available at: http://patientsafetyauth ority.org/ADVISORIES/AdvisoryLibrary/ 2014/Sep;11(3)/Pages/102.aspx
- Helsley L, McDonald JV, Stewart VT. Addressing in-hospital "falls" of newborn infants. *Jt Comm J Qual Patient Saf*. 2010;36(7):327–333
- Gaffey AD. Fall prevention in our healthiest patients: assessing risk and preventing injury for moms and babies. *J Healthc Risk Manag.* 2015;34(3):37–40
- Monson SA, Henry E, Lambert DK, Schmutz N, Christensen RD. In-hospital falls of newborn infants: data from a multihospital health care system. *Pediatrics*. 2008;122(2). Available at: www.pediatrics.org/cgi/content/full/ 122/2/e277
- 71. Lockwood S, Anderson K. Postpartum safety: a patient-centered approach to

fall prevention. *MCN Am J Matern Child Nurs.* 2013;38(1):15–18, quiz 19–20

- Mahlmeister LR. Couplet care after cesarean delivery: creating a safe environment for mother and baby. *J Perinat Neonatal Nurs*. 2005;19(3):212–214
- Ball HL, Ward-Platt MP, Heslop E, Leech SJ, Brown KA. Randomised trial of infant sleep location on the postnatal ward. *Arch Dis Child*. 2006;91(12):1005–1010
- Tully KP, Ball HL. Postnatal unit bassinet types when rooming-in after cesarean birth: implications for breastfeeding and infant safety. *J Hum Lact.* 2012;28(4):495–505
- Scheich B, Bingham D; AWHONN Perinatal Staffing Data Collaborative. Key findings from the AWHONN perinatal staffing data collaborative. *J Obstet Gynecol Neonatal Nurs.* 2015;44(2):317–328
- Heafner L, Suda D, Casalenuovo N, Leach LS, Erickson V, Gawlinski A. Development of a tool to assess risk for falls in women in hospital obstetric units. *Nurs Womens Health*. 2013;17 (2):98–107
- Slogar A, Gargiulo D, Bodrock J. Tracking 'near misses' to keep newborns safe from falls. Nurs Womens Health. 2013;17(3):219–223

- 78. American Academy of Pediatrics. Education in quality improvement for pediatric practice: safe and healthy beginnings. 2012. Available at: https:// www.aap.org/en-us/professionalresources/quality-improvement/ Quality-Improvement-Innovation-Networks/Pages/Safe-and-Healthy-Beginnings-Improvement-Project.aspx. Accessed May 5, 2016
- Moon RY; Task Force on Sudden Infant Death Syndrome. SIDS and other sleeprelated infant deaths: expansion of recommendations for a safe infant sleeping environment. *Pediatrics*. 2011;128(5). Available at: www.pediatrics. org/cgi/content/full/128/5/e1341
- Hauck FR, Thompson JM, Tanabe KO, Moon RY, Vennemann MM. Breastfeeding and reduced risk of sudden infant death syndrome: a meta-analysis. *Pediatrics*. 2011;128(1):103–110
- 81. Turchi RM, Antonelli RC, Norwood KW, et al; Council on Children with Disabilities and Medical Home Implementation Project Advisory Committee. Patient- and familycentered care coordination: a framework for integrating care for children and youth across multiple systems. *Pediatrics*. 2014;133(5). Available at: www.pediatrics.org/cgi/ content/full/133/5/e1451

# Safe Sleep and Skin-to-Skin Care in the Neonatal Period for Healthy Term Newborns

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Safe Sleep and Skin-to-Skin Care in the Neonatal Period for Healthy Term Newborns Lori Feldman-Winter, Jay P. Goldsmith, COMMITTEE ON FETUS AND NEWBORN and TASK FORCE ON SUDDEN INFANT DEATH SYNDROME *Pediatrics*; originally published online August 22, 2016; DOI: 10.1542/peds.2016-1889

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# Commentary, News Articles, Fetus/Newborn Infant, Sleep Medicine

# Commentary: Safety issues with skin-to-skin care must be acknowledged

by Joel L. Bass M.D., FAAP; Tina Gartley M.D., FAAP

The recent AAP clinical report *Safe Sleep and Skin-to-Skin Care in the Neonatal Period for Healthy Term Newborns* (http://bit.ly/2cKSXck) represents a significant contribution to our understanding of the importance of safe sleep in the early days of life and to practices that contribute to the risk of newborn falls in the hospital.

The report reviews the evidence supporting skin-to-skin care (SSC) and rooming-in, while addressing safety issues that need to be considered regarding both practices. The association of these practices with newborn sentinel events has been well-described in Europe and now is being recognized increasingly in the U.S.

Sudden unexplained postnatal collapse (SUPC) is a serious event in otherwise healthy term newborns resulting in death in about half the babies and significant impairment in many survivors (Herlenius E, Kuhn P. *Transl Stroke Res.* 2013;4:236-247). The events often happen during SSC.

The AAP report also sheds light on the serious issue of newborn falls in the hospital related to maternal sleeping during bed-sharing. The common link between SUPC events and newborn hospital falls is their association with mother-baby co-sleeping in the prone position.

The potential relationship of SUPC to compliance with breastfeeding practices related to the Baby Friendly Hospital Initiative (BFHI) recently was discussed in a review of hospital deaths of newborns while bed-sharing using data from the National Association of Medical Examiners (Thach BT. *J Perinatol.* 2013;34:275-279). A 2013 article in *AAP News* expressed similar concerns and suggested a need to integrate safe sleep policies with SSC (http://www.aappublications.org/content/34/11/22).

Although the AAP report described the SUPC events as rare, we published population-based data from Massachusetts just prior to the report's release documenting 57 deaths over 10 years attributed to sudden unexplained infant deaths in the first month of life. Twenty of the deaths occurred in the first five days of life (Bass JL, et al. *JAMA Pediatr.* 2016;170:923-924).

As Massachusetts represents 1.8% of U.S. births, one could reasonably project that the likely number of cases nationally would be cause for great concern. To put this in perspective, in response to 90 cases of kernicterus over 17 years (*MMWR Morb Mortal Wkly Rep.* 2001;50:491-494), the Centers for Disease Control and Prevention (CDC) took steps that resulted in kernicterus being considered a " never" event.

In light of these data, application of recommendations in the AAP report requires thoughtful evaluation of the risks and benefits of current breastfeeding practices. SSC generally is considered beneficial for preterm newborns well beyond the initial hours of birth. Safety concerns are mitigated by monitoring available in neonatal intensive care units. For healthy term newborns, efficacy has been demonstrated only immediately after birth and during painful procedures when most hospitals can closely monitor the newborn.

The same cannot be said for SSC beyond the immediate newborn period, as close observation may not be available 24 hours a day on postpartum units, and prone sleeping may continue at home unobserved. This is a particularly important issue for hospitals complying with the BFHI which, as the report notes, encourages SSC throughout the hospital stay while rooming-in.

The potential impact of widespread SSC can be appreciated from the Swedish experience cited in the AAP report (Pejovic NJ, Herlenius E. *Acta Paediatr.* 2013;102:680-688). In response to a cluster of events over a 30-month period in Stockholm, the records of 26 survivors of SUPC were reviewed. Investigators found that half of



# Commentary, News Articles, Fetus/Newborn Infant, Sleep Medicine

the events occurred beyond the first two hours of life, four were treated with rapid hypothermia and two required mechanical ventilation.

The authors state that the SUPC rate in Sweden is 10 times the expected rate of the U.K. or Germany, which they associated with widespread adoption of SSC in their units. Of note, Sweden is the only European country reported to have 100% of hospitals with BFHI designation (http://bit.ly/2dOG5EF); rates in the U.K. and Germany are 17% and 4%, respectively.

Given that experience, hospitals will need to decide whether to encourage late SSC. For those that choose to do so, as the AAP report indicates that late SSC has not been specifically studied in full-term infants and no procedure has yet been shown to prevent associated sentinel events, parents must be informed of potential risks and hospitals must be equipped to manage adverse events expeditiously. Even hospitals that do not encourage late SSC must educate and safely support parents who initiate it on their own.

Concerns have been raised that this heightened awareness of safety issues could result in modification of practices that may conflict with BFHI designation guidelines and prove counterproductive to breastfeeding success. Fortunately, this is not a binary choice.

Data from the 2016 CDC Breastfeeding Report Card show that the 12 states with the highest breastfeeding initiation rates (86.6%-94.4%) almost always attained or exceeded all four Healthy People 2020 Objectives targets for breastfeeding duration despite low ranges (2%-38%) of BFHI designation. In contrast, neither of the high range BFHI states (85.8%-98.3%) attained a similar level of performance, mostly falling below targets. Clearly, there is more than one pathway to achieve successful breastfeeding outcomes.

In summary, the Academy again has shown leadership in placing the well-being of children as its top priority. While it is always difficult to change direction, this compelling new information will greatly enhance our ability to support breastfeeding safely.

Dr. Bass is department chair and Dr. Gartley is a hospitalist at Newton-Wellesley Hospital Department of Pediatrics.

### **Related Content**

AAP News story "Updated safe sleep guidance warns against using soft bedding, sofa sleeping"

# Letters

#### **COMMENT & RESPONSE**

In Reply We appreciate the comments from the respondents about concerns we expressed regarding the Baby-Friendly Hospital Initiative (BFHI) in our Viewpoint.<sup>1</sup> They question our conclusions about the relationship between the BFHI guidelines encouraging skin-to-skin care beyond the first hours of life, inhospital breastfeeding exclusivity, and pacifier restriction with an increased risk for sudden unexpected postnatal collapse and newborn falls. These relationships are supported by evidencebased citations in the recently published American Academy of Pediatrics clinical guideline<sup>2</sup> and our subsequent commentary.<sup>3</sup> In addition, the recent US Preventive Services Task Force report on Primary Care Interventions to Support Breastfeeding<sup>4</sup> concluded there is a lack of consistent evidence that demonstrates system-level interventions, including the BFHI, improve breastfeeding outcomes. The accompanying editorial by Flaherman<sup>5</sup> offers further insight into issues raised with the BFHI and provides additional evidence substantiating our Viewpoint.<sup>1</sup> Walker's criticism of pacifier use has been definitively refuted by this evidence.<sup>5</sup> We share Flaherman's concern that pacifier restriction might be ethically problematic.

Gartner et al comment that, under the BFHI Guidelines and Criteria, mothers are fully informed of the benefits of breastfeeding and supportive practices. The criteria do mandate that mothers be informed about these issues whenever they request a breastmilk substitute, nursery care, or pacifier. However, they do not require that mothers also be informed of the important safety risks of late skin-to-skin care identified in the American Academy of Pediatrics guideline<sup>2</sup> or of the established benefit that a pacifier confers to prevent sudden infant death syndrome,<sup>5</sup> very significant omissions.

Philipp describes impressive success implementing the BFHI in a safety-net hospital with a very low initial breastfeeding initiation rate. However, as the US Preventive Services Task Force report demonstrated,<sup>4</sup> the same results have not been shown for other populations, and enhancement of individual lactation support efforts might have proven equally effective.

Wasser et al discuss using sidecar bassinets, which are currently under development, as a safety improvement for postpartum rooms. Properly designed, these might help prevent some falls. However, the devices do not reduce the risk of the mother falling asleep with newborn inadvertently in the prone position. In any case, current safe practice can only be initiated with presently available equipment.

Boyd et al state that they were unable to document any deaths from sudden infant death syndrome before 28 days of life in New York City between 2012 and 2014 when they implemented BFHI designation in several facilities. This is not surprising given their reported rate of sudden infant death syndrome of 3.6 in 100 000 live births and that their intervention took place in only 8 birthing facilities in a city that has 50 hospitals with maternity services. Submitting the same *International Statistical Classification of Diseases and Related Health Problems, Tenth Revision* codes cited by Boyd et al to the Centers for Disease Control and Prevention Wonder Online Data Base,<sup>6</sup> we were able to ascertain there were 31 sudden unexpected infant deaths at less than 28 days of age in New York City between 2007 and 2013.

Ferrarello characterizes sudden infant death syndrome in newborns as "exceedingly rare," a position that other respondents also implied. While our Viewpoint reported populationbased data only from Massachusetts,<sup>1</sup> national data on sudden unexpected infant death for US infants for 2003 to 20136 reveal that during that interval, there were 5152 sudden unexpected infant death cases in the first 27 days of life including 1421 in the first 6 days, of which 666 occurred on the first day of life. Annually, there were a mean 468 deaths attributed to sudden unexpected infant death in the first month of life, of which 129 occurred in the first 6 days. These compelling data provide a perspective on the potential magnitude and significance of this problem, which, as we stated in our Viewpoint,<sup>1</sup> should encourage government and regulatory agencies, as well as concerned breastfeeding advocates, to focus on alternative effective strategies3,5 to promote breastfeeding safely.

Finally, it has come to our attention that one of us did not include relevant conflict of interest disclosures in the original Viewpoint. As the Viewpoint addresses nutrition, we should have indicated the following: "Dr Kleinman reports having had received payment for serving as an editor for the American Academy of Pediatrics book, *Pediatric Nutrition*, 7th edition, and an honorarium for serving as chair of the Mead Johnson Pediatric Nutrition Iron Expert Panel." We regret this omission and have asked that the article be corrected online to include this information.

Joel L. Bass, MD Tina Gartley, MD Ronald E. Kleinman, MD

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1. Bass JL, Gartley T, Kleinman R. Unintended consequences of current breastfeeding initiatives. *JAMA Pediatr*. 2016;170(10):923-924.

jamapediatrics.com

2. Feldman-Winter L, Goldsmith JP; Committee on Fetus and Newborn; Task Force on Sudden Infant Death Syndrome. Safe sleep and skin-to-skin care in the neonatal period for healthy term newborns. *Pediatrics*. 2016;138(3):e20161889.

3. Bass JL, Gartley T. Safety issues with skin-to skin care must be acknowledged. AAP News. October 24, 2016. http://www.aappublications.org /news/2016/10/24/SleepCommentary102416. Accessed December 28, 2016.

4. Patnode CD, Henninger ML, Senger CA, Perdue LA, Whitlock EP. Primary care interventions to support breastfeeding: updated evidence report and systematic review for the US Preventive Services Task Force [published correction appears in JAMA. 2016;316(20):2155]. JAMA. 2016;316(16):1694-1705.  Flaherman V, Von Kohorn I. Interventions intended to support breastfeeding: updated assessment of benefits and harms. JAMA. 2016;316(16):1685-1687. doi:10.1001/jama.2016.15083

6. United States Department of Health and Human Services (US DHHS), Centers of Disease Control and Prevention (CDC), National Center for Health Statistics (NCHS), Division of Vital Statistics (DVS). Linked Birth / Infant Death Records 2003-2006 and 2007-2013, as compiled from data provided by 57 vital statistics jurisdictions through the Vital Statistics Cooperative Program, on CDC WONDER On-Line Database. https://wonder.cdc.gov/lbd-current.html. Accessed November 3, 2016.

From:	O'Connor, Lauren (CDC/DDNID/NCCDPHP/DNPAO) (CTR)
Sent:	Fri, 23 Jul 2021 13:47:52 +0000
То:	Ayers, Diane G. (CDC/DDNID/NCCDPHP/DNPAO);Grossniklaus, Daurice
(CDC/DDNID/NCCE	DPHP/DNPAO)
Subject:	FW: Baby Friendly USA Releases Updated Guidelines and Evaluation Criteria, 6th
edition	
Attachments:	Baby Friendly GEC Final.pdf

Hi Diane and Daurice,

Do you think the announcement for new Baby Friendly guidelines and evaluation criteria is ok to share via DNPAO Weekly digest?

-Lauren

 From: CDC Breastfeeding Programs <CDC-BREASTFEEDING-PROGRAMS@LISTSERV.CDC.GOV> On Behalf Of Kahin, Sahra A. (CDC/DDNID/NCCDPHP/DNPAO)
 Sent: Friday, July 23, 2021 9:41 AM
 To: CDC-BREASTFEEDING-PROGRAMS@LISTSERV.CDC.GOV
 Subject: Baby Friendly USA Releases Updated Guidelines and Evaluation Criteria, 6th edition

Good morning,

In July, 2021, Baby Friendly USA released the updated Guidelines and Evaluation Criteria (GEC), 6<sup>th</sup> edition (attached), for the United States. <u>This version of the GEC</u> will apply to all Baby-Friendly designation assessment request letters received on or after June 1, 2023. The <u>Interim GEC</u>, which has been the basis for assessments since February 1, 2020, will remain in effect until that time. For more information, please visit <u>https://www.babyfriendlyusa.org/for-facilities/practice-guidelines/</u>.

Take care,

Sahra A. Kahin, MA, MPH (Pronouns: she/her/hers) Health Scientist Program Development and Evaluation Branch Division of Nutrition, Physical Activity and Obesity Centers for Disease Control and Prevention 4770 Buford Hwy, NE MS S107-5 Atlanta, GA 30341 Email: skahin@cdc.gov To unsubscribe from the CDC-BREASTFEEDING-PROGRAMS list, click the following link: http://listserv.cdc.gov/scripts/wa.exe?SUBED1=CDC-BREASTFEEDING-PROGRAMS&A=1



# THE BABY-FRIENDLY HOSPITAL INITIATIVE

# Guidelines and Evaluation Criteria

SIXTH EDITION



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The 2018 UNICEF/WHO Protecting, Promoting and Supporting Breastfeeding in Facilities Providing Maternity and Newborn Services: the revised Baby-Friendly Hospital Initiative.

#### PHOTO CREDITS

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BFUSA EXPERT PANEL MEMBERS: See Appendix G We would also like to express our deep gratitude to the following professional organizations for their thoughtful review and comments:

Academy of Breastfeeding Medicine (ABM) American Academy of Family Physicians (AAFP) American Academy of Pediatrics (AAP) American College of Nurse Midwives (ACNM) American College of Obstetricians and Gynecologists (ACOG) Association of Women's Health Obstetric and Neonatal Nurses (AWHONN) United States Lactation Consultant Association (USLCA)



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# INTRODUCTION

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**BABY-FRIENDLY HOSPITAL INITIATIVE (BFHI)** was established in 1991 by the United Nations Children's Fund (UNICEF) and the World Health Organization (WHO). The BFHI is a global program to support the implementation of the *Ten Steps to Successful Breastfeeding (the Ten Steps)* and the *International Code of Marketing of Breast-milk Substitutes (the International Code)* in maternity facilities. "The core purpose of the BFHI is to ensure that mothers and newborns receive timely and appropriate care before and during their stay in a facility providing maternity and newborn services, to enable the establishment of optimal feeding of newborns, which promotes their health and development. Given the proven importance of breastfeeding, the BFHI protects, promotes and supports breastfeeding while enabling timely and appropriate care and feeding of newborns who are not *(yet or fully)* breastfed."<sup>1</sup>

An important philosophy of the Initiative is that "families must receive quality and unbiased information about infant feeding. Facilities providing maternity and newborn services have a responsibility to promote breastfeeding, but they must also respect the mother's preferences and provide her with the information needed to make an informed decision about the best feeding option for her and her infant. The facility needs to support mothers to successfully feed their newborns in the manner they choose."<sup>1</sup>

In 2015, WHO and UNICEF embarked on a process to review the most current scientific evidence pertaining to each of the Ten Steps and update the implementation guidance for the BFHI. Their goal was to reinvigorate the BFHI with the aim of worldwide adoption of the Ten Steps in all facilities providing birthing services.

#### The results of their work were published in two separate key documents:

GUIDELINE: Protecting, promoting and supporting breastfeeding in facilities providing maternity and newborn services<sup>2</sup> This is a review of the evidence for each individual step of the Ten Steps. It is NOT a review the evidence for the combined impact of multiple steps.

IMPLEMENTATION GUIDANCE: Protecting, promoting and supporting breastfeeding in facilities providing maternity and newborn services: the revised BABY-FRIENDLY HOSPITAL INITIATIVE<sup>1</sup> (2018 Implementation Guidance)

# **INTRODUCTION** continued

The 2018 Implementation Guidance established global standards for each of the Ten Steps while calling on nations to customize the materials to address specific national goals. BFUSA engaged in a robust process to revise the Initiative for the US. An immediate and thorough review of the two key documents was conducted. A document was developed comparing the new guidance and standards with the existing US Guidelines and Evaluation Criteria (GEC) to determine if any immediate changes could be implemented. It was determined that adjustments to the requirements for Step 9 were warranted. Therefore, revised versions of the US GEC were published in July 2018 and December 2019.

In the meantime, an expert panel consisting of individuals with widespread knowledge and experience with implementing the BFHI standards was convened for a face-to-face meeting in August 2018. Based on its review of the updated evidence, the new implementation guidance, and the comparison with the existing standards, the panel recommended revisions to customize the global guidance for applicability to the US. These revisions were incorporated into updated documents and submitted to the expert panel, the BFUSA Board of Directors, Clinical Committee and several key national professional health organizations for further input. Those organizations included: Academy of Breastfeeding Medicine, American Academy of Family Physicians, American Academy of Pediatrics, American College of Obstetricians and Gynecologists, American College of Nurse Midwives, Association of Women's Health, Obstetric and Neonatal Nurses and the United States Lactation Consultant Association.

The expert panel was reconvened in July 2019 to review the comments received in the latest review stage and assist with finalizing the guidance, standards and evaluation criteria for the US. The last component of the process was the incorporation of "Performance indicators demonstrating staff competency to implement" based on WHO and UNICEF's Competency Verification Toolkit: Ensuring Competency of Direct Care Providers to Implement the Baby-Friendly Hospital Initiative released on August 5, 2020.<sup>3</sup>

# **REVISIONS TO THE TEN STEPS TO SUCCESSFUL BREASTFEEDING**

An important component of the effort to reinvigorate the BFHI by WHO and UNICEF was a review of the evidence for each of the Ten Steps to Successful Breastfeeding. Upon completing this task, the WHO and UNICEF then evaluated the actual wording for each Step. They concluded that the theme of each Step was appropriate but some of the phrasing needed to be changed to better align with the evidence.

Several noteworthy changes include: the incorporation of the International Code of Marketing of Breast-milk Substitutes and monitoring procedures into Step 1 and a shift in the focus of Step 2 from an emphasis on a specific number of hours of training to competency verification.

It is also worth pointing out that the steps are now divided into critical management procedures and key clinical practices. The chart to the right compares the 2018 revised version to the original 1989 Ten Steps.

TEN STEPS TO SUCCESSFUL BREASTFEEDING		
REVISED IN 2018	ORIGINAL	
<ul> <li>CRITICAL MANAGEMENT PROCEDURES</li> <li>1 A. Comply fully with the International Code of Marketing of Breast-milk Substitutes and relevant World Health Assembly resolutions.</li> <li>1 B. Have a written infant feeding policy that is routinely communicated to staff and parents.</li> <li>1 C. Establish ongoing monitoring and data-management systems.</li> <li>2. Ensure that staff have sufficient knowledge, competence and skills to support breastfeeding.</li> </ul>	<ol> <li>Have a written breastfeeding policy that is routinely communicated to all health care staff.</li> <li>Train all health care staff in the skills necessary to implement this policy.</li> <li>Inform all pregnant women about the benefits and management of breastfeeding.</li> <li>Help mothers initiate breastfeeding within one hour of birth.</li> <li>Show mothers how to breastfeed and how to maintain lactation, even if they are separated from their infants.</li> </ol>	
<ul> <li>KEY CLINICAL PRACTICES</li> <li>3. Discuss the importance and management of breast-feeding with pregnant women and their families.</li> <li>4. Facilitate immediate and uninterrupted skin-to-skin contact and support mothers to initiate breastfeeding as soon as possible after birth.</li> <li>5. Support mothers to initiate and maintain breastfeeding and manage common difficulties.</li> <li>6. Do not provide breastfed newborns any food or fluids other than breast-milk, unless medically indicated.</li> <li>7. Enable mothers and their infants to remain together and to practice rooming-in 24 hours a day.</li> <li>8. Support mothers to recognize and respond to their infants' cues for feeding.</li> <li>9. Counsel mothers on the use and risks of feeding bottles, artificial nipples (teats) and pacifiers.</li> <li>10. Coordinate discharge so that parents and their infants have timely access to ongoing support and care.</li> </ul>	<ul> <li>6. Give infants no food or drink other than breast-milk, unless medically indicated.</li> <li>7. Practice rooming-in – allow mothers and infants to remain together 24 hours a day.</li> <li>8. Encourage breastfeeding on demand.</li> <li>9. Give no pacifiers or artificial nipples to breastfeeding infants.</li> <li>10. Foster the establishment of breastfeeding support groups and refer mothers to them on discharge from the hospital or birth center.</li> </ul>	

# DOCUMENT CONTENT AND FORMAT

It is the goal of BFUSA to implement a program for the US that remains as closely aligned with the global initiative as possible, while at the same time, addressing the US needs and circumstances. As such, within the Guidelines and Evaluation Criteria section, as much specific language as possible was used from the 2018 (WHO/UNICEF) Implementation Guidance. (NOTE: some words were changed from the European to American spelling and some small amounts of text containing guidance unrelated to US hospitals were removed in order to avoid confusion.) Where necessary, additional US language within the implementation for each step were added in *italics*.

The document is organized according to the 2018 Ten Steps to Successful Breastfeeding. It must be noted that "while each of the Ten Steps contributes to improving the support for breastfeeding, optimal impact on breastfeeding practices, and thereby on maternal and child well-being, is only achieved when all Ten Steps are implemented as a package."<sup>1</sup> This entire document should be read with this point in mind.

#### Each step consists of the following sections:

- THE STEP NUMBER AND NAME
- RATIONALE
- IMPLEMENTATION GUIDANCE
- CONSIDERATIONS FOR SAFE IMPLEMENTATION
- PERFORMANCE INDICATORS DEMONSTRATING STAFF COMPETENCY TO IMPLEMENT
- STANDARDS
- CRITERIA FOR EVALUATION
- REFERENCES ARE FOUND AT THE END OF THE DOCUMENT

It is also important to point out that the BFHI is typically focused on the healthy term infant, however, in the US many late preterm infants are cared for on the postpartum floor. Therefore, some guidance and standards are relevant to their care. In some cases, the 2018 Implementation Guidance specifies if a standard applies to term infants or preterm infants. BFUSA felt it was more appropriate to remove the "term" and "preterm" language from the standard. Instead, the standard applies to where the mother, baby, or both are being cared for. In addition, a NICU Toolkit offering a comprehensive set of clinical practice recommendations geared towards increasing the use of breastfeeding and human milk in neonatal intensive care management has been developed.

# This toolkit will be posted to www.babyfriendllyusa.org by the end of summer 2021.

## DESCRIPTION OF SECTIONS INCLUDED IN EACH STEP

STEP NAME AND NUMBER: appears exactly as it is worded in the 2018 BFHI Implementation Guidance.

**RATIONALE:** offers insight into the purpose of the step and appears in this document exactly as it is worded in the 2018 BFHI Implementation Guidance.

**IMPLEMENTATION GUIDANCE:** provides critical information to support the standards which facilities should strive to achieve for all patients. This language is predominantly taken from the 2018 Implementation Guidance, with some adjustments in *italics* for applicability to the US. (NOTE: some words were changed from the European to American spelling and some small amounts of text containing guidance unrelated to US hospitals were removed in order to avoid confusion.) US CONSIDERATIONS FOR SAFE IMPLEMENTATION: are suggested documents, policies, and/or protocols from either a recognized national/ international medical professional organization or US governmental department, WHO or UNICEF that may assist facilities with the safe implementation of the step.

#### PERFORMANCE INDICATORS DEMONSTRATING STAFF COMPETENCY

**TO IMPLEMENT:** are the knowledge, skills and attitudes that are necessary for staff to properly implement the step. They are mostly drawn from the WHO/UNICEF Competency Verification Toolkit titled "Ensuring Competency of Direct Care Providers to Implement the Baby-Friendly Hospital Initiative", however six Performance Indicators were developed specifically for the United States.

**STANDARDS:** are predominantly taken from the 2018 Implementation Guidance, with some adjustments in *italics* for applicability to the US.

**CRITERIA FOR EVALUATION:** are the specific quantifiable measures used by Baby Friendly USA (BFUSA) assessors to determine the birthing facility's conformity with the BFHI.

# IMPORTANCE OF BREASTFEEDING

Human milk provided by direct breastfeeding is the biologically normal way to feed an infant. There are very few true contraindications to breastfeeding and scientific evidence overwhelmingly indicates that it is nutritionally superior, offers substantial immunological and health benefits, facilitates mother-baby bonding, and should be promoted and supported to ensure the best health for women and their children. Breastfeeding is the single most powerful and well-documented preventative modality available to health care providers to reduce the risk of common causes of infant morbidity. Significantly lower rates of diarrhea, otitis media, lower respiratory tract infections, Type 1 and Type 2 diabetes, childhood leukemia, necrotizing enterocolitis, and Sudden Infant Death Syndrome occur among those who were breastfed.<sup>4, 5</sup> Breastfeeding also supports the healthy development of an infant's gut microbiome<sup>6</sup> and is shown to be inversely associated with overweight risk.<sup>7</sup>

Women who breastfeed have a lower risk of Type 2 diabetes, hypertension and breast and ovarian cancers.<sup>4, 8, 9</sup> Evidence suggests that reduction in the risk of cardiovascular and other related diseases may be added to the benefits of breastfeeding for women.<sup>10, 11</sup> The American Academy of Pediatrics, the American College of Obstetricians and Gynecologists, the Centers for Disease Control and Prevention, and the World Health Organization all recommend exclusive breastfeeding for about 6 months and continued breastfeeding while adding complimentary foods for one year and beyond.

Despite the significant gains made during the past few years, the initiation, duration, and exclusivity of breastfeeding continue to lag

behind the national objectives, and racial disparities persist. In 2017, approximately 84% of all women initiated breastfeeding; however, only 74% of non-Hispanic black women and 77% of women with incomes below the poverty line initiated breastfeeding.<sup>12</sup>

While causes of this trend are multifactorial and complex, health care practices have been shown to play a fundamental role in impacting breastfeeding initiation, exclusivity, and duration. Unsupportive practices during the perinatal period can disrupt the unique and critical link between the prenatal education and the community postpartum support provided after discharge from the birthing facility. Conversely, supportive practices positively impact breastfeeding outcomes. The Ten Steps to Successful Breastfeeding, which form the foundation of the Baby-Friendly Hospital Initiative, are a package of evidence-based practices shown to improve breastfeeding outcomes. Studies have shown that the more steps a mother reports experiencing, the more likely she is to meet her breastfeeding goals.<sup>13,14</sup>

# CULTURAL HUMILITY AND RESPECT: ADDRESSING THE DIVERSE NEEDS OF PATIENTS

The Guidelines and Evaluation Criteria will directly affect all birthing individuals, pregnant women, mothers, and their infants and children. The practices described in this document apply equally to parents who may not identify as "women" or "mothers", including transgender and non-binary parents. The terms "mother" and "breastfeeding" are used throughout this document, reflecting the fact that the biological norm is female persons who give birth to infants and feed them at the breast. However, BFUSA wants to emphasize that we are respectful and mindful of the many different family types that exist in the US in which these terms do not necessarily represent the circumstances or norms of the family. This includes, but is not limited to, situations such as surrogacy, chest-feeding, or other circumstances in which persons who give birth to infants do not identify as "women" or "mothers," including transgender and nonbinary parents who may experience difficultly accessing culturally safe care.

We also want to highlight that different racial and ethnic groups have unique cultural norms that may affect a family's decision-making process. Achieving equity in breastfeeding is a key objective of the BFHI. This requires that leadership create an environment that enables and supports the availability of and access to quality breastfeeding support for all patients equally. It also requires that practitioners address the needs of diverse populations through breastfeeding counselling, safeguard privacy, and respect each individual's right to make informed and autonomous decisions.

Our expectation is that all families will be embraced and supported equally and that all patients will be provided the highest standard of individualized infant feeding care. Staff should engage in meaningful conversations with families — especially those with unique circumstances — to ensure the health professionals in charge have a clear understanding of each family's specific wishes and fully support each family's unique birth plan.

# GUIDELINES AND EVALUATION CRITERIA FOR FACILITIES SEEKING TO ATTAIN AND SUSTAIN BABY-FRIENDLY® DESIGNATION

**1**. Well-constructed, comprehensive policies effectively guide staff to deliver evidence-based care.

2. Well-trained staff provide quality, evidence-based care.

3. Monitoring of practice is required to ensure adherence to policy and sustained standard of care.

4. The mother and her family should be protected within the health care setting from false or misleading product promotion and/or advertising which interferes with or undermines informed decisions regarding infant health care practices.

5. Facility staff should be protected from product promotion and/or advertising which may impact their professional activities and judgment.

6. Breastfeeding has been recognized by scientific authorities as the optimal method of infant feeding and should be the norm within all maternal and child health care facilities.

7. Facilities should follow the most scientifically sound, respectful, safe and effective procedural approaches to supporting breastfeeding and human lactation in the birthing environment.

8. The health care delivery environment should facilitate informed health care decisions on the part of the mother and her family. It should not be either restrictive or punitive.

9. The health care delivery environment should be culturally respectful and mindful of the diverse needs of the patients.

**10.** When a mother has chosen not to breastfeed, when supplementation of breastfeeding is medically indicated, or when supplementation is a decision by the breastfeeding mother (after appropriate conversations and education), it is crucial that safe and appropriate methods of formula preparation, handling, storage, and feeding are taught to the parents.

**11.** Recognition as a Baby–Friendly institution should have both national and international credibility and prestige, so that it is marketable to the community, increases demand, and thereby improves motivation among facilities to participate in the Initiative.

**12**. Participation of any facility in the U.S. BFHI is entirely voluntary and is available to any institution providing birthing services.

**13**. Each participating facility assumes full responsibility for assuring that its implementation of the BFHI is consistent with all of its safety protocols.

The Baby-Friendly USA Guidelines and Evaluation Criteria and the assessment and accreditation processes are predicated on the following tenets:



# **FACILITY POLICIES**



# Step 1 includes three critical management procedures:

**STEP 1A** Application of the International Code of Marketing of Breast-milk Substitutes

**STEP 1B** Development of written policies

# **STEP 1C** Operation of monitoring and data-management systems

# <sup>STEP</sup>

Comply fully with the International Code of Marketing of Breast-milk Substitutes and relevant World Health Assembly resolutions.

# RATIONALE:

Families are most vulnerable to the marketing of breast-milk substitutes during the entire prenatal, perinatal, and postnatal period when they are making decisions about infant feeding. The WHA *(World Health Assembly)* has called upon health workers and health-care systems to comply with the International Code of Marketing of Breast-milk Substitutes<sup>15, 16</sup> and subsequent relevant WHA resolutions<sup>17</sup> (the *International* Code), in order to protect families from commercial pressures and influences. Additionally, health professionals themselves need protection from commercial influences that could affect their professional activities and judgement. Compliance with the *International* Code is important for facilities providing maternity and newborn services, since the promotion of breast-milk substitutes is one of the largest undermining factors for breastfeeding.<sup>18</sup>

Companies marketing breast-milk substitutes, feeding bottles and *artificial nipples* [including pacifiers] are repeatedly found to violate the International Code.<sup>19, 20</sup> It is expected that the sales of breast-milk substitutes will continue to increase globally, which is detrimental for children's survival and well-being.<sup>21, 22</sup> This situation means that ongoing concerted efforts will be required to protect, promote and support breastfeeding, including in facilities providing maternity and newborn services.<sup>1</sup>

# IMPLEMENTATION GUIDANCE:

THE INTERNATIONAL CODE<sup>15, 16</sup> lays out clear responsibilities of healthcare systems to not promote infant formula, feeding bottles or *artificial nipples [including pacifiers]* and to not be used by manufacturers and distributers of products under the scope of the *International* Code for this purpose. This includes the provision that all facilities providing maternity and newborn services must acquire any breast-milk substitutes, feeding bottles or *artificial nipples [including pacifiers]* they require through normal procurement channels and not receive free or subsidized supplies.<sup>23</sup> Furthermore, staff of facilities providing maternity and newborn services should not engage in any form of promotion or permit the display of any type of advertising of breast-milk substitutes, *feeding bottles*, and/or infant feeding supplies *[pacifier promotion must meet the requirements specified in Criterion 9.2.1]* including the



display or distribution of any equipment or materials bearing the brand of manufacturers of breast-milk substitutes, or discount coupons, and they should not routinely give samples of infant formula to mothers to take home.<sup>1</sup>

### In line with the WHO GUIDANCE ON ENDING THE INAPPROPRIATE PROMOTION OF FOODS FOR INFANTS AND YOUNG CHILDREN,

published in 2016 and endorsed by the WHA,<sup>24</sup>, health workers and health systems should avoid conflicts of interest with companies that market foods for infants and young children. Health-professional meetings should never be sponsored by industry *covered by the International Code* and industry covered by the *International Code* should not participate in parenting education.<sup>4</sup>

## **US CONSIDERATIONS FOR SAFE IMPLEMENTATION:**

Health professionals and institutions should avoid activities with commercial influences that could affect their professional activities and judgement. Below are a few examples:

### AVOIDANCE OF CONFLICTS OF INTEREST

POTENTIAL CONFLICT	Allowing companies that manufacture and/or market breast-milk substitutes, feeding bottles and artificial nipples [including pacifiers] to sponsor and/or host trainings, events, meetings, and scientific seminars on breastfeeding.
POTENTIAL HARM	Associating the name of the respected health facility with a company implies facility endorsement of that company and/or its products. This may unintentionally sway health professionals to recommend products to patients that are not specific to their needs.
REQUIREMENT	Criterion 1A.3.1 requires that no items bear product images or product logos of companies that produce breast-milk substitutes, feeding bottles and artificial nipples [including pacifiers] or names of products covered under the International Code unless specific to the pregnant woman's, mother's or infant's needs or conditions. Criterion 1A.4.4 calls for the facility to have a policy that describes how the facility and its staff members: do not receive support/sponsorship for events/meetings.

POTENTIAL CONFLICT	Health professionals attending trainings sponsored by companies that manufacture and/or market breast-milk substitutes, feeding bottles and artificial nipples [including pacifiers].
POTENTIAL HARM	Receipt of meals and/or free registration to meetings creates a potential obligation to favor that company's products over other products.
REQUIREMENT	Criterion 1A.4.4 calls for the facility have a policy that describes how the facility and its staff members do not receive free gifts.
POTENTIAL CONFLICT	Receipt of awards and gifts by the staff or facility from companies that manufacture and/or market breast-milk substitutes, feeding bottles and artificial nipples [including pacifiers].
POTENTIAL HARM	It associates a company's name with a respected staff member setting that staff member up as "role model" for others. This may imply the staff member's endorsement of a product or company.
REQUIREMENT	Criterion 1A.4.4 calls for the facility have a policy that describes how the facility and its staff members do not receive free gifts, [Examples include meals, conference fees].

# US CONSIDERATIONS FOR FACILITIES THAT COORDINATE WITH OUTSIDE AGENCIES THAT ALSO DISCUSS INFANT FEEDING WITH MOTHERS AND THEIR SUPPORT SYSTEMS:

All facilities are encouraged to coordinate services with other community programs that provide counseling, support, and education on breastfeeding. Some facilities have developed processes that begin coordinating services during the birth hospitalization. While these services offer many benefits to families, hospitals should coordinate efforts to minimize interruptions to mothers during the hospital stay. This will allow maximum opportunity for mothers to recover from birth, bond with their babies and learn their feeding cues. Outside agencies interacting with mothers in the hospital setting should have sufficient training to support exclusive breastfeeding. Procedures should be established between the facility and the outside agency as to how the outside agency should respond and support the breastfeeding mothers who requests formula from them while in the hospital setting. **Compliance with the International Code is essential in protecting mothers who are still making decisions about infant feeding.** 

**REFER TO APPENDIX C: PERFORMANCE INDICATORS TO MEASURE EACH COMPETENCY** for the comprehensive list of required knowledge, skills, and attitudes. (All performance indicators apply to direct care staff. Specific performance indicators for which knowledge competency applies to direct care providers are marked with an ')



WHO/UNICEF PERFORMANCE INDICATORS DEMONSTRATING COMPETENCY TO IMPLEMENT STEP 1A	VERIFICATION METHOD
'1. List at least 3 products that are covered by the Code.	Question or case study
'2. Describe at least 3 ways a direct care provider/direct care staff member protects breastfeeding in practice.	Question or case study
*3. Describe at least 1 way a direct care provider/direct care staff member should respond if offered information provided by manufacturers and/or distributors of products within the scope of the Code.	Question or case study
'4. Describe at least 1 type of financial or material inducement that might be offered to a direct care provider/direct care staff member by a manufacturer and/or distributor of products within the scope of the Code.	Question or case study
'5. Describe at least 1 harm of a direct care provider/direct care staff member accepting financial or material inducements.	Question or case study
6. Explain at least 2 ways that the facility and any affiliated prenatal services ensure that there is no promotion of infant formula, feeding bottles, or artificial nipples in any part of facilities providing maternity and newborn services, or by any of the direct care providers/direct care staff.	Question or case study



# THE FOLLOWING STANDARDS APPLY

WHO/UNICEF STANDARD	US CRITERION FOR EVALUATION
1A.1 All infant formula, feeding bottles and artificial nipples [including pacifiers] used in the facility have been purchased through normal procurement channels and not received through free or subsidized supplies.	A review of records will confirm: Criterion 1A.1.1 A review of records [invoices and proofs of payment] indicates that infant formula, feeding bottles and artificial nipples [including pacifiers] used in the facility have been purchased at a fair market price through normal procurement channels and not received through free or subsidized supplies or rebates that drop the price below the fair market price.

US CRITERION FOR EVALUATION
Interviews with direct care nursing staff and direct care providers will confirm:
Criterion 1A.2.1 At least 80% of health professionals who provide prenatal, delivery, postpartum, and/or well newborn
units can explain at least two elements of the International Code.
A. Direct care nursing staff, AND
B. Direct care providers with privileges

WHO/UNICEF STANDARD	US CRITERION FOR EVALUATION
1A.3 The facility [including affiliated	A review and/or observation of items will confirm:
prenatal services] has no display of	
products covered under the International	Criterion 1A.3.1 A review of submitted and/or observed items in the facility [including affiliated prenatal services] will
Code or items with logos of companies	confirm that no items bear product images or product logos of companies that produce breast-milk substitutes, feeding
that produce breast-milk substitutes,	bottles and artificial nipples [including pacifiers] or names of products covered under the International Code unless specific
feeding bottles and artificial nipples	to the pregnant woman's, mother's or infant's needs or conditions. (For example, information about how to safely use a
[including pacifiers], or names of products	needed product such as a formula or a specialty bottle would be acceptable to give to a mother or infant needing that
covered under the International Code.	specific product. Marketing information for such products would not be acceptable.)
	A. In the affiliated prenatal clinic/service, AND
	B. In the birthing facility
	continued

WHO/UNICEF STANDARD	US CRITERION FOR EVALUATION
1A.3 The facility [including affiliated prenatal services] has no display of	A review and/or observation of items will confirm:
products covered under the International	Criterion 1A.3.2 A review of submitted and/or observed items displayed and/or distributed to pregnant women, mothers,
Code or items with logos of companies	or staff in the facility [including affiliated prenatal services] will confirm all items are free of messages that promote or
that produce breast-milk substitutes,	advertise breast-milk substitutes, feeding bottles, and artificial nipples or other infant feeding supplies.
feeding bottles and artificial nipples	A. In the affiliated prenatal clinic/service, AND
[including pacifiers], or names of products covered under the International Code.	B. In the birthing facility
	Criterion 1A.3.3 A review of submitted and/or observed items in the facility [including affiliated prenatal services] will
	confirm that any items displayed or distributed to pregnant women and mothers are free of messages that promote or
	advertise the use of pacifiers, except safe sleep and SUIDS/SIDS risk reduction materials which must contain additional
	language to promote breastfeeding. [See criterion 9.2.1]
	A. In the affiliated prenatal clinic/service, AND
	B. In the birthing facility
	Observation will confirm:
	Criterion 1A.3.4 Observations will confirm that infant formula is kept out of view of patients and the general public.
	A. In the affiliated prenatal clinic/service, AND
	B. In the birthing facility
	Observation will confirm: Criterion 1A.3.4 Observations will confirm that infant formula is kept out of view of patients and the general public. A. In the affiliated prenatal clinic/service, AND B. In the birthing facility

## CLARIFICATION: CRITERION 1A.3.3' PACIFERS AND SUIDS/SIDS REDUCTION INFORMATION

BFUSA acknowledges the evidence pertaining to pacifier use related to SUIDS/SIDS risk reduction.<sup>25</sup> Safe sleep and SUIDS/SIDS risk reduction information is important for parents to receive during the birth hospital stay.<sup>26,27</sup> This education may be compatibly provided to parents by using safe sleep materials that also promote breastfeeding. SEE STANDARD 9.2 FOR ADDITIONAL GUIDANCE.

# 1A

STEP

#### WHO/UNICEF STANDARD

### 1A.4 The facility has a policy that describes how it abides by the *International* Code, including procurement of breast-milk substitutes, not accepting support or gifts from producers or distributors of products covered by the *International* Code and not giving samples of breast-milk substitutes, feeding bottles or *artificial nipples* [including pacifiers] to mothers.

#### US CRITERIA FOR EVALUATION

The facility has a policy that describes how it abides by the International Code, including:

Criterion 1A.4.1 How the facility procures infant feeding products.

**Criterion 1A.4.2** How the facility [including affiliated prenatal services] protects pregnant women, mothers, and their families by not allowing the receipt or distribution of:

- Marketing materials
- Samples
- Gift packs
- Coupons

that include breast-milk substitutes, feeding bottles, artificial nipples, and pacifiers, or other infant feeding supplies.

**Criterion 1A.4.3** How the facility [including affiliated prenatal services] protects pregnant women, mothers and their families by preventing direct contact or indirect contact with the manufacturers and/or distributors of breast-milk substitutes, feeding bottles, artificial nipples, and pacifiers.

- Direct contact [examples include providing infant feeding hotline numbers staffed by company employees/contractors]
- Indirect contact [examples include use of mechanisms to collect mothers' names and provide to companies/contractors through photographers and special discharge programs]

**Criterion 1A.4.4** How the facility [including affiliated prenatal services] protects itself and its staff members from marketing by manufacturers or distributors of breast-milk substitutes, bottles, nipples, pacifiers or other infant feeding supplies, by precluding the receipt of:

- Free gifts [Examples include meals, conference fees]
- Information that is not scientific, factual, and unbiased
- Materials [Examples include posters, magazines]
- Promotional items
- Equipment
- Money
- Support for breastfeeding education
- Support/sponsorship for events/meetings

All other interactions with these manufacturers/distributors are in compliance with the facility's vendor/ethics policy.

# 1B

Have a written infant feeding policy that is routinely communicated to staff and parents.

# RATIONALE:

Policy drives practice. *Health professionals* and institutions are required to follow established policies. The clinical practices articulated in the Ten Steps need to be incorporated into facility policies, to guarantee that appropriate care is equitably provided to all mothers and babies and is not dependent on the *routines and/or* preferences of each *direct* care provider. Written policies are the vehicle for ensuring patients receive consistent, evidence-based care, and are an essential tool for *direct care* staff accountability. Policies help to sustain practices over time and communicate a standard set of expectations for all health workers.<sup>1</sup>

# IMPLEMENTATION GUIDANCE:

Facilities providing maternity and newborn services should have a clearly written breastfeeding policy that is routinely communicated to staff and parents.<sup>2</sup> A facility breastfeeding policy may stand alone as a separate document, be included in a broader infant feeding policy, or be incorporated into a number of other policy documents *or protocols*. However organized, the policy should include guidance on how each of the clinical and care practices should be implemented, to ensure that they are applied consistently to all mothers. The policy should also spell out how the management procedures should be implemented, preferably via specific processes that are institutionalized.<sup>1</sup>

# US CONSIDERATIONS FOR SAFE IMPLEMENTATION:

Orient all direct care staff and direct care providers who are impacted by the infant feeding policy as soon as possible, no later than 12 weeks post hire.

In order to have safe, effective and sustained improvement in practices, infant feeding policies in facilities providing maternity and newborn services need to cover all established standards of practice, be fully implemented and regularly communicated to direct care staff and direct care providers.<sup>2</sup> Frequency of communication to staff must occur, minimally, every 2 years.

REFER TO APPENDIX C: PERFORMANCE INDICATORS TO MEASURE EACH COMPETENCY for the comprehensive list of

required knowledge, skills, and attitudes. (All performance indicators apply to direct care staff. Specific performance indicators for which knowledge competency applies to direct care providers are marked with an \*)

WHO/UNICEF PERFORMANCE INDICATORS DEMONSTRATING COMPETENCY TO IMPLEMENT STEP 1A	VERIFICATION METHOD
'7. Describe at least 2 elements that are in the facility's infant feeding policy.	Question or case study
'8. <b>Explain</b> at least 3 ways that the infant feeding policy affects a direct care provider's/direct care staff member's work in <i>providing safe</i> , equitable and appropriate care.	Question or case study

# THE FOLLOWING STANDARDS APPLY

WHO/UNICEF STANDARD	US CRITERION FOR EVALUATION
1B.5 The health facility has a written infant feeding policy that addresses the implementation of all eight key clinical practices of the Ten Steps, <i>International</i> Code implementation, and regular competency assessment.	A review of the policy will confirm: Criterion 1B.5.1 The facility will have comprehensive, evidence-based, written maternity care and infant feeding policies that address all Ten Steps, protect breastfeeding, and which includes adherence to the International Code.
1B.6 A review of all clinical protocols or standards related to breastfeeding and infant feeding used by the maternity services indicates that they are in line with BFHI standards and current evidence-based guidelines.	A written description will confirm: Criterion 1B.6.1 The Director of Maternity will provide a written description of how all the clinical protocols or standards related to breastfeeding and infant feeding used by the maternity services are reviewed and aligned with BFHI standards and current evidence-based guidelines.

WHO/UNICEF STANDARD	US CRITERION FOR EVALUATION
1B.7 Observations in the facility confirm	Observations will confirm:
that a summary of the policy is visible to pregnant women, mothers and their families.	Criterion 1B.7.1 Observations in the facility and affiliated prenatal services confirm that The Ten Steps to Successful Breastfeeding (WHO/UNICEF revised 2018) will be visible to pregnant women, mothers and their families. The Ten Steps poster locations include the waiting room and/or admission areas of the following units: A. Labor and delivery unit B. Postpartum unit C. Affiliated prenatal services D. Ultrasound, screening/lab, prenatal testing areas E. Newborn nursery/observation area/procedure room F. Neonatal intensive care unit G. Emergency room This information will be displayed in the language(s) most commonly understood by patients. A review of materials will confirm: Criterion 1B 7.2 A review of the content of the Ten Steps posters will verify alignment to the Ten Steps Poster Guide requirements [4-D Pathway document].
1B.8 Clinical staff [Health professionals] who provide prenatal, delivery and/or newborn care can explain at least two elements of the infant feeding policy that influence their role in the facility.	Interviews with direct care nursing staff and direct care provider will confirm: Criterion 1B. 8.1 At least 80% of health professionals who provide prenatal, delivery, postpartum, and/or well newborn care can explain at least two elements of the infant feeding policy that influence their role in providing safe, equitable and appropriate care. [PI 8] A. Direct care nursing staff, AND B. Direct care providers with privileges Criterion 1B.8.2 At least 80% of health professionals who provide prenatal, delivery, postpartum, and/or well newborn care will confirm that they are aware of the facility's maternity care and infant feeding policies and know where the policies are kept or posted. A. Direct care nursing staff, AND B. Direct care nursing staff, AND B. Direct care nursing staff, AND Criterion 1B.8.2 At least 80% of health professionals who provide prenatal, delivery, postpartum, and/or well newborn care will confirm that they are aware of the facility's maternity care and infant feeding policies and know where the policies are kept or posted. A. Direct care nursing staff, AND B. Direct care providers with privileges continued

#### WHO/UNICEF STANDARD

1B.8 Clinical staff [Health professionals] who provide prenatal, delivery and/or newborn care can explain at least two elements of the infant feeding policy that influence their role in the facility.

#### US CRITERION FOR EVALUATION

#### A review of materials will confirm:

**Criterion 1B.8.3** A designated health professional will provide a written description that includes a summary of how and when health professionals are made aware of the infant feeding policy including:

A. A Process and timeline to orient direct care staff and direct care providers who provide prenatal, delivery and/or newborn care in the implementation of the infant feeding policy, AND

B. A Process and frequency for routine communication of all direct care staff and direct care providers who provide prenatal, delivery and/or newborn care. Considerations for routine communication may include:

- A review of high-risk/safety-related procedural steps, and/or
- Updates regarding revisions, and/or
- Review of practical skills, and/or
- Quality improvement efforts when monitoring data indicates one or more policy practices are not being fully adhered to.

#### **US STANDARD**

1B.9 All forms of patient educational materials related to infant feeding (booklets, applications, videos, text, etc.) and a written description of the content of the education, will be made available at assessment. A review of these materials must demonstrate current evidence-based guidance, include all of the required topics listed in Appendix A, and align with both the facility's infant feeding policy and the Ten Steps to Successful Breastfeeding.

#### CRITERION FOR EVALUATION

A review of educational materials will confirm:

*Criterion 1B.9.1* Prenatal Education: All forms of patient educational materials related to infant feeding (booklets, applications, videos, text, etc.) and a written description of the content of the education provided to pregnant women during the prenatal period [including both affiliated prenatal services and in-house programs], will be made available at assessment. A review of these materials must:

A. Demonstrate current evidence-based guidance, AND

B. Include all of the required topics listed in Appendix A, AND

C. Align with both the facility's infant feeding policy and the Ten Steps to Successful Breastfeeding.

**Criterion 1B.9.2** Postpartum Breastfeeding Education: All forms of educational materials related to infant feeding (booklets, applications, videos, text, etc.) and/or a description of the content of the education, provided to postpartum breastfeeding mothers during the birth hospitalization will be made available at assessment. A review of these materials must:

- A. Demonstrate current evidence-based guidance, AND
- B. Include all of the required topics listed in Appendix A, AND
- C. Align with both the facility's infant feeding policy and the Ten Steps to Successful Breastfeeding.

continued

# <sup>STEP</sup>

#### US STANDARD

#### CRITERION FOR EVALUATION

1B.9 All forms of patient educational materials related to infant feeding (booklets, applications, videos, text, etc.) and a written description of the content of the education, will be made available at assessment. A review of these materials must demonstrate current evidence-based guidance, include all of the required topics listed in Appendix A, and align with both the facility's infant feeding policy and the Ten Steps to Successful Breastfeeding.

## A review of educational materials will confirm:

**Criterion 1B.9.3** Postpartum Infant Formula Feeding Education: All forms of educational materials related to infant feeding (booklets, applications, videos, text, etc.) and/or a description of the content of the education, provided to formula feeding mothers during the birth hospitalization will be made available at assessment. A review of these materials must:

- A. Demonstrate current evidence-based guidance, AND
- B. Include all of the required topics listed in Appendix A, AND

C. Align with both the facility's infant feeding policy and the Ten Steps to Successful Breastfeeding.


# <sup>STEP</sup>

Establish ongoing monitoring and data-management systems.

# RATIONALE:

Facilities providing maternity and newborn services need to integrate recording and monitoring of the clinical practices related to breastfeeding into their quality-improvement/ monitoring systems.<sup>1</sup>

#### IMPLEMENTATION GUIDANCE:

IMPLEMENTATION: A fundamental principle of the BFHI is that monitoring of practices is required to confirm adherence to policies and evidence-based care. Indicators for facility-based monitoring of the required key clinical practices are listed in APPENDIX B: INDICATORS FOR FACILITY MONITORING KEY CLINICAL PRACTICES. The monitoring data for certain indicators will be collected from medical records and reported on the Facility Data Sheet located in the BFUSA portal. Specific guidance on numerator and denominator inclusions and exclusions are found in the instructions for each indicator on the Facility Data Sheet. Two of the indicators, early initiation of breastfeeding and exclusive breastfeeding, are considered "sentinel indicators". A sentinel indicator captures an essential element that serves as a bellwether in a complex change process. "Sentinel indicators are placed at critical points in a system map to help monitor and inform the mutually influencing relationship between the program and its context."28,29 Facilities should routinely track all required indicators for each mother-infant pair. Recording of information on the indicators should be incorporated into the medical charts and extracted into relevant reports and/or dashboards.<sup>1</sup> The monitoring data for indicators not included on the Facility Data Sheet will be collected through audits and/or surveys, also located in the BFUSA portal.

Each facility must form a multi-disciplinary committee, which must consist of some direct care providers and direct care staff, to guide the work towards implementation of these Guidelines and Evaluation Criteria. This committee will retain a key post-designation role which will include monitoring the required key clinical practices to ensure sustainability and should meet to review progress at least every 6 months. During concentrated periods of implementation of a practice and/or quality improvement, monthly review is needed.

The purpose of the review is to continually track the values of these indicators, to determine whether established targets are met, and, if not, plan and implement corrective actions. In addition, *mother's surveys and/or audits are to be used* for additional verification purposes or periodic checks.<sup>1</sup>

Once acceptable levels of compliance have been achieved, the frequency of data collection on these additional indicators can be reduced, for example to annually. However, if the level of the sentinel indicators falls below 80% (or below national standards), it will be important to assess both the clinical practices and all management procedures, to determine where the *breakdown is* and what needs to be done to achieve the required standards.<sup>1</sup>

# US CONSIDERATIONS FOR SAFE IMPLEMENTATION:

Quality improvement can be defined as "systematic and continuous actions that lead to measurable improvement in health care services and the health status of targeted patient groups."<sup>22</sup> Sustaining practices requires facilities to build systems to monitor key clinical Indicators. Key principles of sustaining safe, evidence-based practices include cyclical quality improvement methodologies, active participation of a multi-disciplinary committee, engaged administrative leaders, meeting consistently over time, and external assessment.<sup>1</sup>

As facilities strive to achieve the metrics described in these Guidelines and Evaluation Criteria, it is important they do so while continuing to focus on providing individualized, culturally sensitive care equitably provided to all mothers and babies.

# SUSTAINING PRACTICES





REFER TO APPENDIX C: PERFORMANCE INDICATORS TO MEASURE EACH COMPETENCY for the comprehensive list of

required knowledge, skills, and attitudes. (All performance indicators apply to direct care staff. Specific performance indicators for which knowledge competency applies to direct care providers are marked with an ')

WHO/UNICEF PERFORMANCE INDICATORS DEMONSTRATING COMPETENCY TO IMPLEMENT STEP 1C	VERIFICATION METHOD
'9. <b>Explain</b> at least 2 reasons why monitoring of hospital practices is important to ensure quality of care.	Question or case study
'10. <b>Explain</b> at least 2 ways practices are monitored in this facility.	Question or case study

# THE FOLLOWING STANDARDS APPLY

WHO/UNICEF STANDARD	US CRITERION FOR EVALUATION
1C.10 The facility has a protocol for an ongoing monitoring and data- management system to comply with the eight key clinical practices.	A review of the policy will confirm: Criterion 1C.10.1 A review of the infant feeding policy and any related protocols includes a description of how the facility will routinely collect and track clinical practice indicators in order to report and improve on quality of care involving the data to evaluate the 8 key clinical practice steps [Steps 3-10].
1C.11 Clinical staff <i>(direct care providers and direct care staff)</i> at the facility meet at least every 6 months to review implementation of the system.	The nursing director/manager will confirm: Criterion 1C.11.1 The Nursing Director/Manager will confirm that the multi-disciplinary committee, which must consist of some direct care providers and direct care staff, meets at least every 6 months, ideally every 3 months, for monitoring purposes that include: <ul> <li>A. Analyzing the key clinical practice indicator data to determine if targets are met, AND</li> <li>B. Defining corrective actions to improve quality of care, if needed.</li> </ul> NOTE: "During concentrated periods of quality improvement, monthly review may be needed." Facilities should consider ways to provide constructive feedback to direct care providers and direct care staff and support for practice improvement when monitoring data indicate practices are not fully implemented.

COMPETENCY ASSESSMENT- SELECTED PERFORMANCE INDICATORS	US CRITERION FOR EVALUATION
1C.12 Health professionals who provide prenatal, delivery and/or newborn care will demonstrate their competence regarding the facility's monitoring systems.	The nursing director/manager will confirm: Criterion 1C.12. 1 At least 80% of health professionals who provide prenatal, delivery, postpartum, and/or well newborn care will be able to explain at least 2 reasons why monitoring of hospital practices is important to ensure quality of care. [PI 9] A. Direct care nursing staff, AND B. Direct care providers with privileges



Ensure that staff have sufficient knowledge, competence and skills to support breastfeeding.

#### RATIONALE:

Timely and appropriate care for all mothers can only be accomplished if staff have the knowledge, skills and *attitudes* to carry it out. Training of health staff enables them to develop effective skills, give consistent messages, and implement policy standards. Staff cannot be expected to implement a practice or educate a patient on a topic for which they have received no training.<sup>1</sup>

# IMPLEMENTATION GUIDANCE:

**COMPETENCY REQUIREMENTS:** Health professionals who provide infant feeding services must be competent in the knowledge, skills and attitudes to implement the Ten Steps to Successful Breastfeeding.

TABLE 1 (on the next page) provides thehigh-level competency framework in which16 specific management and supportcompetencies are organized intoseven unique domains. The domains beginwith critical management procedures thathealth professionals need to participate in



to create such needed environments. Foundational skills include effective communication and counseling that transversally apply throughout clinical competencies. They then progress through the various perinatal stages along the continuum of care and services, from the prenatal period until discharge from the site of birth.<sup>3</sup> VERIFICATION OF THE 16 COMPETENCIES IS THE PRIMARY FOCUS ON ENSURING SAFE, EVIDENCE-BASED, COMPASSIONATE CARE.

DOMAINS	COMPETENCIES NECESSARY FOR IMPLEMENTING THE TEN STEPS TO SUCCESSFUL BREASTFEEDING
<b>DOMAIN 1</b> : Critical management procedures to Support the Ten Steps (Step 1A, 1B, and 1C)	01. <b>Implement</b> the Code in a health facility 02. <b>Explain</b> a facility's infant feeding policies and monitoring systems
<b>DOMAIN 2</b> : Foundational skills: communicating in a credible and effective way (All Steps)	03. <b>Use</b> listening and learning skills whenever engaging in a conversation with a mother 04. <b>Use</b> skills for building confidence and giving support whenever engaging in a conversation with a mother
DOMAIN 3: Prenatal period (Step 3)	05. Engage in antenatal conversation about breastfeeding
<b>DOMAIN 4:</b> Birth and immediate postpartum (Step 4)	06. <b>Implement</b> immediate and uninterrupted skin-to-skin 07. <b>Facilitate</b> breastfeeding within the first hour, according to cues
<b>DOMAIN 5</b> : Essential issues for a breastfeeding mother (Steps 3, 5, 6, 7, 8, 9)	<ul> <li>08. Discuss with a mother how breastfeeding works</li> <li>09. Assist mother getting her baby to latch</li> <li>10. Help a mother respond to feeding cues</li> <li>11. Help a mother manage milk expression</li> </ul>
<b>DOMAIN 6:</b> Helping mothers and babies with special needs (Steps 5, 6, 7, 8, 9)	<ul> <li>12. Help a mother to breastfeed a low-birth-weight or sick baby</li> <li>13. Help a mother whose baby needs fluids other than breast milk</li> <li>14. Help a mother who is not feeding her baby directly at the breast</li> <li>15. Help a mother prevent or resolve difficulties with breastfeeding</li> </ul>
DOMAIN 7: Care at discharge (Step 10)	16. Ensure seamless transition after discharge

**PERFORMANCE INDICATORS:** Performance indicators are a subset of the competencies that provide measurable guidance to evaluate each competency listed in **TABLE 1**. Each performance indicator represents only one action, so only one action verb is used.<sup>3</sup> Performance indicators have been included in their relative steps throughout this document. Appendix C includes a comprehensive list of all performance indicators. All performance indicators apply to direct care staff. Specific performance indicators for which knowledge competency applies to direct care providers are marked with an **\***. **TABLE 2** provides an example from Domain 5, Competency 9, Assist mother getting her baby to latch.

DOMAIN	COMPETENCY	PERFORMANCE INDICATORS	MEASURABLE ACTIONS
Essential issues for a breastfeeding	09. Assist mother getting her baby to latch	32. <b>Evaluate</b> a full breastfeeding session observing at least 5 points.	Observation
mother		<ul> <li>33. Demonstrate at least 3 aspects of how to help a mother achieve a comfortable and safe position for breastfeeding within the first 6 hours after birth and later as needed during the hospital stay.</li> </ul>	Observation
		34. <b>Demonstrate</b> how to help a mother achieve an effective and comfortable latch, noting at least 5 points.	Observation

**TRAINING, ASSESSMENT, AND VERIFICATION OF COMPETENCIES:** Health professionals need to know what to explain to a mother, why it is important, how to do what is necessary and how to do it respecting the mother's concerns and circumstances. **STEP 2** focuses on verification of the performance indicators [Appendix C] to ensure that health professionals are competent in supporting breastfeeding, especially during the first few days of the birth hospitalization. Ideally, the responsibility for assessing, training, and verifying the competencies of health professionals should reside with the pre-service education system [professional degree programs]. However, if this has not occurred and staff training is deficient in this area, facilities providing maternity and newborn services will need to take corrective measures to strengthen that capacity, such as by offering courses at the facility or requiring that staff to take courses elsewhere. While some material can be taught through didactic lectures (including electronic resources), some supervised clinical experience with assessing of competencies is necessary. It is important to focus not on a specific curriculum but on the knowledge and skills obtained.<sup>1</sup> **TABLE 3** describes 2 options for implementing Step 2 competency-based training.

#### TABLE 3: FACILITY OPTIONS FOR COMPETENCY-BASED TRAINING.

OPTION 1: COMPETENCY-BASED TRAINING SPECIFIC TO IDENTIFIED NEEDS	OPTION 2: COMPETENCY-BASED TRAINING FOR ALL HEALTH PROFESSIONALS
<b>1. Assess</b> the competencies of each health professional to identify specific training needs.	<b>1. Provide</b> competency-based training program [internal or external] for all health professionals.
2. Provide competency-based training specific to needs identified.	2. Verify all health professionals are competent.
3. Verify each health professional is competent.	3. Demediate as pooled
4. Remediate as needed.	S. Remediate as needed.

HEALTH PROFESSIONAL ROLES REQUIRING COMPETENCY-BASED TRAINING: All direct care staff and direct care providers

[physicians, midwives, physician's assistants, and advanced practice registered nurses] who provide education, assessment, support, intervention, assistance and/or follow-up with regards to infant feeding must have required competencies verified and completed training on identified areas needing improvement, within 6 months of hire. Typically, this will involve the following units/services including: Affiliated Prenatal Services, Labor and Delivery Unit, Postpartum Unit, Newborn Unit. NOTE: Steps 1-10 include unit/care-based competency and training requirements specific to staff/provider roles.

**OTHER ROLES** with anticipated workplace exposure to mothers and babies should have training and competency verification in accordance with their roles. Examples of other positions that may need training include:

- Administrative Leaders/Managers
- Purchasing Agent
- Pharmacists
- Anesthesiologists
- Outside agencies that make inpatient visits



# US PRE-DESIGNATION, ASSESSMENT, AND POST-DESIGNATION CONSIDERATIONS

The 4-D Pathway, consisting of 4 pre-designation and 2 post-designation phases was developed to guide facilities through the designation process. Facilities have specific tasks to complete in each phase and are provided with a variety of tools and resources to assist with their implementation of the Baby-Friendly USA Guidelines and Evaluation Criteria.

# The 4-D Pathway to Baby-Friendly Designation



STEP

• D1: DISCOVERY PHASE: The Discovery Phase is a time for facilities to learn about the processes and requirements for becoming Baby-Friendly designated. The Discovery Phase toolkit provides a self-appraisal tool to help facilities identify which requirements are already in place and which ones still need additional work.

D2: DEVELOPMENT PHASE: The Development Phase provides

 a template titled, DIRECT CARE STAFF AND DIRECT CARE

 PROVIDER COMPETENCY VERIFICATION AND TRAINING PLAN

 to assist facilities in developing a comprehensive plan for verifying
 competencies and helping health professionals gain the knowledge,
 skills and attitudes necessary to competently implement the
 facility's infant feeding policy in a safe and effective manner.

• D3: DISSEMINATION PHASE: The Dissemination Phase involves the verifying of competencies and implementation of training plans that address identified gaps in knowledge and skills, for all direct care staff and direct care providers.

• **D4: DESIGNATION PHASE:** The Designation Phase is the time for facilities to reverify competencies for those areas where additional training was provided.

• EXTERNAL ASSESSMENT: During the Assessment, interviews with health professionals will include facility-based direct care nursing staff and privileged direct care providers. Evaluation of performance indicators at assessment will include a selection of knowledge-based questions and skills-based demonstrations specific to the interviewee's role and responsibilities. Baby-Friendly USA has aligned competency-based assessment tools of health "professionals with the WHO/UNICEF Competency Verification Toolkit: Ensuring Competency of Direct Care Providers to Implement the Baby-Friendly Hospital Initiative released on August 5, 2020."

#### ANNUAL QUALITY IMPROVEMENT-SUSTAINABILITY PHASE:

During the first-year post-designation facilities must develop an Ongoing Competency Evaluation, Training and Verification Plan similar to the one prepared during the Development Phase. (A template for this plan will be provided by Baby-Friendly USA) In-service training must take place minimally every 2 years. The facility will determine the number of hours and content of this training for each staff and provider role. Competency assessment and in-service training must also take place on specific topics when monitoring data indicates one or more practices are not being fully adhered to.

• RE-DESIGNATION YEAR 1 PHASE: Facilities entering the Re-Designation Year 1 Phase will complete assigned competency assessments and audits to ensure that practices have been sustained. If the results of either reveal practices have slipped, targeted training must be completed to address identified knowledge and/or skills gaps for each direct care provider and direct care staff member.



# **US CONSIDERATION FOR SAFE IMPLEMENTATION:**

Facilities are encouraged to review the American Academy of Pediatrics' "Clinical Report: Safe Sleep and Skin-to-Skin Care in the Neonatal Period for Healthy Term Newborns" for suggested safe skin-to-skin care and rooming-in practices.<sup>25</sup> Staff should receive training that supports safe implementation of these practices.

Sufficient knowledge, skills and attitudes to support breastfeeding are essential for the provision of safe, evidence-based, compassionate care. In addition, how information is communicated is equally important. Direct care providers and staff should engage in meaningful conversations that ENCOURAGES the patient and family members.

E MPATHIZE	<b>E</b> – Empathize while listening and engaging in the conversation.
N ON-JUDGMENTAL	N — Be Non-judgmental by respecting each individual's experiences with breastfeeding, current infant feeding goals, and/or cultural and social considerations.
<b>C</b> ONFIRM	C = Confirm you understand the specific circumstances, issues and/or concerns.
O PEN-ENDED QUESTIONS	infant formula feeding and/or specific maternity care practices applicable to the conversation. For example, "What have you heard about breastfeeding?" "What do you know about infant
U SE COMPETENT SKILLS	formula?" U – Use competent skills to assess any potential or current concerns or challenges.
R esponsive care	R – Responsive care that provides anticipatory guidance [including suitable options] and/or addresses the specific concerns and circumstances.
<b>A</b> FFIRM	A – Affirm successes and the desire to do what is right for the baby.
<b>G</b> IVE EVIDENCE-BASED INFORMATION	G — Give evidenced based, scientific, unbiased, and factual information in a sensitive manner that emphasizes the protections provided by breastfeeding/maternity care practices to enable an informed decision.
E mpower	E — Empower each individual to make the decision that is right for her/his circumstances.
S UPPORT	S — Support informed decisions by providing an individualized plan that encourages a mother to have a safe, responsive, caring, and nurturing relationship with her baby.

**REFER TO APPENDIX C: PERFORMANCE INDICATORS TO MEASURE EACH COMPETENCY** for the comprehensive list of required knowledge, skills, and attitudes. (All performance indicators apply to direct care staff. Specific performance indicators for which knowledge competency applies to direct care providers are marked with an ')

PERFORMANCE INDICATORS DEMONSTRATING COMPETENCY TO IMPLEMENT THE STEP	VERIFICATION METHOD
Foundational skills: communicating in a credible and effective way	
'11. Demonstrate at least 3 aspects of listening and learning skills when talking with a pregnant woman/mother.	Observation
<sup>1</sup> 2. <b>Demonstrate</b> at least 3 ways to adapt communication style and content when talking with a mother.	Observation
13. Demonstrate at least 2 ways to encourage a mother to share her views, taking time to understand and consider these views.	Observation
*14. <b>Demonstrate</b> at least 3 aspects of building confidence and giving support when talking with a mother.	Observation

# THE FOLLOWING STANDARDS APPLY

#### WHO/UNICEF STANDARD 2.1 Health professionals who provide

prenatal, delivery and/or newborn care

report they have received pre-service

or in-service training on breastfeeding

during the previous 2 years.

#### **US CRITERION FOR EVALUATION**

Interviews with health professionals will confirm:

**Criterion 2.1.1** At least 80% of health professionals who provide prenatal, delivery and/or newborn care can describe what pre-service or in-service training on breastfeeding they have received during the previous 2 years.

- A. Direct care nursing staff, AND
- B. Direct care providers with privileges

Considerations for in-service sessions may include:

- Initial competency evaluation, training and verification, AND/OR
- Ongoing competency training and verification with a focus on changing evidence, high-risk performance indicators, and a refresher for common practical skills, AND/OR
- Ongoing competency training and verification with a focus on quality improvement efforts when monitoring data indicates one or more practices are not being fully adhered to.



WHO/UNICEF STANDARD	US CRITERION FOR EVALUATION
2.2 Health professionals who provide prenatal, delivery and/or newborn care report receiving competency assessments in breastfeeding in the previous 2 years.	<ul> <li>Interviews with health professionals will confirm:</li> <li>Criterion 2.2.1 At least 80% of health professionals who provide prenatal, delivery and/or newborn care can describe what type of competency assessments in breastfeeding they have received during the previous 2 years. <ul> <li>A. Direct care nursing staff, AND</li> <li>B. Direct care providers with privileges</li> </ul> </li> <li>Considerations for competency assessments in breastfeeding may involve: <ul> <li>Initial competency assessments of performance indicators to ensure direct care staff and direct care providers have the necessary knowledge, skills, and attitudes to deliver compassionate, safe, and evidence-based care according to their defined roles and the infant feeding policy, AND/OR</li> <li>Ongoing competency assessments to evaluate job performance and identify gaps to sustain and ensure the delivery of consistent and safe care practices, AND/OR</li> <li>Ongoing competency assessments aligned with quality improvement efforts regarding specific monitoring indicators.</li> </ul> </li> </ul>
2.3 Health professionals who provide <i>pre-natal</i> , delivery and/or newborn care are able to correctly answer three out of four questions on breastfeeding knowledge and skills to support breastfeeding.	<b>BFUSA external assessment will confirm:</b> During the external assessment, direct care providers and direct care staff who provide prenatal, delivery and/or newborn care will be asked questions relating to performance indicators pertinent to their role in the care of patients. The specific performance indicators to be discussed are identified in each step under the heading of COMPETENCY ASSESSMENT- SELECTED PERFORMANCE INDICATORS.
US STANDARD	CRITERION FOR EVALUATION
2.4 Facilities providing maternity and newborn services have the responsibility for assessing, training, and verifying the required competencies ensuring that all health professionals who provide education, assessment, support, intervention, assistance and/or follow-up with regards to infant feeding have the appropriate knowledge, skills and attitudes to provide safe, evidence- based care.	A review of the competency verification and training plan will confirm: Criterion 2.4.1 The head of maternity services will be able to identify the health professional(s) responsible for all aspects of planning, implementing, and verifying direct care staff's and direct care provider's competencies. Criterion 2.4.2 A copy of the <u>Direct Care Staff and Direct Care Provider Competency Verification and Training Plan</u> [BFUSA materials] will be available for review and analysis demonstrating a comprehensive plan for assessing, training, and verifying the competencies for all required health professionals.



Discuss the importance and management of breastfeeding with pregnant women and their families.

#### RATIONALE:

All pregnant women must have basic information about breastfeeding, in order to make informed decisions. A review of 18 qualitative studies indicated that mothers generally feel that infant feeding is not discussed enough in the *prenatal* period and that there is not enough discussion of what to expect with breastfeeding.<sup>14</sup>Mothers want more

practical information about breastfeeding. Pregnancy is a key time to inform women about the importance of breastfeeding, support their decision-making and pave the way for their understanding of the maternity care practices that facilitate its success. Mothers also need to be informed that birth practices have a significant impact on the establishment of breastfeeding.<sup>1</sup>

#### IMPLEMENTATION GUIDANCE:

Where facilities provide prenatal care [see the Affiliated Prenatal Services Questionnaire in Appendix D], pregnant women and their families should be counseled about the benefits and



management of breastfeeding.<sup>2</sup> In many settings, prenatal care is predominantly provided through primary health-care clinics or by community health workers. If facilities providing maternity and newborn services do not have authority over these care providers *[as defined by the Affiliated Prenatal Services Questionnaire]*, they should work with them to ensure that mothers and families are fully informed about the importance of breastfeeding and know what to expect when they deliver at the facility. In other cases, the facility directly provides prenatal care services or offers classes for pregnant women. In this case, provision of breastfeeding information and counseling is the direct responsibility of the facility.<sup>1</sup>

Breastfeeding education should include information on the importance of breastfeeding and the risks of giving formula or other breast-milk substitutes, along with national and healthprofessional recommendations for infant feeding. Practical skills such as positioning and attachment, on-demand feeding, and recognizing feeding cues are a necessary component of *prenatal* counseling. Families should be presented with up-to-date information on best practices in facilities providing maternity and newborn services regarding skin-to-skin contact, initiation of breastfeeding, supplementation protocols and rooming-in. Women also need to be informed about possible challenges they might encounter (such as engorgement, or a perception of not producing enough milk) and how to address them.<sup>1</sup>

*Prenatal* breastfeeding counseling must be tailored to the individual needs of the woman and her family, addressing any concerns and questions they have. This counseling needs to be sensitively given and consider the social and cultural context of each family.<sup>1</sup>

Wherever possible, conversations on breastfeeding should begin with the first or second *prenatal* visit, so that there is time to discuss any challenges, if necessary. This is particularly important in settings where women have few *prenatal* visits and/or initiate their visits late in their pregnancy. Additionally, women who deliver prematurely may not have adequate opportunities to discuss breastfeeding if the conversations are delayed until late in pregnancy.<sup>1</sup> Information on breastfeeding should be provided in multiple ways. According to the U.S. Department of Health & Human Services, over a third of adults have below basic health literacy, verbal communication as a primary teaching tool with patients is recommended. Printed or online information that is in a language mothers understand [usually recommended at or below a 5th grade reading level] is one way to ensure that all relevant topics are covered. However, there is no assurance that all women will read this information, and it may not directly address the key questions they have. Interpersonal counseling, either one-on-one or in small groups, is important to allow women to discuss their feelings, doubts and questions about infant feeding.<sup>1</sup>

The information must be provided free of conflicts of interest. As stipulated in the "Guidance on ending inappropriate promotion of foods for infants and young children",<sup>24</sup> companies that market foods for infants and young children should not "directly or indirectly provide education to parents and other caregivers on infant and young child feeding in health facilities".<sup>1</sup>

Women at increased risk for preterm delivery or birth of a sick infant (e.g. pregnant adolescents, *women with* high-risk pregnancies, known congenital anomalies) must begin discussions with knowledgeable providers as soon as feasible concerning the special circumstances of feeding a premature, low-birth-weight or sick baby.<sup>1, 30</sup>

# US CONSIDERATIONS FOR SAFE IMPLEMENTATION:

Engaging pregnant women in a conversation about creating a safe environment for both breastfeeding and sleep is extremely important as this is a time when many parents are preparing these settings. The American Academy of Pediatrics', "SIDS and Other Sleep-Related Infant Deaths: Updated 2016 Recommendations for a Safe Infant Sleeping Environment" and the "Clinical Report: Safe Sleep and Skin-to-Skin Care in the Neonatal Period for Healthy Term Newborns", provide recommendations regarding the education that should be provided to reduce the risk of SIDS and sleep-related suffocation, asphyxia, and entrapment among infants.<sup>25,26</sup> While providing the education on safe sleep practices, mothers should gain an understanding that sleepiness is a hormonally-driven, physiological response to breastfeeding. This normal response can lead to a mother, unintentionally, falling asleep while breastfeeding. Mothers should also understand that other factors such as exhaustion, fatigue, and pain medications can make falling asleep while breastfeeding common. Families should be offered information about how to create a safe sleep environment for breastfeeding and what hazardous situations are with open, honest, non-judgmental discussions to inform their decisions.

**REFER TO APPENDIX A: PATIENT EDUCATION TOPICS** for the comprehensive list of all required education topics for all pregnant mothers.

**REFER TO APPENDIX C: PERFORMANCE INDICATORS TO MEASURE EACH COMPETENCY** for the comprehensive list of required knowledge, skills, and attitudes. (All performance indicators apply to direct care staff. Specific performance indicators for which knowledge competency applies to direct care providers are marked with an ')

WHO/UNICEF PERFORMANCE INDICATORS DEMONSTRATING COMPETENCY TO IMPLEMENT STEP 3	VERIFICATION METHOD
15. <b>Engage</b> in a conversation with a pregnant woman on 3 aspects of the importance of breastfeeding.	Observation
*16. Assess at least 3 aspects of a pregnant woman's knowledge about breastfeeding in order to fill the gaps and correct inaccuracies.	Observation
17. Engage in a conversation with a pregnant woman about at least 4 care practices a mother/infant dyad will experience at the birthing facility that will support breastfeeding.	Observation
<sup>•</sup> 29. <b>Engage</b> in a conversation with a pregnant woman regarding at least 3 reasons why effective exclusive breastfeeding is important.	Observation



# THE FOLLOWING STANDARDS APPLY ONLY FOR FACILITIES WITH AFFILIATED PRENATAL SERVICES:

[See Affiliated Prenatal Services Questionnaire in Appendix D]

WHO/UNICEF STANDARD	US CRITERION FOR EVALUATION
3.1 Mothers who received prenatal care at the facility report having received prenatal counseling on breastfeeding.	<ul> <li>Affiliated services: interviews with pregnant women in the third trimester who have had at least 2 visits at an affiliated prenatal service will confirm:</li> <li>Criterion 3.1.1 At least 80% of pregnant women will report that a staff member/provider at the affiliated prenatal services:         <ul> <li>A. Assessed their understanding of breastfeeding and the specific maternity care practices that support it, AND</li> <li>B. Entered into a meaningful conversation [see Step 2] with them on the required WHO/UNICEF prenatal conversation topics provided in Appendix A either one-on-one or in small groups, or by following up to education provided through another learning mode [videos, podcasts, texts] based on their specific needs.</li> </ul> </li> </ul>
	NOTE: if mothers have questions about infant formula, their issues, concerns and circumstances will be discussed on an individual basis.

#### US CLARIFICATION: PRENATAL EDUCATION AND MEANINGFUL CONVERSATIONS

While education may be provided by a variety of different learning modes including videos, podcasts, texts, etc., meaningful prenatal breastfeeding conversations must be tailored to the individual needs of the woman and her family, addressing any concerns and questions they have. This counseling needs to be sensitively given and consider the social and cultural context of each family.<sup>1</sup> "The Guideline: Counseling of Women to Improve Breastfeeding Practices" states that the "aim of breastfeeding counseling is to empower women to breastfeed, while respecting their personal situations and wishes."<sup>18</sup> As you enter into conversations with pregnant women, consider incorporating appropriate components of the following acronym, E.N.C.O.U.R.A.G.E.S as you enter into meaningful conversations [see Step 2].

WHO/UNICEF STANDARD	US CRITERION FOR EVALUATION
3.2 Mothers who received prenatal care at the facility [affiliated prenatal services] are able to adequately describe what was discussed about two of the required WHO/ UNICEF prenatal conversation topics provided in Appendix A.	Affiliated prenatal services: interviews with pregnant women in the third trimester who have had at least 2 visits at an affiliated prenatal service will confirm: Criterion 3.2.1 At least 80% of pregnant women who received prenatal care at the affiliated prenatal services are able to adequately describe two topics from required WHO/UNICEF prenatal conversation topics provided in Appendix A.

# THE FOLLOWING STANDARDS OF CARE APPLY FOR ALL FACILITIES WITH AND WITHOUT AFFILIATED PRENATAL SERVICES:

US STANDARD	CRITERION FOR EVALUATION
3.3 All facilities should foster the development of and coordinate services with programs to promote consistent education about breastfeeding that is made available to pregnant women.	A written description will confirm: Criterion 3.3.1 A written description will confirm how the facility has fostered the development of and coordinated services with in-house programs and/or community-based projects to promote consistent education about breastfeeding that is made available to all pregnant women.

#### US CLARIFICATION: PRENATAL EDUCATION AND RETURNING TO WORK

Pregnant women who know they will be returning to work and/or school often ask questions about their options for continuation of breastfeeding and/or breast-milk feeding. While it is appropriate to answer these questions and to provide basic information about maintaining lactation when direct breastfeeding is not possible or desired, it is important that prenatal breastfeeding education focus on building mothers' knowledge, skills, and confidence in their ability to breastfeed. As needed, more in-depth, education on breast pumps, milk storage, and handling can be given.

Prenatal education that discusses pumping and bottle use must only be given in the context of discussing infant feeding options when mother and baby are separated [e.g., mother going back to school or work], to help mothers initiate or maintain lactation [Step 5], and to support exclusive breastfeeding. Prenatal education on pumping and bottle use must address the following points:

- Bottle use should be delayed until breastfeeding is well-established.
- Possible negative consequences of bottle use on the success of breastfeeding.

COMPETENCY	US CRITERION FOR EVALUATION
ASSESSMENT-SELECTED	
PERFORMANCE INDICATORS	
3.4 Health professionals who provide care	Interviews with direct care nursing staff and direct care providers will confirm:
to pregnant women will be competent in	
engaging in a prenatal conversation about	Criterion 3.4.1. At least 80% of direct care pursing staff who provide labor 6 delivery care will be able to describe how
breastjeeaing.	they engage in a conversation with a pregnant woman on 2 aspects of the importance of breastfeeding. [PI 15]
	<b>Criterion 3.4.2</b> At least 80% of <b>direct care nursing staff who provide labor &amp; delivery care</b> will be able to describe how to assess at least 2 aspects of a pregnant woman's knowledge about breastfeeding in order to fill the gaps and correct inaccuracies. [PI 16]
	<b>Criterion 3.4.3</b> At least 80% of <b>direct care nursing staff who provide labor &amp; delivery care</b> will be able to describe how they engage in a conversation with a pregnant woman about at least 2 care practices a mother/infant dyad will experience at the birthing facility that will support breastfeeding. [PI 17]
	<b>Criterion 3.4.4</b> At least 80% of <b>direct care nursing staff who provide labor &amp; delivery care</b> will be able to describe how they engage in a conversation with a pregnant woman regarding at least 2 reasons why effective exclusive breastfeeding is important. [PI 29]
	DIRECT CARE PROVIDERS Criterion 3.4.5 At least 80% of direct care providers with privileges to provide care to pregnant women in the labor and delivery unit will be able to describe how they engage in a conversation with a pregnant woman on 2 aspects of the importance of breastfeeding. [PI 15]
	Criterion 3.4.6 At least 80% of direct care providers with privileges to provide care to pregnant women in the labor and delivery unit will be able to describe how to assess at least 2 aspects of a pregnant woman's knowledge about breastfeeding in order to fill the gaps and correct inaccuracies. [PI 16]
	<b>Criterion 3.4.7</b> At least 80% of <b>direct care providers with privileges to provide care to pregnant women in the labor and</b> <b>delivery unit</b> will be able to describe how they engage in a conversation with a pregnant woman regarding at least 2 reasons why effective exclusive breastfeeding is important. [PI 29]



Facilitate immediate and uninterrupted skin-to-skin contact and support mothers to initiate breastfeeding as soon as possible after birth.

#### RATIONALE:

Immediate skin-to-skin contact and early initiation of breastfeeding are two closely linked interventions that need to take place in tandem for optimal benefit. Immediate and uninterrupted skin-to-skin contact facilitates the newborn's natural rooting reflex that helps to imprint the behavior of looking for the breast and suckling at the breast.

Additionally, immediate skin-to-skin contact helps populate the newborn's microbiome and prevents hypothermia. Early suckling at the breast will trigger the production of breast-milk and accelerate lactogenesis. Many mothers stop breastfeeding early or believe they cannot breastfeed because of insufficient milk, so establishment of a milk supply is critically important for success with breastfeeding. In addition, early initiation of breastfeeding has been proven to reduce the risk of infant mortality.<sup>1,31</sup>

#### **IMPLEMENTATION GUIDANCE:**

Early and uninterrupted skin-to-skin contact between mothers and infants should

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be facilitated and encouraged as soon as possible after birth. Skin-to-skin contact is when the infant is placed prone on the mother's abdomen or chest with no clothing separating them. It is recommended that skin-to-skin contact begins immediately, regardless of method of delivery. It should be uninterrupted for at least 60 minutes <sup>1</sup> or longer if the mother wishes and/or if the infant needs more time to complete a breastfeed. To clarify, immediately after birth, an infant may be on the abdomen until the cord is clamped and cut. Then the infant moves his/herself or is moved to the chest, atop the sternum. Initiation of breastfeeding is typically a direct consequence of uninterrupted skin-to-skin contact, as it is a natural behavior for most babies to slowly squirm or crawl toward the breast *[this may take up to an hour].* Mothers may be supported to help the baby to the breast if desired. Mothers should be helped in understanding how to support the baby and how to make sure the baby is able to self-attach and suckle at the breast. All mothers should be supported to initiate breastfeeding as soon as possible after birth, within the first hour after delivery *[unless there are medically justifiable reasons].*<sup>1,2</sup> *This first breastfeed should be allowed to continue until the baby indicates that the breastfeed is completed. This may take up to another hour. The initial period of skin-to-skin contact until completion of the first feeding may take up to 2 hours.* 

It should be noted that the milk a newborn consumes immediately after birth is colostrum, which is highly nutritious and contains important antibodies and immune-active substances. The amount of colostrum a newborn will receive in the first few feedings is very small. Early suckling is important for stimulating milk production and establishing the maternal milk supply. The amount of milk ingested is a relatively unimportant factor.<sup>1, 2</sup> During immediate skin-to-skin contact, and for at least the first 2 hours after delivery, sensible vigilance and safety precautions should be taken so that health professionals can observe for, assess and manage any signs of distress *in infants*. Mothers who are sleepy or under the influence of anesthesia or drugs will require closer observation.<sup>1</sup> When mothers are not fully awake and responsive, a health professional should accompany the mother, to prevent the baby from being hurt accidentally.

Immediate skin-to-skin care and initiation of breastfeeding is feasible following a cesarean section with local/regional anesthesia (epidural).<sup>32</sup> After a cesarean section with general anesthesia, skin-to-skin contact and initiation of breastfeeding can begin when the mother is sufficiently alert to hold the infant. Mothers or infants who are medically unstable following delivery may need to delay the initiation of breastfeeding. However, even if mothers are not able to initiate breastfeeding during the first hour after birth, they should still be supported to provide skin-to-skin contact and to breastfeed as soon as they are able (responsive and alert).<sup>1, 32, 33</sup> Routine procedures (e.g. assessment, vital signs, security steps, APGAR scoring) should be done with the infant skin-to-skin with the mother. Procedures that are painful or may require separation from skin-to-skin (e.g., eye ointment, weights, vitamin K, bathing) should be delayed until the completion of first feeding or after the initial first hour of skin-to-skin contact (if formula feeding).<sup>13</sup> To diminish pain, where feasible, painful procedures should be conducted while in skin-to-skin contact. Procedures requiring separation of the mother and infant (bathing, for example) should be delayed until after this initial period of skin-to-skin contact and should be conducted, whenever possible, at the mother's bedside. Staff should be vigilant during this time and support mothers to look for signs that their babies are ready to feed and offer help if necessary.

Preterm infants may be able to root, attach to the breast and suckle.<sup>34</sup> As long as the infant is stable, with no evidence of severe apnea, desaturation or bradycardia, preterm infants can start breastfeeding. However, early initiation of effective breastfeeding may be difficult for these infants if the suckling reflex is not yet established and/or the mother has not yet begun plentiful milk secretion. Early and frequent milk expression is critical to stimulating milk production and secretion for preterm infants who are not yet able to suckle. Transition to direct and exclusive breastfeeding should be the aim whenever possible<sup>35</sup> and is facilitated by prolonged skin-to-skin contact.

# US CONSIDERATIONS FOR SAFE IMPLEMENTATION:

Facilities are encouraged to review the "American Academy of Pediatrics' Clinical Report: Safe Sleep and Skin-to-Skin Care in the Neonatal Period for Healthy Term Newborns"<sup>25</sup> and the WHO/UNICEF "Competency Verification Tool Kit Examiners Resource<sup>3"</sup> for suggested safe skin-to-skin care practices.

**REFER TO APPENDIX A: PATIENT EDUCATION TOPICS** for the comprehensive list of all required education topics for postpartum mothers.

**REFER TO APPENDIX C: PERFORMANCE INDICATORS TO MEASURE EACH COMPETENCY** for the comprehensive list of required knowledge, skills, and attitudes. (All performance indicators apply to direct care staff. Specific performance indicators for which knowledge competency applies to direct care providers are marked with an ')

WHO/UNICEF PERFORMANCE INDICATORS DEMONSTRATING COMPETENCY TO IMPLEMENT STEP 4	VERIFICATION METHOD
'18. <b>Explain</b> at least 3 reasons why immediate and uninterrupted skin-to-skin is important for the mother.	Question or case study
'19. <b>Explain</b> at least 3 reasons why immediate and uninterrupted skin-to-skin is important for the infant.	Question or case study
20. Demonstrate at least 3 points of how to routinely implement immediate, uninterrupted and safe skin-to-skin between mother and infant, regardless of method of birth.	Observation
*21. <b>Demonstrate</b> at least 3 safety aspects to assess when mother and baby are skin-to-skin during the first 2 hours postpartum, regardless of method of birth.	Observation
<sup>•</sup> 22. List at least 3 reasons why skin-to-skin should NOT be <i>delayed or</i> interrupted.	Question or case study
<sup>•</sup> 23. <b>Explain</b> at least 2 reasons when skin-to-skin could be <i>delayed or</i> interrupted for medically justifiable reasons.	Question or case study
24. "WHERE APPLICABLE" <b>Explain</b> how to maintain skin-to-skin during transfer of mother and infant to another room or other recovery area.	Question or case study
*25. <b>Engage</b> in a conversation with a mother including at least 3 reasons why suckling at the breast in the first hour is important, when the baby is ready.	Observation
26. <b>Demonstrate</b> at least 3 aspects of safe care of the newborn in the first 2 hours post-birth.	Observation
27. Describe to a mother at least 3 pre-feeding behaviors babies show before actively sucking at the breast.	Observation

# THE FOLLOWING STANDARDS APPLY:

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4.1 Mothers report that their babies were placed in skin-to-skin contact with them immediately after birth and that this contact lasted 1 hour or more, unless there were documented medically justifiable reasons for delayed contact.

#### US CRITERION FOR EVALUATION

#### Interviews with mothers will confirm:

*Criterion 4.1.1* Following a vaginal birth, at least 80% of mothers will confirm:

- A. That their infants were placed in skin-to-skin contact with them immediately after birth, unless there were documented medically justifiable reasons for delayed contact, AND
- B. The initial period of skin-to-skin contact continued uninterrupted for at least 1 hour [longer, if needed, to allow a breastfeeding infant to complete a feeding], unless there were documented medically justifiable reasons to interrupt contact.

Criterion 4.1.2 Following a cesarean birth, at least 80% of mothers will confirm:

- A. That their infants were placed in skin-to-skin contact with them when safe and feasible [minimally, following a cesarean delivery, skin-to-skin should begin in the recovery area as soon as mother is responsive and alert], unless there were documented medically justifiable reasons for delayed contact, AND
- B. The initial period of skin-to-skin contact continued uninterrupted for at least 1 hour [longer, if needed, to allow a breastfeeding infant to complete a feeding], unless there were documented medically justifiable reasons to interrupt contact.

**Criterion 4.1.3** At least 80% of mothers will confirm that in the event of delayed or interrupted skin-to-skin contact for medically justifiable reasons, skin-to-skin was initiated/re-established when safe and medically feasible.

#### **Documentation:**

Criterion 4.1.4 If necessary, a review of the medical record will provide documentation of skin-to-skin contact including:

- A. Time of delivery,
- B. Time skin-to-skin was implemented,
- C. Time of completion/duration of skin-to-skin contact, and
- D. Any reasons for delay/interruption of skin-to-skin contact

#### Observations of births will confirm:

Criterion 4.1.5 Observations of vaginal births, if necessary and/or available, show:

- A. That infants are placed skin-to-skin with their mothers immediately after birth, unless there were medically justifiable reasons for delayed contact, AND
- B. The initial period of skin-to-skin contact continued uninterrupted for at least 1 hour [longer, if needed, to allow a breast-feeding infant to complete a feeding], unless there were medically justifiable reasons to interrupt contact.

continued

WHO/UNICEF STANDARD	US CRITERION FOR EVALUATION
4.1 Mothers report that their babies were placed in skin-to-skin contact with them	Observations of birth will confirm:
immediately after birth and that this	Criterion 4.1.6 Observations of cesarean births, if necessary and/or available, show:
contact lasted 1 hour or more, unless	A. That infants are placed in skin-to-skin contact with their mothers when safe and feasible [minimally, following a
there were documented medically	cesarean delivery, skin-to-skin should begin in the recovery area as soon as mother is responsive and alert],
justifiable reasons for delayed contact.	unless there were medically justifiable reasons for delayed contact, AND
	B. The initial period of skin-to-skin contact continued uninterrupted for at least 1 hour [longer, if needed, to allow a breastfeeding infant to complete a feeding], unless there were medically justifiable reasons to interrupt contact.

#### U.S. CLARIFICATION: MEDICALLY JUSTIFIABLE REASONS FOR-DELAYED/INTERRUPTED SKIN-TO-SKIN CONTACT

Healthcare Professionals must use their clinical judgement. Mothers or infants that are not stable may require that immediate skin-to-skin contact be postponed. Interruptions may be necessary to address any procedure that cannot be postponed until the completion of the first feeding. In the event that a mother and/or infant are separated for medical reasons, skin-to-skin contact will be initiated as soon as the mother and infant are stabilized/reunited. Any delays or interruptions of skin-to-skin contact should be clearly documented in the medical record.

To be clear, routine procedures (e.g., assessment, vital signs, security steps, APGAR scoring) should be done with the infant skin-to-skin with the mother. Procedures that are painful or may require separation from skin-to-skin (e.g. eye ointment, weights, vitamin K, bathing) should be delayed until the completion of first feeding or after the initial first hour of skin-to-skin contact [if formula feeding].



#### WHO/UNICEF STANDARD

4.2 Mothers report that their babies were put [supported or self-attached] to the breast within 1 hour after birth, unless there were documented medically justifiable reasons.

**NOTE:** Early Initiation of Breastfeeding: According to WHO, infants should be put to the breast within 1 hour of birth. This practice gives infants the opportunity to feed at the mother's breast. Early initiation of breastfeeding does not require that the infant attached/suckled at the breast or that milk was transferred from breast to infant. It represents the practice of putting an infant in skin-to-skin contact and allowing an infant to slowly crawl toward the breast or supporting mothers to help the baby to the breast, if desired. Putting the baby to breast within the first hour is related to a number of positive outcomes including reduced mortality and exclusive breastfeeding.36

#### US CRITERION FOR EVALUATION

Interviews with breastfeeding mothers will confirm:

**Criterion 4.2.1** At least 80% of breastfeeding mothers will report that they were supported to initiate breastfeeding with their babies as soon as possible after birth, within the first one to two hours after delivery, unless there were documented medically justifiable reasons. NOTE: Supporting the initiation of breastfeeding is defined as placing the baby on the mother's chest (skin-to-skin) for breastfeeding, pointing out infant feeding readiness cues and gently coaching the mother to allow baby to move and attach to the breast.

**Criterion 4.2.2** At least 80% of breastfeeding mothers will confirm that they were encouraged to look for signs that their infants were ready to feed during this first one to two hours of contact.

**BFUSA CLARIFICATION/INTERPRETATION:** BFUSA supports the practice of "putting infants to the breast" within 1 hour of birth. Due to the effect of various birth medications, some infants do not show readiness to feed until the end of the first hour and/or well into the second hour, even though they have been in uninterrupted skin-to-skin contact with their mothers. Therefore, for the purposes of evaluating the initiation of breastfeeding with a latch or attempts to latch, criterion 4.2.1 will focus on the initiation of the first feeding within the first 2 hours after birth.

#### Documentation:

**Criterion 4.2.3** If necessary, a review of the medical record will provide documentation of the initiation of breastfeeding including:

- A. Time of delivery
- B. Time of initiation of breastfeeding
- C. Any medically justifiable reasons for delay of initiation of breastfeeding

#### Observations of breastfeeding infants will confirm:

**Criterion 4.2.4** Observations, if necessary and/or available, confirm that breastfeeding mothers are supported to initiate breastfeeding with their infants as soon as possible after birth, within the first one to two hours after delivery, unless there are medically justifiable reasons. NOTE: Supporting the initiation of breastfeeding is defined as placing the baby on the mother's chest (immediate and uninterrupted skin-to-skin) for breastfeeding, pointing out infant feeding readiness and gently coaching the mother to allow baby to move and attach to the breast.

*Criterion 4.2.5* Observations, if necessary and/or available, show that at least 80% of breastfeeding mothers are shown how to recognize the signs that infants are ready to feed during this first hour of contact.

COMPETENCY ASSESSMENT-SELECTED PERFORMANCE INDICATORS	US CRITERION FOR EVALUATION
4.3 Health professionals who provide	Interviews with direct care nursing staff and direct care providers will confirm:
labor & delivery and/or immediate	
newborn care will be competent to safely	DIRECT CARE NURSING STAFF
implement immediate and uninterrupted	Criterion 4.3.1 At least 80% of direct care nursing staff who provide labor & delivery and/or immediate newborn care
skin-to-skin contact and facilitate	will be able to demonstrate or explain at least 3 points of how to routinely implement immediate, uninterrupted and safe
breastfeeding within the first hour,	skin-to-skin between a mother and infant regardless of method of birth. [PI 20]
according to cues.	
	Criterion 4.3.2 At least 80% of direct care nursing staff who provide labor & delivery and/or immediate newborn care
	will correctly respond to 1 of the randomly selected performance indicators listed below:
	A. Demonstrating or explaining at least 3 safety aspects to assess when a mother and baby are skin-to-skin during the
	first 2 hours postpartum, regardless of method of birth. [PI 21]
	B. Demonstrating or explaining at least 3 aspects of safe care of the newborn in the first 2 hours post-birth. [PI 26]
	Criterion 4.3.3 At least 80% of direct care nursing staff who provide labor & delivery and/or immediate newborn care
	will correctly respond to 1 of the randomly selected performance indicators listed below:
	A. Describing at least 2 pre-feeding behaviors babies show before actively sucking at the breast. [PI 27]
	B. Describing at least 2 reasons why suckling at the breast in the first hour is important, when the baby is ready. [PI 25]
	DIRECT CARE PROVIDERS
	Criterion 4.3.4 At least 80% of direct care providers with privileges to provide labor & delivery and/or immediate newborn
	care will be able to list at least 2 reasons why skin-to-skin should not be delayed or interrupted. [PI 22]
	Criterion 4.3.5 At least 80% of direct care providers with privileges to provide labor & delivery and/or immediate newborn care will be able to explain at least 2 reasons when skin-to-skin could be delayed or interrupted for medically justifiable reasons. [PI 23]
	<b>Criterion 4.3.6</b> At least 80% of <b>direct care providers with privileges to provide labor &amp; delivery and/or immediate newborn</b> <b>care</b> will be able to describe at least 2 points to include in a conversation with a mother concerning why suckling at the breast in the first hour is important, when the baby is ready. [PI 25]



Support mothers to initiate and maintain breastfeeding and manage common difficulties.

#### RATIONALE:

While breastfeeding is a natural human behavior, most mothers need practical help in learning how to breastfeed. Even experienced mothers encounter new challenges with breastfeeding a newborn. Postnatal breastfeeding counseling and support has been shown to increase rates of breastfeeding up to 6 months of age.<sup>37</sup> Early adjustments to positioning

and attachment can prevent breastfeeding problems at a *future* time. Frequent coaching and support helps build maternal confidence.<sup>1</sup>

#### IMPLEMENTATION GUIDANCE:

Mothers should receive practical support to enable them to initiate and maintain breastfeeding and manage common breastfeeding difficulties.<sup>2</sup> Practical support includes providing emotional and motivational support, imparting information and teaching concrete skills to enable mothers to breastfeed successfully. The stay in the facility providing maternity and newborn services is a unique opportunity to



discuss and assist the mother with questions or problems related to breastfeeding and to build confidence in her ability to breastfeed.<sup>1</sup>

All mothers should receive individualized attention, but first-time mothers and mothers who have not breastfed before will require extra support. However, even mothers who have had another child might have had a negative breastfeeding experience and need support to avoid previous problems. Mothers delivering by cesarean section and obese mothers should be given additional help with positioning and attachment.<sup>1</sup>

A number of topics should be included in teaching mothers to breastfeed. It is essential to demonstrate good positioning and attachment at the breast, which are crucial for stimulating the production of breast-milk and ensuring that the infant receives enough milk. Direct observation of a feed is necessary to ensure that the infant is able to attach to and suckle at the breast and that milk transfer is happening. *Competent direct care staff will observe at least one feed every shift.*<sup>38</sup> Additionally, facility direct care staff need to educate mothers on the *importance of direct breastfeeding*, *prevention of pathologically* engorged breasts, ways to ensure and maintain a good milk supply, prevention of cracked and sore nipples, and evaluation of milk intake.<sup>1</sup>

Mothers should be coached on how to express breast-milk as a means of maintaining lactation in the event of their being separated temporarily from their infants.<sup>2</sup> There is not sufficient evidence that one method of expression (hand expression, manual pump or electric pump) is more effective than another,<sup>39</sup> and thus any method(s) may be taught, depending on the mother's context. However, hand expression does have the advantage of being available no matter where the mother is and of allowing the mother to relieve pressure or express milk when a pump is not available *or during an emergency where there may be power outages. It is reasonable for all mothers to be taught hand expression during the birth hospitalization.* Pumps can potentially have more microbial contamination if they cannot easily be cleaned. Mothers also need to be supported for collection and storage of expressed milk.<sup>1</sup> Practical support for preterm, including late preterm newborns is particularly critical, in order to establish and maintain the production of breast-milk. Many mothers of preterm infants have health problems of their own and need motivation and extra support for milk expression. *Robust and older* late preterm infants are generally able to exclusively breastfeed at the breast, but are at greater risk of jaundice, hypoglycemia and feeding difficulties than full-term infants, and thus require increased vigilance.<sup>40</sup> Mothers of twins (multiples) also need extra support, especially for positioning and attachment.<sup>1</sup>

Conversations with mothers should include information on the importance of direct breastfeeding. However, some mothers will make an informed decision to exclusively pump and feed their expressed breast-milk to their infants. If this is the case, they should be advised to pump and feed their infants expressed breast-milk at least 8 times in 24 hours.

## US CONSIDERATIONS FOR SAFE IMPLEMENTATION:

General guidance regarding facilitating milk production and maintaining milk supply may include (NOTE: This guidance must be individualized.)

• Direct breastfeeding: Ensure good positioning and correct attachment with observable efficient suckling patterns at the breast. Practice responsive feeding with no limits on frequency and duration of feedings. Avoid non-medically indicated supplemental feeds, pacifiers, and artificial nipples.

 Breastfeeding and formula feeding combined [Mixed-feeding – Maternal request]: Establish exclusive direct breastfeeding for several weeks with supplementation introduced at a later date. The mother must be knowledgeable regarding the importance of expressing breast-milk after formula is introduced.

 Temporary medically-indicated supplementation: Supplement, when possible, at the breast. Avoid pacifiers and artificial nipples.
 Establish expression of breast-milk when supplements are offered.

• Exclusively breast-milk feeding, preterm infants, and infants that cannot breastfeed due to illness or separation: Express breast-milk regularly, at least 8 times in 24 hours, with stretches not longer than 4 hours. Mothers may describe hand expression, manual pumping or electric pumping.

 Preterm infants, particularly those being cared for on the regular postpartum unit must receive individualized care, including close observation, due to their immaturity. These infants are less alert, have less stamina, are often hypotonic, and have greater difficulty with latch, suck and swallow.<sup>41</sup> Mothers of late preterm infants are at a greater risk of delayed lactogenesis.<sup>40</sup>Management strategies to support these couplets include developing an adequate milk volume and ensuring that these infants are adequately fed.<sup>40</sup> Mothers should be assisted to start expressing their milk within the first 6 hours after birth [preferably within 1-2 hours after birth and completion of initial skin-to-skin contact]. In order to initiate and establish the mother's milk supply, regular expression using hand expression may be necessary to stimulate the breasts.<sup>40</sup> Many of these infants may not effectively transfer milk during breastfeeding, so supplementation with the mother's own milk, pasteurized donor human milk or infant formula may be necessary following attempted breastfeeds with appropriate lactation support.41

**REFER TO APPENDIX A: PATIENT EDUCATION TOPICS** 

for the comprehensive list of all required education topics for postpartum mothers.

**REFER TO APPENDIX C: PERFORMANCE INDICATORS TO MEASURE EACH COMPETENCY** for the comprehensive list of required knowledge, skills, and attitudes. (All performance indicators apply to direct care staff. Specific performance indicators for which knowledge competency applies to direct care providers are marked with an ')

WHO/UNICEF PERFORMANCE INDICATORS DEMONSTRATING COMPETENCY TO IMPLEMENT STEP 5	VERIFICATION METHOD
28. Describe at least 6 essential issues that every breastfeeding mother should know or demonstrate.	Question or case study
'30. Engage in a conversation with a mother regarding 2 elements related to infant feeding patterns in the first 36 hours of life.	Observation
'31. Describe to a mother at least 4 signs of adequate transfer of milk in the first few days.	Observation
32. Evaluate a full breastfeeding session observing at least 5 points.	Observation
*33. <b>Demonstrate</b> at least 3 aspects of how to help a mother achieve a comfortable and safe position for breastfeeding within the first 6 hours after birth and later as needed during the hospital stay.	Observation
'34. Demonstrate how to help a mother achieve an effective and comfortable latch, noting at least 5 points.	Observation
40. <b>Demonstrate</b> to a mother how to hand express breast-milk, noting 8 points.	Observation
43. Help a mother achieve a comfortable and safe position for breastfeeding with her preterm, late preterm, or weak infant at the breast, noting at least 4 points.	Observation
*44. Engage in a conversation with a mother of a preterm, late preterm, or low-birth-weight infant not sucking effectively at the breast, including at least 5 points.	Observation
57. <b>Engage</b> in a conversation with a mother regarding at least 4 different ways to facilitate breastfeeding in order to prevent or resolve most common conditions of the lactating breasts (sore nipples, engorgement, mother who thinks she doesn't have enough milk, infants who have difficulty sucking).	Observation
<sup>•</sup> 65. <b>Describe</b> at least 2 maternal and 2 infant risk factors associated with delayed lactogenesis II.	Question or case study

# THE FOLLOWING STANDARDS APPLY TO MOTHERS AND INFANTS BEING CARED FOR ON THE POSTPARTUM UNIT:

WHO/UNICEF STANDARD	US CRITERION FOR EVALUATION		
5.1 Breastfeeding mothers report that	Interviews with breastfeeding [including breast-milk feeding] mothers will confirm:		
someone on the direct care staff offered			
assistance with breastfeeding within	Criterion 5.1.1 At least 80% of breastfeeding [including breast-milk feeding] mothers will report that:		
6 hours after birth.	A. Term infants/Direct Breastfeeding: direct care staff provided additional guidance and support as needed with breastfeeding within 6 hours of birth. OR		
	B. Exclusively expressing/Breast-milk feeding: direct care staff provided additional guidance and support with expressing their breast-milk within the first 6 hours after birth [preferably within 1-2 hours after birth and completion of initial skin-to-skin contact], unless there is a justifiable reason to delay initiation of expression. OR		
	C. Late preterm infants/Direct Breastfeeding on the postpartum unit: direct care staff provided additional guidance and support as needed with breastfeeding and expressing their breast-milk within the first 6 hours after birth [preferable within 1–2 hours after birth and completion of the initial skin-to-skin contact], unless there is a justifiable reason to delay initiation of expression.		
	NOTE: Early adjustments to positioning and attachment within the first 6 hours following the initial breastfeeding after		
	delivery can prevent breastfeeding problems at a future time.		
5.2 Breastfeeding mothers are able to	Interviews with breastfeeding mothers will confirm:		
demonstrate how to position their babies			
for breastfeeding and that the babies can	Criterion 5.2.1 At least 80% of breastfeeding mothers are able to demonstrate or describe:		
suckle and transfer milk.	A. Correct positioning with their babies, AND		
	B. Correct attachment (latch) with their babies, AND		
	C. Observable efficient suckling patterns with their babies, AND		
	D. Audible sounds associated with the transfer of breast–milk with their babies.		
5.3 Breastfeeding mothers can describe at least two ways to facilitate milk	Interviews with breastfeeding [including breast-milk feeding] mothers will confirm:		
production for their infants.	Criterion 5.3.1 At least 80% of breastfeeding [including breast-milk feeding] mothers can describe at least two ways		
	to facilitate milk production and to keep up the supply for their babies.		
5.4 Breastfeeding mothers can describe	Interviews with breastfeeding mothers will confirm:		
at least two indicators of whether a			
preastred baby consumes adequate milk.	<b>Criterion 5.4.1</b> At least 80% of breastfeeding mothers can describe at least two indicators of whether a breastfed baby		
continued	nas consumea adequate mitk.		
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# THE FOLLOWING STANDARDS APPLY TO MOTHERS AND INFANTS BEING CARED FOR ON THE POSTPARTUM UNIT: continued

WHO/UNICEF STANDARD	US CRITERION FOR EVALUATION
5.5 Mothers of breastfed infants can correctly demonstrate or describe how	Interviews with breastfeeding mothers will confirm:
to express breast-milk.	<b>Criterion 5.5.1</b> At least 80% of breastfeeding mothers can correctly demonstrate or describe how to hand express breast-milk.

# THE FOLLOWING STANDARD APPLIES TO MOTHERS WITH INFANTS THAT ARE BEING CARED FOR IN THE NICU:

WHO/UNICEF STANDARD	US CRITERION FOR EVALUATION
5.6 Mothers of preterm or sick infants	Interviews with mothers who are breastfeeding or intending to do so with infants in the NICU will confirm:
report having been helped to express milk	
within 1—2 hours after birth.	<ul> <li>Criterion 5.6.1 At least 80% of mothers with infants in the NICU, who are breastfeeding or intending to do so, will report that they have been provided guidance and support with expressing their breast-milk within the first 6 hours after birth [preferably within 1-2 hours after birth and completion of initial skin-to-skin contact - if safe and medically feasible], unless there is a justifiable reason to delay initiation of expression.</li> <li>Criterion 5.6.2 At least 80% of mothers with infants in the NICU, who are breastfeeding or intending to do so will report that they have been provided guidance that they need to breastfeed or express their milk at least 8 times every 24 hours, with stretches not longer than 4 hours, to establish and maintain their milk supply.</li> </ul>

COMPETENCY ASSESSMENT-SELECTED PERFORMANCE INDICATORS	US CRITERION FOR EVALUATION
5.9 Health professionals who provide	Interviews with direct care nursing staff and direct care providers will confirm:
labor & delivery, postpartum and/or	
newborn care will be competent in:	DIRECT CARE NURSING STAFF
	Criterion 5.9.1 At least 80% of direct care nursing staff who provide labor & delivery, postpartum, and/or newborn care
<ul> <li>How to assist a mother in the steps to</li> </ul>	will be able to describe at least 3 essential issues that every breastfeeding mother should know or demonstrate. [PI 28]
getting her baby to latch	Criterion 5.9.2 At least 80% of direct care pursing staff who provide labor 6 delivery postpartum and/or pewhorn care
	will be able to describe to a mother at least 2 signs of adequate transfer of milk in the first few days (DI 31)
• How to discuss with a mother how	
breastfeeding works	Criterion 5.9.3 At least 80% of direct care nursing staff who provide labor & delivery, postpartum, and/or newborn care
	will be able to describe how they evaluate a full breastfeeding session observing at least 5 points. [PI 32]
In helping a mother to breastfeed	
a late-preterm baby	Criterion 5.9.4 At least 80% of direct care nursing staff who provide labor & delivery, postpartum, and/or newborn care
	will be able to describe how they engage in a conversation with a mother of a late preterm infant rooming-in on the postpar-
In helping a mother prevent or resolve	tum unit that is not sucking effectively at the breast, including at least 3 points. [PI 44]
difficulties with breastfeeding	
	Criterion 5.9.5 At least 80% of direct care nursing staff who provide labor & delivery, postpartum, and/or newborn care will
• In helping a mother manage milk	correctly respond to 1 of the randomly selected performance indicators listed below:
expression	A. Demonstrate at least 5 aspects of now to help a mother achieve a comportable and safe position for breastfeeding within the first 6 hours after birth and later as needed during the bosnital stay. [PI 33]
	B Help a mother achieve a comfortable and safe position for breastfeeding with her preterm late preterm or weak infant
<ul> <li>In helping a mother who is not feeding her baby directly at the breast</li> </ul>	at the breast, noting at least 3 points. [PI 43]
	Criterion 5.9.6 At least 80% of direct care nursing staff who provide labor & delivery, postpartum, and/or newborn care
	will correctly respond to 1 of the randomly selected performance indicators listed below:
	A. Demonstrate how to help a mother achieve an effective and comfortable latch, noting at least 3 points. [PI 34]
	B. Demonstrate to a mother how to hand express breast-milk to a mother, noting at least 3 points. [PI 40]
	Criterion 5.9.7 At least 80% of direct care nursing staff who provide labor & delivery, postpartum, and/or newborn care
	will correctly respond to 1 of the randomly selected performance indicators listed below:
	A. Engage in a conversation with a mother regarding 2 elements related to infant feeding patterns in the first 36 hours of life. [PI 30]
	B. Engage in a conversation with a mother regarding at least 4 different ways to facilitate breastfeeding in order to preven or resolve most common conditions of the lactating breasts (sore nipples, engorgement, mother who thinks she doesn't have enough milk, infants who have difficulty sucking). [PI 57]

COMPETENCY ASSESSMENT-SELECTED PERFORMANCE INDICATORS	US CRITERION FOR EVALUATION
5.9 Health professionals who provide labor & delivery, postpartum and/or	Interviews with direct care nursing staff and direct care providers will confirm:
newborn care will be competent in:	DIRECT CARE PROVIDERS
<ul> <li>How to assist a mother in the steps to getting her baby to latch</li> </ul>	Criterion 5.9.8 At least 80% of direct care providers with privileges to provide labor & delivery, postpartum and/or newborn care will be able to describe how they engage in a conversation with a mother regarding 2 elements related to
• How to discuss with a mother how	infant feeding patterns in the first 36 hours of life. [PI 30]
breastfeeding works	Criterion 5.9.9 At least 80% of direct care providers with privileges to provide labor & delivery, postpartum and/or
<ul> <li>In helping a mother to breastfeed</li> </ul>	
a late-preterm baby	Criterion 5.9.10 At least 80% of direct care providers with privileges to provide labor & delivery, postpartum and/or
<ul> <li>In helping a mother prevent or resolve difficulties with breastfeeding</li> </ul>	[PI 65]
<ul> <li>In helping a mother manage milk expression</li> </ul>	Criterion 5.9.11 At least 80% of direct care providers with privileges to provide labor & delivery, postpartum and/or newborn care will be able to explain how they would engage in a conversation with a mother of a preterm, late preterm, or low-birth weight infant not sucking effectively at the breast, including at least 3 points. [PI 44]
<ul> <li>In helping a mother who is not feeding her baby directly at the breast</li> </ul>	



Do not provide breastfed newborns any food or fluids other than breast-milk, unless medically indicated.

#### RATIONALE:

Giving newborns any foods or fluids other than breast-milk in the first few days after birth interferes with the establishment of breast-milk production. Newborns' stomachs are very small and easily filled. Newborns who are fed other foods or fluids will suckle less vigorously at the breast and thus inefficiently stimulate milk production, creating a cycle

of insufficient milk and supplementation that leads to breastfeeding failure. Babies who are supplemented prior to facility discharge have been found to be twice as likely to stop breastfeeding altogether in the first 6 weeks of life.<sup>13</sup> In addition, foods and liquids may contain harmful bacteria and carry a risk of disease. Supplementation with artificial milk significantly alters the intestinal microflora. Breastfeeding exclusively is necessary to establish a healthy normal microbiome.<sup>1,6</sup>

#### IMPLEMENTATION GUIDANCE:

Exclusive breastfeeding for 6 months provides the nurturing, nutrients, immune factors and energy needed for physical and <section-header><text><text><text><text><text>

neurological growth and development. Beyond 6 months, breastfeeding continues to provide energy, immune factors and high-quality nutrients that, jointly with safe and adequate complementary feeding, help prevent hunger, undernutrition and obesity. Inadequate breastfeeding practices significantly impair health, development and survival of infants, children and mothers.<sup>1</sup>

Mothers should be discouraged from giving any food or fluids other than breast-milk, unless medically indicated.<sup>2</sup> Very few conditions of the infant or mother preclude the
feeding of breast-milk and necessitate the use of breast-milk substitutes. The WHO/UNICEF document on "Acceptable medical reasons for use of breast-milk substitutes" describes conditions for which breastfeeding is contraindicated.<sup>42</sup> In addition, some breastfed infants will require supplementation. The Academy of Breastfeeding Medicine (ABM) has laid out a clinical protocol for managing situations in which supplementation of the mother's own milk would become necessary.<sup>43</sup> Infants should be assessed for signs of inadequate milk intake and supplemented when indicated, but routine supplementation is rarely necessary in the first few days of life. Lack of resources, staff time or knowledge is not justification for the use of early additional foods or fluids.<sup>1</sup> In addition to the WHO and ABM documents, facilities are encouraged to utilize the recommendations from the Centers for Disease Control and Prevention and the American Academy of Pediatrics to develop a policy/protocol that describes the current, evidence-based medical indications for supplementation and contraindications to breastfeeding.44-46

Mothers who intend to "mixed-feed" (a combination of both breastfeeding and feeding with breast-milk substitutes) should be counseled *(using meaningful conversation techniques- see Step 2)* on the importance of exclusive breastfeeding in the first few weeks of life, how to establish a milk supply and to ensure that the infant is able to suckle and transfer milk from the breast. Supplementation can be introduced at a later date if the mother chooses. Mothers who report they have chosen not to breastfeed should be counseled (using meaningful conversations techniques-see Step 2) on the importance of breastfeeding. However, if they still do not wish to breastfeed, feeding with breast-milk substitutes will be necessary. Mothers who are feeding breast-milk substitutes, by necessity or by choice, must be taught about safe preparation and storage of formula<sup>47, 55, 56</sup> and how to respond adequately to their child's feeding cues.<sup>1</sup>

If a breastfeeding mother requests that her infant be supplemented, direct care staff and/or direct care providers should gently engage in an appropriate meaningful conversation [see Step 2] that carefully listens to her reasons. If the mother expresses any challenges, staff/providers should provide responsive care to evaluate/assess her concerns. It is possible that she is experiencing some breastfeeding difficulties that staff may be able to support her to overcome with additional guidance. If she still wishes to supplement with infant formula, staff should empower her understanding of evidence-based information that emphasizes the protections provided by breastfeeding, the possible impact of this decision to her health, the health of her infant and to the potential success of breastfeeding. Her informed decision should be confirmed and documented in the medical record. This education is only required to be provided once during the hospital stay.



### FOR INFANTS WHO ARE UNABLE TO BE FED THEIR MOTHER'S OWN MILK.

### IMPLEMENTATION GUIDANCE:

Infants who cannot be fed their mother's own milk, or who need to be supplemented, especially low-birth-weight infants, including those with very low birthweight<sup>48, 49</sup> and other vulnerable infants, should be fed *pasteurized* donor *human* milk. If *pasteurized* donor human milk is unavailable or culturally unacceptable, breast-milk substitutes are required. In most cases, supplementation is temporary, until the newborn is capable of breastfeeding and/or the mother is available and able to breastfeed. Mothers must also be supported and encouraged to express their milk to continue stimulating production of breast-milk, and to prioritize use of their own milk, even if direct breastfeeding is challenging for a period of time.<sup>1</sup>

### US CONSIDERATIONS FOR SAFE IMPLEMENTATION:

If a mother expresses concern about the sufficiency of her breast-milk, an infant feeding assessment is warranted.

When mothers have decided not to breastfeed their infant or supplementation is needed/requested, direct care staff should discuss various options suitable to their situation such as the choice of supplement, volume of supplemental feeding, and methods of providing supplementary feedings.

In the case of supplementation for medical reasons, the decision to supplement is a delicate one. Practitioners must carefully weigh the risks and benefits of this decision. When a mother decides to feed formula and/or it is determined that the benefits of supplementation outweigh the risks, the recommendation should be communicated in a respectful manner that is mindful of the sense of guilt, concerns and failure the mother may experience regarding such a recommendation.

### **REFER TO APPENDIX A: PATIENT EDUCATION TOPICS**

for the comprehensive list of all required education topics for postpartum mothers.

**REFER TO APPENDIX C: PERFORMANCE INDICATORS TO MEASURE EACH COMPETENCY** for the comprehensive list of required knowledge, skills, and attitudes. (All performance indicators apply to direct care staff. Specific performance indicators for which knowledge competency applies to direct care providers are marked with an ')

### US CLARIFICATION: BABY-FRIENDLY USA EXCLUSIVE BREASTFEEDING STANDARDS

The WHO/UNICEF BFHI Implementation Guidance standards call for a minimum of 80% exclusive breastfeeding (either milk from their own mothers or from a human milk bank) throughout the stay at the facility.<sup>1</sup> It is recognized by WHO and UNICEF that lower standards may need to be set at the national or local level, with the expectation that they should be raised over time, as other aspects of breastfeeding support in the community improve.

The US Designation is NOT based on an exclusive breastfeeding rate of greater than 80%.

It is expected that the facility will regularly monitor exclusive breastfeeding rates and that rates less than 80% will show improvement over time. Designated facilities with exclusive breastfeeding rates less than 50% will be required to submit quarterly reports to BFUSA.

WHO/UNICEF PERFORMANCE INDICATORS DEMONSTRATING COMPETENCY TO IMPLEMENT STEP 6	VERIFICATION METHOD
'29. Engage in a conversation with a mother regarding at least 3 reasons why effective exclusive breastfeeding is important.	Observation
41. Explain at least 3 aspects of appropriate storage of breast-milk.	Question or case study
42. Explain at least 3 aspects of handling of expressed breast-milk.	Question or case study
<sup>•</sup> 47. List at least 2 potential contraindications to breastfeeding for a baby and 2 for a mother.	Question or case study
<sup>+</sup> 48. <b>Describe</b> at least 4 medical indications for supplementing breastfed newborns: 2 maternal indications and 2 newborn indications, when breastfeeding is not improved following skilled assessment and management.	Question or case study
*49. <b>Describe</b> at least 3 risks of giving a breastfed newborn any food or fluids other than breast-milk, in the absence of medical indication.	Question or case study
<sup>•</sup> 66. <b>Describe</b> at least 1 professional medical reference or resource for identifying medications that are safe/compatible for use during lactation.	Question or case study
<sup>•</sup> 50. For those few health situations where infants cannot, or should not, be fed at the breast, <b>describe</b> , in order of preference, the alternatives to use.	Question or case study
'51. Engage in a conversation with a mother who intends to feed her baby formula, noting at least 3 actions to take.	Observation
52. Demonstrate at least 3 important items of safe preparation of infant formula to a mother who needs that information.	Observation
'67. Identify 3 high-risk infant populations that may warrant extra precautions to protect against severe infections associated with powdered infant formula.	Question or case study

# STEP

### THE FOLLOWING STANDARDS APPLY TO MOTHERS AND INFANTS BEING CARED FOR ON THE POSTPARTUM UNIT:

WHO/UNICEF STANDARD	US CRITERION FOR EVALUATION
6.1 Infants receive only breast-milk	Interviews with mothers will confirm:
(either from their own mother or from a human milk bank) throughout their stay at the facility, unless medically indicated or informed parental decision.	<ul> <li>Criterion 6.1.1 At least 80% of mothers will report that:</li> <li>A. Their babies have received no food or drink other than human milk (direct breastfeeding, expressed breast-milk, or pasteurized donor human milk) while in the facility, OR</li> <li>B. Formula has been given for a medically acceptable reason, OR</li> <li>C. Formula has been given in response to an informed parental request/decision.</li> </ul>
	<ul> <li>Criterion 6.1.2 Of breastfeeding mothers whose infants have been given food or drink other than breast-milk, at least 80% of those who have no acceptable medical reason will report that a health professional: <ul> <li>A. Listened to her reasons/concerns, AND</li> <li>B. Responded by assessing potential and/or existing challenges specific to her concerns, and/or providing additional guidance with workable solutions, AND</li> <li>C. If the mother still requests a breast-milk substitutes, health professionals empowered her with an understanding of evidence-based information [scientific, unbiased, factual] that allowed her to make an informed decision for her baby including:</li> </ul> </li> </ul>
	<ul> <li>Importance of exclusive breastfeeding</li> <li>Describle visk factors that could influence health outcomes</li> </ul>
	<ul> <li>Possible impacts to the success of breastfeeding</li> </ul>
	Clarification: The counseling conversation only needs to be provided once at first request.

U.S. CLARIFICATION: INFORMED DECISIONS - MEANINGFUL CONVERSATIONS Mothers should feel involved in all decisions regarding their selves and their babies. Empowering mothers to make informed decisions for their selves and their babies requires that they have up-to-date evidence-based [scientific, factual, unbiased] information that emphasized the protections provided by breastfeeding along with an understanding of risk factors that could influence health outcomes. The "Guideline: Counselling of Women to Improve Breastfeeding Practices" states that the "aim of breastfeeding counseling is to empower women to breastfeed, while respecting their personal situations and wishes.<sup>150</sup> As you work with families, consider incorporating appropriate components of the acronym E.N.C.O.U.R.A.G.E.S. so that you enter into meaningful conversations with them [see Step 2]

WHO/UNICEF STANDARD	US CRITERION FOR EVALUATION
6.2 Breastfed babies who received supplemental feeds have a documented medical indication for supplementation in their medical records.	<ul> <li>Documentation:</li> <li>Criterion 6.2.1: Of breastfeeding infants who have been given food or drink other than breast-milk for medical indications, at least 80% will have the reasons for supplementation clearly documented in their medical records.</li> <li>Criterion 6.2.2: Of breastfeeding infants who have been given food or drink other than breast-milk for parental request, at least 80% will have the reasons for supplementation and evidence of parental counseling clearly documented in their medical records.</li> </ul>
6.3 Mothers who have decided not to breastfeed report that the staff discussed with them the various feeding options and helped them to decide what was suitable in their situations.	Interviews with mothers who have decided not to breastfeed: Criterion 6.3.1 Of mothers who have decided not to breastfeed [requesting to feed their babies with breast-milk substitutes], at least 80% of those who have no acceptable medical reason will report that the health care staff: A. Listened to their reasons/concerns, AND B. Responded by assessing potential and/or existing challenges specific to her concerns, and/or providing additional guidance with workable solutions including various feeding options, AND C. If the mothers still requested to feed their babies with breast-milk substitutes, health care staff empowered them with an understanding of evidence-based information [scientific, unbiased, factual] that allowed them to make an informed decision for their babies including: Importance of breastfeeding Possible risk factors that could influence health outcomes when feeding breast-milk substitutes Clarification: The counseling conversation only needs to be provided once at first request.
6.4 Mothers who <i>cannot</i> , or have decided not to breastfeed, will report that the staff discussed with them the safe preparation, feeding and storage of breast-milk substitutes.	Interviews with mothers who are feeding their infants any formula and/or plan to continue post-discharge will be able to: Criterion 6.4.1 At least 80% of mothers who are feeding their infants any formula and plan to continue post-discharge, will be able to describe 2 appropriate steps that staff discussed with them about safe preparation, feeding and storage of formula.

U.S. CLARIFICATION: SAFE PREPARATION, STORAGE AND FEEDING OF INFANT FORMULA Mothers who have decided not to breastfeed,

decided to "mixed-feed", or will require supplementation with formula for their infants at the time of discharge must receive written instruction and verbal information about safe preparation, storage and feeding of formula. Staff should document completion of formula preparation instruction and feeding in the medical record. The information should be given on an individual basis only.

Safe preparation, feeding, and storage of formula instruction must follow the recommendations of leading national and international authorities and must include:

- 1. Appropriate hand hygiene
- 2. Cleaning infant feeding items [bottles, nipples, rings, caps, syringes, cups, spoons, etc.] and workspace surfaces
- 3. Appropriate and safe reconstitution of concentrated and powdered infant formulas
- 4. Accuracy of measurement of ingredients
- 5. Safe handling of formula
- 6. Proper storage of formula
- 7. Appropriate feeding methods which may include feeding on cue, frequent low volume feeds, paced bottle techniques, eye-to-eye contact, and holding the infant closely
- 8. Powdered infant formula is not sterile and may contain pathogens that can cause serious illness in infants younger than 3 months

National and international authorities include:

- American Academy of Pediatrics
- Centers for Disease Control and Prevention
- Food and Drug Administration
- United States Department of Agriculture
- World Health Organization

COMPETENCY ASSESSMENT-SELECTED PERFORMANCE INDICATORS	US CRITERION FOR EVALUATION
6.5 Health professionals who provide labor & delivery, postpartum and/or	Interviews with Direct Care Nursing Staff and Direct Care Providers will confirm:
newborn care will be competent in:	DIRECT CARE NURSING STAFF
In helping a mother whose baby needs	<b>Criterion 6.5.1</b> At least 80% of direct care nursing staff <b>who provide labor &amp; delivery, postpartum, and/or newborn care</b> will correctly respond to 1 of the randomly selected performance indicators listed below:
fluids other than breast-milk.	A. List at least 1 potential contraindication to breastfeeding for a baby and 1 for a mother. [PI 47]
	B. Describe at least 2 medical indications for supplementing breastfed newborns: 1 maternal indication and 1 newborn indication, when breastfeeding is not improved following skilled assessment and management. [PI 48]
	Criterion 6.5.2 At least 80% of direct care nursing staff who provide labor & delivery, postpartum, and/or newborn care
	will correctly respond to 1 of the randomly selected performance indicators listed below:
	A. Engage in a conversation with a mother regarding at least 2 reasons why effective exclusive breastfeeding is important. [PI 29]
	B. Describe at least 2 risks of giving a breastfed newborn food or fluids other than breast-milk, in the absence of medical indications. [PI 49]
	Criterion 6.5.3 At least 80% of direct care nursing staff who provide labor & delivery, postpartum, and/or newborn care
	will correctly respond to 1 of the randomly selected performance indicators listed below:
	A. Engage in a conversation with a mother who intends to feed her baby formula, noting at least 3 actions. [PI 51]
	B. Identify 2 high-risk infant populations that may warrant extra precautions to protect against severe infections associated with powdered infant formula. [PI 67]

COMPETENCY ASSESSMENT-SELECTED PERFORMANCE INDICATORS	US CRITERION FOR EVALUATION
6.6 Health professionals who provide labor & delivery, postpartum and/or newborn care will be competent in: In helping a mother whose baby needs fluids other than breast-milk.	DIRECT CARE PROVIDERS         Criterion 6.6.4 At least 80% of direct care providers with privileges to provide labor & delivery, postpartum and/or newborn care will describe how they engage in a conversation with a mother regarding at least 2 reasons why effective exclusive breastfeeding is important. [Pl 29]         Criterion 6.6.5 At least 80% of direct care providers with privileges to provide labor & delivery, postpartum and/or newborn care will list at least 2 potential contraindications to breastfeeding for a baby and 2 for a mother. [Pl 47]         Criterion 6.6.6 At least 80% of direct care providers with privileges to provide labor & delivery, postpartum and/or newborn care will describe at least 4 medical indications for supplementing breastfed newborns: 2 maternal indications and 2 newborn indications, when breastfeeding is not improved following skilled assessment and management. [Pl 48]         Criterion 6.6.7 At least 80% of direct care providers with privileges to provide labor & delivery, postpartum and/or newborn care will describe at least 1 professional medical reference or resource for identifying medications that are safe/ compatible for use during lactation. [Pl 66]         Criterion 6.6.8 At least 80% of direct care providers with privileges to provide labor & delivery, postpartum and/or newborn care will identify 2 high-risk infant populations that may warrant extra precautions to protect against severe infections are sociated with opwdered infant formula. [Pl 67]



Enable mothers and their infants to remain together and to practice rooming-in 24 hours a day.

### RATIONALE:

Rooming-in is necessary to enable mothers to practice responsive feeding, as mothers cannot learn to recognize and respond to their infants' cues for feeding if they are separated from them. When the mother and infant are together throughout the day and night, it is easy for the mother to learn to recognize feeding cues and respond to them. This, along with

the close presence of the mother to her infant, will facilitate the establishment of breastfeeding.<sup>1</sup>

### IMPLEMENTATION GUIDANCE:

Facilities providing maternity and newborn services should enable mothers and their infants to remain together and to practice rooming-in throughout the day and night.<sup>2</sup> Rooming-in involves keeping mothers and infants together in the same room, immediately after vaginal birth or cesarean section, or from the time when mothers are able to respond to their infants, until discharge. This means that mothers and infants are together throughout the day and night.<sup>1</sup>



Postpartum units need to be designed so that there is enough space for mothers and their newborns to be together. Facility staff need to visit the *hospital room* regularly to ensure the babies are safe. Babies should only be separated from their mothers for justifiable medical and safety reasons. Minimizing disruption to breastfeeding during the stay in the facility will require health-care practices that enable a mother to breastfeed for as much, as frequently and for as long as her baby needs it.<sup>1</sup>

When a mother is placed in a dedicated unit [recovery area and/ or postpartum room] to recover from a cesarean section, the baby should be accommodated in the same room with her, close by. She will need practical support to position her baby to breastfeed, and will need help with lifting the baby from a bassinet.<sup>1</sup>

Rooming-in may not be possible in circumstances when infants need to be moved for specialized medical care.<sup>1</sup> If preterm or sick infants need to be in a separate room to allow for adequate treatment and observation, efforts must be made for the mother to recuperate postpartum with her infant, or to have no restrictions for visiting her infant. Mothers should have adequate space to express milk adjacent to their infants.<sup>1</sup>

### US CONSIDERATIONS FOR SAFE IMPLEMENTATION:

There are several factors that must be understood when mothers and infants are rooming-in together:

- Mothers will be naturally exhausted and/or only sleep in short bursts following childbirth.<sup>25</sup>
- Sleepiness is a normal, hormonally-driven, physiological response to breastfeeding for both mothers and infants. Unintentionally, this can lead to mothers falling asleep while breastfeeding their infants.<sup>51</sup>
- Following cesarean births, mothers have limited mobility and are likely to feel the effects of medications, which may cause them to be less responsive.<sup>25</sup>

Facilities are encouraged to develop processes that support staff in the safe implementation of rooming-in practices.<sup>25, 26, 51</sup> The hospital setting is the perfect place to role model safe rooming-in and to help families plan for a safe breastfeeding and sleep environment for home. It is a prime opportunity to educate mothers and families about the components of a safe environment which includes but is not limited to:

- Mothers and infants have close but separate sleep surfaces.<sup>27</sup>
- Infants are placed on their backs to sleep, for naps and at night.<sup>27</sup>
- Firm flat sleep surface is used in a safety-approved crib, covered by a fitted sheet.<sup>27</sup>
- Soft bedding and objects are avoided. Do not put pillows, blankets, sheepskins in baby's sleep area.<sup>27</sup>
- Baby is dressed in sleep clothing. Loose blankets are not used, and baby is not over bundled.<sup>27</sup>

Mothers (and families) should be given anticipatory guidance about considering how tired they are before and during their infant's feeding so that steps can be taken to reduce risks to their infant.<sup>52</sup> Facilities and staff should consider implementing the following safe rooming-in practices:

- Monitor mothers according to their risk assessment.<sup>25</sup>
- Review equipment, such as call bells, with mothers<sup>25</sup> and instruct them to call for help when feeling tired or sleepy.<sup>51</sup>
- Conduct hourly rounding to provide assistance placing infants in bassinets when mothers or caregivers appear to be drowsy or after mothers have received pain medications.<sup>51</sup>
- Educate families and support persons to transition newborn to the bassinet when mother is falling asleep.

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 Promote maternal rest<sup>51</sup> by limiting staff and visitor interruptions. **REFER TO APPENDIX A: PATIENT EDUCATION TOPICS** for the comprehensive list of all required education topics for postpartum mothers.

**REFER TO APPENDIX C: PERFORMANCE INDICATORS TO MEASURE EACH COMPETENCY** for the comprehensive list of required knowledge, skills, and attitudes. (All performance indicators apply to direct care staff. Specific performance indicators for which knowledge competency applies to direct care providers are marked with an ')

WHO/UNICEF PERFORMANCE INDICATORS DEMONSTRATING COMPETENCY TO IMPLEMENT STEP 7	VERIFICATION METHOD
'35. <b>Engage</b> in a conversation with a mother regarding 2 aspects related to the importance of rooming-in 24h/day.	Observation
68. Describe 2 aspects involved in creating a safe environment for rooming-in during the hospital stay.	Question or case study
<sup>•</sup> 69. <b>Demonstrate</b> at least 3 safety aspects to assess when mother and baby are skin-to-skin during the postpartum hospitalization, regardless of method of birth.	Observation
*36. <b>Explain</b> 2 situations: 1 for the mother and 1 for the infant, when it is acceptable to separate mother and baby while in hospital.	Question or case study
45. <b>Engage</b> in a conversation with a mother separated from her preterm or sick infant regarding at least 2 reasons to be with her infant in the intensive care unit.	Observation

### THE FOLLOWING STANDARDS APPLY TO MOTHERS AND INFANTS BEING CARED FOR ON THE POSTPARTUM UNIT:

WHO/UNICEF STANDARD	US CRITERION FOR EVALUATION
7.1 Mothers report that their babies stayed with them since birth, without separation lasting for more than 1 hour.	Interviews with mothers will confirm: Criterion 7.1.1 At least 80% of mothers will report that their infants have stayed with them in the same room day and night, without separation of more than 1 hour per 24-hour period unless: A. Medically justifiable reason for a longer separation, OR B. Safety-related reason for a longer separation, OR C. Informed decision for a longer separation [maternal request]

### THE FOLLOWING STANDARDS APPLY TO MOTHERS AND INFANTS BEING CARED FOR ON THE POSTPARTUM UNIT:

WHO/UNICEF STANDARD	US CRITERION FOR EVALUATION
7.1 Mothers report that their babies	Interviews with mothers will confirm:
stayed with them since birth, without	
separation lasting for more than 1 hour.	Criterion 7.1.2 At least 80% of mothers who requested their infant to be removed from the room will report the facility staff:
	A. Listened to her reasons/concerns AND
	B. <b>Responded</b> by assessing potential and/or existing challenges specific to her concerns, and/or providing additional guidance with workable solutions to safely avoid the separation AND
	C If the mother still requested separation bealth professionals empowered her with an understanding of evidence-based
	information [scientific, unbiased, factual] that allowed her to make an informed decision for her baby including:
	<ul> <li>Importance of rooming-m,</li> <li>If breastfeeding, a plan for rouniting the methor and infant as seen as the infant displays feeding succession.</li> </ul>
	• If breastleeding, a plan for realiting the mother and infant as soon as the infant displays feeding caes.
	Documentation:
	Criterion 7.1.3 Of mothers and babies that have been separated, at least 80% will have the following documented in the
	medical record:
	A. Reason for the separation
	B. Location of infant
	C. Length of separation
	D. Infant feedings during separation
	E. Counseled on the importance of rooming-in including a plan for reuniting the mother and infant, and infant feeding.
	NOTE: Facilities must make every effort to minimize any disruptions to breastfeeding by reuniting a mother and infant as
	frequently and for as long as her baby needs it.
	Criterion 7.1.4 Quality improvement question for informational purposes (not a designation criterion): Mothers will report
	that they felt supported with rooming and caring for her baby.
	A. They received practical information AND
	B. Received help when needed.
7.2 Observations in the postpartum wards	Observations in the postpartum unit and newborn units will confirm:
and well-baby observation areas confirm	Criterion 7.2.1 Observations in the postpartum unit and any well-baby observation areas confirm that at least 80% of the
if not have medically justifiable reasons	mothers and infants are rooming-in or have a documented:
for being separated	A. Medically justifiable reason for separation, OR
tor being separateu.	B. Safety-related reason for separation, OR
	C. Informed decision for separation [maternal request]

### step 7

### THE FOLLOWING STANDARDS APPLY TO MOTHERS AND INFANTS BEING CARED FOR ON THE NICU UNIT:

US STANDARD	US CRITERION FOR EVALUATION
7.3 Mothers of preterm or sick infants report having no restrictions and had	Interviews with mothers who are breastfeeding or intending to do so with infants in the NICU will confirm:
access to their infants in the NICU whenever they wanted.	<b>Criterion 7.3.1</b> At least 80% of mothers with infants in the NICU report that they have had access to their infants in the NICU whenever they wanted.



COMPETENCY ASSESSMENT-SELECTED PERFORMANCE INDICATORS	US CRITERION FOR EVALUATION
7.4 Health professionals who provide postpartum and/or newborn care will be competent in helping a mother to respond to her baby's feeding cues [by enabling a mother and infant to rooming-in 24 hours	DIRECT CARE NURSING STAFF Criterion 7.4.1 At least 80% of direct care nursing staff who provide postpartum, and/or newborn care will describe or demonstrate how they engage in a conversation with a mother regarding 2 aspects related to the importance of rooming-in 24h/day. [PI 35]
a day].	<b>Criterion 7.4.2</b> At least 80% of <b>direct care nursing staff who provide postpartum, and/or newborn care</b> will describe or demonstrate at least 2 safety aspects to assess when mother and baby are skin-to-skin during the postpartum hospitalization regardless of method of birth. [PI 69]
	<b>Criterion 7.4.3</b> At least 80% of <b>direct care nursing staff who provide postpartum, and/or newborn care</b> will explain 2 situations: 1 for the mother and 1 for the infant, when it is acceptable to separate mother and baby while in the hospital. [PI 36]
	DIRECT CARE PROVIDER Criterion 7.4.4 At least 80% of direct care providers with privileges to provide postpartum and/or newborn care will describe how they engage in a conversation with a mother regarding 2 aspects related to the importance of rooming-in 24h/day. [PI 35]
	<b>Criterion 7.4.5</b> At least 80% of <b>direct care providers with privileges to provide postpartum and/or newborn care</b> will explain 2 situations: 1 for the mother and 1 for the infant, when it is acceptable to separate mother and baby while in the hospital. [PI 36]

#### U.S. CLARIFICATION: MEDICALLY JUSTIFIABLE OR SAFETY-RELATED REASONS FOR SEPARATION Healthcare Professionals must use their

clinical judgement. While it is true that rooming-in is the expected practice in Baby-Friendly designated facilities, we recognize some circumstances necessitate mother-baby separation. The decision that leads to a separation is often complex involving observations, assessments, and an understanding of the individual motherbaby dyad. It is imperative in these situations that care and decisions are individualized and include the mother's participation, if possible. Facilities should have a dedicated area to provide care to infants who have a justifiable reason for separation. As a reminder, BFUSA does NOT require that facilities close their nursery.

To be clear, infants must not be separated for routine facility procedures that could be performed in the mother's room.



Support mothers to recognize and respond to their infants' cues for feeding.

### RATIONALE:

Breastfeeding involves recognizing and responding to the infant's display of hunger and feeding cues and readiness to feed, as part of a nurturing relationship between the mother and infant. Responsive feeding (also called on-demand or baby-led feeding) puts no restrictions on the frequency or length of the infant's feeds, and mothers are advised

to breastfeed whenever the infant is hungry or as often as the infant wants. Scheduled feeding, which prescribes a predetermined, and usually time-restricted, frequency and schedule of feeds is not recommended. It is important that mothers know that crying is a late *feeding* cue and that it is better to feed the baby earlier, since optimal positioning and attachment are more difficult when an infant is in distress.<sup>1</sup>

### IMPLEMENTATION GUIDANCE:

Mothers should be supported to practice responsive feeding as part of nurturing care.<sup>1</sup> Regardless of whether they breastfeed or not, mothers should be supported to recognize and respond to their infants' cues for feeding,



closeness and comfort, and enabled to respond accordingly to these cues with a variety of options, during their stay at the facility providing maternity and newborn services.<sup>2</sup> Supporting mothers to respond in a variety of ways to behavioral cues for feeding, comfort or closeness enables them to build a caring, nurturing relationship with their infants and increases their confidence in themselves, in breastfeeding and in their infants' growth and development.<sup>1</sup>

When the mother and baby are not in the same room for medical or other justifiable reasons, the facility staff need to bring the mother and infant together as often as possible, so that she can recognize feeding cues. When staff notice feeding cues, they should also bring the mother and baby together.<sup>1</sup>

New mothers believe that it is important that they respond to their infant's feeding cues. However, mothers have reported being stressed and anxious about how to interpret their infant's needs. Postpartum conversations support families to develop an understanding of an infant's cues for feeding, comfort, or closeness. Education provided to families should increase a mother's confidence in interpreting these cues and responding in a variety of ways which might include breastfeeding, rocking, holding, walking, singing, and skin-to-skin contact.<sup>2</sup>

### US CONSIDERATIONS FOR SAFE IMPLEMENTATION:

ABM Protocol #10 recommends that mothers of late preterm and early term infants on the postpartum unit should be taught to respond to their infants' cues for feeding. However, it may be necessary for mothers to wake their infants when they do not demonstrate hunger cues within 4 hours of the previous feeding. Preterm infants should be breastfed (or breast-milk fed) 8-12 times in a 24-hour period.<sup>41</sup>

#### **REFER TO APPENDIX A: PATIENT EDUCATION TOPICS**

for the comprehensive list of all required education topics for postpartum mothers.

**REFER TO APPENDIX C: PERFORMANCE INDICATORS TO MEASURE EACH COMPETENCY** for the comprehensive list of required knowledge, skills, and attitudes. (All performance indicators apply to direct care staff. Specific performance indicators for which knowledge competency applies to direct care providers are marked with an ')

WHO/UNICEF PERFORMANCE INDICATORS DEMONSTRATING COMPETENCY TO IMPLEMENT STEP 8	VERIFICATION METHOD
'37. Describe at least 2 early feeding cues and 1 late feeding cue.	Question or case study
38. Describe at least 4 reasons why responsive feeding (also called on-demand or baby-led feeding) is important.	Question or case study
39. <b>Describe</b> at least 2 aspects of responsive feeding (also called on-demand or baby-led feeding) independent of feeding method.	Question or case study
46. <b>Engage</b> in a conversation with a mother of a preterm, late preterm or vulnerable infant (including multiple births) regarding the importance of observing at least 2 subtle signs and behavioral state shifts to determine when it is appropriate to breast-feed.	Observation
'58. <b>Describe</b> at least 4 elements to assess when a mother says that her infant is crying frequently.	Question or case study

### THE FOLLOWING STANDARDS APPLY TO MOTHERS AND INFANTS BEING CARED FOR ON THE POSTPARTUM UNIT:

WHO/UNICEF STANDARD	US CRITERION FOR EVALUATION
8.1 Breastfeeding mothers can describe at least two feeding cues.	Interviews with breastfeeding mothers will confirm:
	<b>Criterion 8.1.1</b> At least 80% of breastfeeding mothers can describe at least 2 early feeding cues.
8.2 Breastfeeding mothers report that	Interviews with breastfeeding mothers will confirm:
they have been advised to feed their	Criterion 8.2.1 At least 80% of breastfeeding mothers will report that they have been advised to feed their infants as often
infant wants.	and as long as the infants want.
	Criterion 8.2.2 Quality improvement question for informational purposes (not a designation criterion): At least 80% of
	breastfeeding mothers can provide 2 acceptable responses to describe normal infant feeding patterns after the first
	24 hours of life including:
	The average feeding frequency is at least 8-12 times in 24 hours,
	Infants feeding through the night and/or
	That cluster feeding is common.

COMPETENCY ASSESSMENT-SELECTED PERFORMANCE INDICATORS	US CRITERION FOR EVALUATION
8.3 Health professionals who provide labor & delivery, postpartum and/or newborn care will be competent in helping a mother to respond to her baby's feeding cues.	Interviews with direct care nursing staff and direct care providers will confirm: DIRECT CARE NURSING STAFF Criterion 8.3.1 At least 80% of direct care nursing staff who provide labor & delivery, postpartum, and/or newborn care will describe at least 2 early feeding cues and 1 late feeding cue. [PI 37] Criterion 8.3.2 At least 80% of direct care nursing staff who provide labor & delivery, postpartum, and/or newborn care will describe at least 2 reasons why responsive feeding [also called on-demand feeding] is important [PI 38] Criterion 8.3.3 3 At least 80% of direct care nursing staff who provide labor & delivery, postpartum, and/or newborn care will describe at least 2 elements to assess when a mother says her infant is crying frequently. [PI 58] DIRECT CARE PROVIDER Criterion 8.3.4 At least 80% of direct care providers with privileges to provide labor & delivery, postpartum and/or newborn care will describe at least 2 early feeding cues and 1 late feeding cue. [PI 37]
	newborn care will describe at least 2 elements to assess when a mother says her infant is crying frequently. [PI 58]

Counsel mothers on the use and risks of feeding bottles, artificial nipples, and pacifiers.

### RATIONALE:

Proper guidance and counseling of mothers and other family members enables them to make informed decisions on the use or avoidance of pacifiers and/or feeding bottles and *artificial nipples* until the successful establishment of breastfeeding. While WHO guidelines<sup>2</sup> do not call for absolute avoidance of feeding bottles, *artificial nipples* and pacifiers for term infants,

there are a number of reasons for caution about their use, including hygiene, oral formation and recognition of feeding cues.<sup>1</sup>

### IMPLEMENTATION GUIDANCE:

If expressed milk or other feeds are medically indicated for term infants, feeding methods (*devices*) such as cups, spoons or feeding bottles and *artificial nipples* can be used during their stay at the facility.<sup>2</sup> However, it is important that staff do not become reliant on *artificial nipples* as an easy response to suckling difficulties instead of counseling mothers and enabling babies to attach babies properly and suckle effectively.<sup>1</sup>

It is important that the facility staff ensure appropriate hygiene in the cleaning of these



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utensils, since they can be a breeding ground for bacteria. Facility staff should also inform mothers and family members of the hygiene risks related to inadequate cleaning of feeding utensils, so that they can make informed *decisions* on the feeding method.

The physiology of suckling at the breast is different from the physiology of suckling from a feeding bottle and *an artificial nipple*.<sup>53</sup> It is possible that the use of the feeding bottle and an *artificial nipple* could lead to breastfeeding difficulties, particularly if use is prolonged.

However, the only study on this did not demonstrate a specific carry-over effect from suckling at a feeding bottle and *an artificial nipple* to suckling at the breast.<sup>1,15</sup>

Pacifiers have long been used to soothe an upset infant. In some cases, they serve a therapeutic purpose, such as reducing pain during procedures when breastfeeding or skin-to-skin contact are not possible. Pacifiers have also been shown to reduce the risk of SIDS, even among breastfeeding infants. However, if pacifiers replace suckling and thus reduce the number of times an infant stimulates the mother's breast physiologically, this can lead to a reduction of maternal milk production. The use of artificial nipples or pacifiers may interfere with the mother's ability to recognize feeding cues. If the use of a pacifier prevents the mother from observing the infant's smacking of the lips or rooting towards the breast, she may delay feeding until the infant is crying and agitated.<sup>1</sup> Therefore, recommending to parents that they delay pacifier introduction until breastfeeding is well established supports breastfeeding while reducing the risk of SIDS and helps parents understand appropriate timeframes for introducing pacifiers.<sup>26,27</sup>

For preterm infants, evidence does demonstrate that use of feeding bottles with *artificial nipples* interferes with learning to suckle at the breast. If expressed breast-milk or other feeds are medically indicated for preterm infants, feeding methods such as cups or spoons are preferable to feeding bottles and *artificial nipples*.<sup>2</sup> On the other hand, for preterm infants who are unable to breastfeed directly, non-nutritive sucking and oral stimulation may be beneficial until breastfeeding is established.<sup>2</sup> Non-nutritive sucking or oral stimulation involves the use of pacifiers, a gloved finger or a breast that is not yet producing milk.<sup>1</sup> **NOTE**: *If a preterm infant is in the room with the mother, oral stimulation should always be done by placing baby at the breast.* 

There should be no promotion of feeding bottles or *artificial nipples* in any part of facilities providing maternity and newborn services, or by any of the staff. As is the case with breast-milk substitutes, these products fall within the scope of the *International* Code.<sup>1,15,16,54</sup> *[SEE STANDARD 9.2 FOR ADDITIONAL GUIDANCE on the promotion of pacifiers as a SIDS risk reduction measure.]* 

### US CONSIDERATIONS FOR SAFE IMPLEMENTATION:

Hygiene is an important consideration for safe implementation of the use of bottles, nipples and pacifiers and other infant feeding items. The Centers for Disease Control and Prevention\_(CDC) and World Health Organization provide the steps that families should follow to clean, sanitize, and store infant feeding items. The CDC also provides steps to ensure that breast pump and breast pump parts are clean and sanitized.<sup>55, 56</sup>

Pacifiers are also recognized as a risk reduction measure for Sudden Infant Death Syndrome (SIDS). To reduce the risk of SIDS, the AAP recommends exclusive breastfeeding, breastfeeding for at least 6 months, and offering a pacifier at naptime and bedtime, once breastfeeding is well established. Infants who are not being directly breastfed can begin pacifier use as soon as desired.<sup>26</sup> **REFER TO APPENDIX A: PATIENT EDUCATION TOPICS** for the comprehensive list of all required education topics for postpartum mothers.

**REFER TO APPENDIX C: PERFORMANCE INDICATORS TO MEASURE EACH COMPETENCY** for the comprehensive list of required knowledge, skills, and attitudes. (All performance indicators apply to direct care staff. Specific performance indicators for which knowledge competency applies to direct care providers are marked with an ')

WHO/UNICEF PERFORMANCE INDICATORS DEMONSTRATING COMPETENCY TO IMPLEMENT STEP 9	VERIFICATION METHOD
28. Describe at least 6 essential issues that every breastfeeding mother should know or demonstrate.	Question or case study
53. <b>Demonstrate</b> to a mother how to safely cup-feed her infant when needed, showing at least 4 points.	Observation
54. <b>Describe</b> to a mother at least 4 steps to feed an infant a supplement in a safe manner.	Observation
'55. <b>Describe</b> at least 2 alternative feeding methods other than feeding bottles.	Question or case study
56. <b>Engage</b> in a conversation with a mother who requests feeding bottles, <i>artificial nipples</i> , and pacifiers [soothers] without medical indication, including at least 3 points.	Observation
'59. <b>Describe</b> at least 4 elements of anticipatory guidance to give to a mother on calming or soothing techniques before or as alternatives to pacifiers.	Question or case study
<sup>•</sup> 70. <b>Describe</b> when the acceptable time is for introducing a pacifier with a breast-feeding infant, with regards to SUID/SIDS reduction strategies.	Question or case study

## THE FOLLOWING STANDARDS APPLY TO MOTHERS AND INFANTS BEING CARED FOR ON THE POSTPARTUM UNIT:

WHO/UNICEF STANDARD	US CRITERION FOR EVALUATION
9.1 Breastfeeding mothers report that they have been taught about the risks of	Interviews with breastfeeding mothers will confirm:
using feeding bottles, artificial nipples	Criterion 9.1.1 At least 80% of breastfeeding mothers can describe:
and pacifiers. <sup>2</sup>	A. One possible impact that pacifiers might have on breastfeeding, AND
	B. When the acceptable time is for introducing the pacifier.
	Criterion 9.1.2 At least 80% of breastfeeding mothers can describe one possible impact that bottles and artificial nipples
	might have on breastfeeding.
	Criterion 9.1.3 At least 80% of breastfeeding mothers that are unable to feed their baby directly at the breast or needed/
	chose additional supplementation will report:
	A. Alternative feeding devices other than bottles were offered, AND
	B. They were informed of the potential impacts of feeding bottles on breastfeeding AND
	C. Will be able to describe 2 feeding techniques appropriate for the use of selected feeding device.
	Criterion 9.1.4 At least 80% of breastfeeding mothers [including breast-milk feeding] utilizing infant feeding items
	[bottles, artificial nipples, rings, caps, syringes, cups, spoons, breast pump equipment, etc.] can provide 1 acceptable
	response about proper hygiene when cleaning these infant feeding items.

## SAFE SLEEP AND SIDS REDUCTION MESSAGES SHOULD BE DISTRIBUTED BY THE FACILITY AND THE FOLLOWING STANDARDS AND CRITERIA FOR EVALUATION APPLY:

### RATIONALE:

BFUSA acknowledges the evidence pertaining to pacifier use related to SIDS risk reduction.<sup>25</sup> Safe sleep and SIDS risk reduction information is important for parents to receive during the birth hospital stay.<sup>26, 27</sup> This education may be compatibly provided to parents by using safe sleep materials that also promote breastfeeding.

US STANDARD	US CRITERION FOR EVALUATION
9.2 Facilities distributing safe sleep materials must also provide additional verbal and written education related to breastfeeding and pacifier use to mothers.	<ul> <li>A review of education materials will confirm:</li> <li>Criterion 9.2.1 A review of materials will confirm that safe sleep and SIDS risk reduction materials that are provided to mothers also provide additional written education that includes the all of the following: <ul> <li>A. Pacifier use in the breastfed infant should be delayed until breastfeeding is firmly established.<sup>26,27</sup> AND</li> <li>B. How mothers can know that breastfeeding is firmly established (For example, milk supply has increased, infant is breastfeeding 8-12 times in 24 hours, infant is satisfied after feedings, infant is gaining weight, mother can hear baby swallowing during feeding, adequate voiding and stooling according to expected norms).AND</li> <li>C. Breastfeeding is associated with a reduced risk of SIDS, and the protective effect increases with breastfeeding duration and exclusivity, with the greatest protection offered by breastfeeding for at least 6 months.<sup>27,57</sup></li> </ul> </li> <li>Criterion 9.2.2 Quality improvement question for informational purposes (not a designation criterion): <ul> <li>At least 80% of mothers should be able to recall at least 2 of the following key safe sleep messages:     <ul> <li>Baby should always be placed on back to sleep.</li> <li>Baby should sleep in an empty, approved (CPSC) crib.</li> <li>Baby should sleep in the same room as parents for at least 6 and preferably to 12 months.</li> <li>Parents should refrain from smoking during and after pregnancy and baby should sleep in a smoke-free environment.</li> <li>Breastfeeding reduces the risk of SIDS.</li> <li>Pacifier use at bedtime reduces the risk of SIDS.</li> </ul> </li> </ul></li></ul>

COMPETENCY ASSESSMENT-SELECTED PERFORMANCE INDICATORS	US CRITERION FOR EVALUATION
9.3 Health professionals who provide labor and delivery, postpartum and/or newborn care will be competent in: • How to discuss with a mother how breastfeeding works,	Interviews with direct care nursing staff and direct care providers will confirm: DIRECT CARE NURSING STAFF Criterion 9.3.1 At least 80% of direct care nursing staff who provide labor & delivery, postpartum, and/or newborn care will describe to a mother at least 4 steps to feed an infant a supplement in a safe manner. [PI 54]
• Helping a mother who is not feeding her baby directly at the breast.	<ul> <li>Criterion 9.3.2 At least 80% of direct care nursing staff who provide labor &amp; delivery, postpartum, and/or newborn care will describe at least 2 elements of anticipatory guidance to give to a mother on calming or soothing techniques before or as alternatives to pacifiers. [PI 59]</li> <li>Criterion 9.3.3 At least 80% of direct care nursing staff who provide labor &amp; delivery, postpartum, and/or newborn care will describe when the acceptable time is for introducing a pacifier with a breastfeeding infant with regards to SUID/SIDS reduction strategies. [PI 70]</li> </ul>
	DIRECT CARE PROVIDER Criterion 9.3.4 At least 80% of direct care providers with privileges to provide labor & delivery, postpartum and/or newborn care will describe at least 2 elements of anticipatory guidance to give to a mother on calming or soothing techniques before or as alternatives to pacifiers. [PI 59] Criterion 9.3.5 At least 80% of direct care providers with privileges to provide labor & delivery, postpartum and/or newborn care will describe when the acceptable time is for introducing a pacifier with a breastfeeding infant with regards to SUID/SIDS reduction strategies. [PI 70]

### step **10**

Coordinate discharge so that parents and their infants have timely access to ongoing support and care.

### RATIONALE:

Mothers need sustained support to continue breastfeeding. While the time in the facility providing maternity and newborn services should provide a mother with basic breastfeeding skills, it is very possible her milk supply has not been fully established until after discharge. Breastfeeding support is especially critical in the succeeding days and weeks after

discharge, to identify and address early breastfeeding challenges that occur. She will encounter several different phases in her production of breast-milk, her infant's growth and her own circumstances (e.g. going back to work or school), in which she will need to apply her skills in a different way and additional support will be needed. Receiving timely support after discharge is instrumental in maintaining breastfeeding rates. Maternity facilities must know about and refer mothers to the variety of resources that exist in the community.<sup>1</sup>

### IMPLEMENTATION GUIDANCE:

#### As part of protecting, promoting and

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supporting breastfeeding, discharge from facilities providing maternity and newborn services should be planned for and coordinated, so that parents and their infants have access to ongoing support and receive appropriate care.<sup>2</sup> Each mother should be linked to lactation-support resources in the community upon discharge. Facilities need to provide appropriate referrals to ensure that mothers and babies are seen by a health worker to assess the feeding situation. The AAP recommends that every infant should have an evaluation within 3 to 5 days of birth and within 48 to 72 hours after discharge from the hospital that includes an evaluation for feeding and jaundice. Breastfeeding newborns should receive formal breastfeeding evaluation, and their mothers should receive encouragement and instruction. Printed and/or online information could be useful to provide contacts for support, in case of questions, doubts or difficulties, but this should not substitute for active follow-up care by a skilled professional.<sup>1</sup>

Facilities providing maternity and newborn services need to identify appropriate community resources for continued and consistent breastfeeding support that is culturally and socially sensitive to their needs. The facilities have a responsibility to engage with the surrounding community to enhance such resources. Community resources include primary health-care centers, community health workers, home visitors, breastfeeding clinics, nurses/midwives, lactation consultants, peer counsellors, mother-to-mother support groups, or phone lines ("hot lines"). The facility should maintain contact with the groups and individuals providing the support as much as possible and invite them to the facility where feasible.<sup>1</sup>

Follow-up care is especially crucial for preterm and lowbirth-weight babies. In these cases, the lack of a clear follow-up plan could lead to significant health hazards. Ongoing support from skilled professionals is needed.<sup>1</sup>

### US CONSIDERATIONS FOR SAFE IMPLEMENTATION:

Vulnerable Populations: Breastfeeding can be extremely challenging, especially if a mother is in a community at risk for not breastfeeding. Equity will be increased if competently skilled professionals and evidence-based breastfeeding counseling is accessible to all mothers. Populations at risk for lower rates of breastfeeding duration may include African American/Black mothers, mothers who are young, return early to work; lack social support; mothers with mental or medical concerns; parents with social and cultural considerations; late preterm and early term infants.<sup>50, 58</sup>

Knowledge of the existence of post discharge support can be instrumental in a mother's willingness to give breastfeeding a try. While breastfeeding mothers may have some particular concerns, it is critically important that support be provided to all mothers.

Continuum of care: The Academy of Breastfeeding Medicine's "Clinical Protocol #7: Model Maternity Policy Supportive of Breastfeeding" provides the following guidance:

- Before discharge, the health care team will ensure that there is effective breastfeeding, that breastfeeding mothers are able to efficiently breastfeed their infants and that continuity of care is guaranteed, either by follow-up visits or by arranging qualified primary care providers and/or lactation specialists visits and/or support groups or peer counseling contacts.<sup>38</sup>
- If the infant is still not latching or feeding well at the time of discharge, an individualized feeding plan will be devised and, depending on the dyad's clinical situation and resources, the infant's discharge may be delayed.<sup>38</sup>

 Mothers identified prenatally or soon after delivery as at risk of delayed lactogenesis II will be assigned to special help as deemed appropriate. A feeding plan and close follow-up of the infant (for adequate hydration and nutrition besides help with expression) will be offered. At discharge, continuum of care will be ensured with a feeding plan and close follow-up.<sup>38</sup>



**REFER TO APPENDIX A: PATIENT EDUCATION TOPICS** for the comprehensive list of all required education topics for postpartum mothers.

**REFER TO APPENDIX C: PERFORMANCE INDICATORS TO MEASURE EACH COMPETENCY** for the comprehensive list of required knowledge, skills, and attitudes. (All performance indicators apply to direct care staff. Specific performance indicators for which knowledge competency applies to direct care providers are marked with an ')

WHO/UNICEF PERFORMANCE INDICATORS DEMONSTRATING COMPETENCY TO IMPLEMENT STEP 10	VERIFICATION METHOD
57. <b>Engage</b> in a conversation with a mother regarding at least 4 different ways to facilitate breastfeeding in order to prevent or resolve most common conditions of the lactating breasts (sore nipples, engorgement, mother who thinks she doesn't have enough milk, infants who have difficulty sucking).	Observation
60. Describe at least 2 locally available sources for timely infant feeding information and problem management.	Question or case study
61. <b>Describe</b> at least 2 ways the healthcare facility engages with community-based programs to coordinate breastfeeding messages and offer continuity of care.	Question or case study
62. <b>Develop</b> individualized discharge feeding plans with a mother that includes at least 6 points.	Observation
<sup>•</sup> 63. <b>Describe</b> to a mother at least 4 warning signs of infant undernourishment or dehydration for a mother to contact a health care professional after discharge.	Observation
'64. Describe at least 3 warning maternal signs for a mother to contact a health care professional after discharge.	Question or case study

### step 10

### THE FOLLOWING STANDARDS APPLY TO MOTHERS AND INFANTS BEING CARED FOR ON THE POSTPARTUM UNIT:

WHO/UNICEF STANDARD	US CRITERION FOR EVALUATION
10.1 Mothers report that a staff member	Interviews with mothers will confirm:
has informed them where they can access	
breastfeeding support/infant formula	Criterion 10.1.1 At least 80% of breastfeeding mothers [including breast-milk feeding] will report that they have been given
feeding support in their community.	verbal and written information on:
	A. How to access breastfeeding support [support groups, peer counselors, providers, or other skilled community health services] after discharge from the facility, AND
	B. When to follow-up for a newborn evaluation for jaundice and feeding, AND
	C. Maternal/infant warning signs/symptoms of breastfeeding problems that must receive urgent evaluation and whom they should call for assistance.
	<b>Criterion 10.1.2</b> At least 80% of mothers choosing to feed their babies formula will report that they have been given verbal and written information on:
	A. How to access infant formula feeding support [support groups, peer counselors, providers, or other skilled community health services] after discharge from the facility, AND
	B. When to follow-up for a newborn evaluation for jaundice and feeding, AND
	C. Maternal/infant warning signs/symptoms of breast problems and/or formula feeding concerns that must receive urgent evaluation and whom they should call for assistance.
	<b>NOTE:</b> Mothers who are "mixed-feeding" their babies should receive verbal and written information appropriate to support
	optimal, safe infant feeding individualized to their feeding intentions.



WHO/UNICEF STANDARD	US CRITERION FOR EVALUATION
10.2 The facility can demonstrate that it coordinates with community services	A review of documents indicates:
that provide breastfeeding/infant feeding	Criterion 10.2.1 A review of documents indicates that written (printed or electronic) information is distributed to
support, including clinical management	mothers before discharge on how and where mothers, regardless of feeding method, can find help on feeding their infants
and mother-to-mother support.	after returning home and includes information on what type of help is available from each source of support.
	Criterion 10.2.2 The facility provides a written description of how it fosters the establishment of and/or coordinates
	with mother support groups and other community services that provide breastfeeding/infant feeding support to mothers.
	The description includes a specific list of programs and services they fostered/coordinated with.
COMPETENCY	US CRITERION FOR EVALUATION
ASSESSMENT-SELECTED PERFORMANCE INDICATORS	OS ORTERIOR FOR EVALUATION
10.3 Health professionals who provide	Interviews with direct care nursing staff and direct care providers will confirm:
be competent to ensure a seamless	DIRECT CARE NURSING STAFF
transition after discharge.	<b>Criterion 10.3.1</b> At least 80% of <b>direct care nursing staff who provide postpartum and/or newborn care</b> will describe the components of an individualized discharge feeding plans with a mother that includes at least 4 points. [PI 62]
	<b>Criterion 10.3.2</b> At least 80% of <b>direct care nursing staff who provide postpartum and/or newborn care</b> will describe to a mother at least 3 warning signs of infant undernourishment or dehydration for a mother to contact a health professional after discharge. [PI 63]
	<b>Criterion 10.3.3</b> At least 80% of <b>direct care nursing staff who provide postpartum and/or newborn care</b> will describe at least 2 maternal warning signs for a mother to contact a health care professional after discharge. [PI 64]
	DIRECT CARE PROVIDER
	<b>Criterion 10.3.4</b> At least 80% of direct care providers with privileges to <b>provide postpartum and/or newborn care</b> will describe to a mother at least 3 warning signs of infant undernourishment or dehydration for a mother to contact a health professional after discharge. [PI 63]
	Criterion 10.3.5 At least 80% of direct care providers with privileges to provide postpartum and/or newborn care will

### **APPENDICES:**

**APPENDIX A: Patient Education Topics APPENDIX B: Indicators for Facility Monitoring of Key Clinical Practices APPENDIX C1: Performance Indicators to Measure Each Competency APPENDIX C2: Performance Indicators Sorted by Step APPENDIX D: Determining Affiliated Prenatal Services** APPENDIX E: Acceptable Medical Reasons for Use of Breast-Milk Substitutes **APPENDIX F: Definitions of Terms and Abbreviations Used in This Document APPENDIX G: Expert Panel Members APPENDIX H: Guidelines and Evaluation Criteria Clarification Statements APPENDIX I: References** 

#### APPENDIX A: PATIENT EDUCATION TOPICS

#### PRENATAL CONVERSATION TOPICS INCLUDE:

WHO/UNICEF Required Prenatal Conversation Topics Include at a Minimum:

#### Breastfeeding

- the importance of breastfeeding [including a discussion on the importance of direct breastfeeding, as needed]
- global recommendations for breastfeeding including: o exclusive breastfeeding for the first 6 months
- o the risks of giving formula or other breast-milk substitutes
- o breastfeeding continues to be important after 6 months when other foods are given
- the basics of good positioning and attachment
- recognition of feeding cues

#### **Birth Practices**

- the importance of immediate and sustained skin-to-skin contact
- the importance of early initiation of breastfeeding
- the importance of rooming-in

#### US Recommended Prenatal Discussion Topics for Anticipatory Guidance include:

- non pharmacologic pain relief during labor
- creating a safe sleep environment:
  - along with the importance of rooming-in, staff should discuss how to create a safe sleep environment while rooming-in at the hospital. Narcotic-induced sleepiness, hormonally driven sleepiness [physiology of lactation and its effects on mothers] and fatigue are all factors that mothers should be aware of while rooming-in at the hospital.
- o risk reduction strategies for SIDS after leaving the hospital including the importance of removing suffocation hazards (e.g., soft bedding/pillows) from the breastfeeding environment and defining hazardous circumstances
- how to have an abundant milk supply
- how to prevent nipple soreness
- how to prevent or minimize engorgement after birth
- availability of community resources with staff properly trained to assist with breastfeeding assessment and management
- a brief conversation to discuss details about feeding a premature, low birthweight or sick baby that might need to be admitted to the NICU

#### POSTPARTUM BREASTFEEDING EDUCATION TOPICS INCLUDE:

- proper positioning, correct attachment, efficient suckling, and milk transfer
- ensuring a good milk supply
- criteria to assess if the infant is getting enough breastmilk including adequate intake and output for day of life
- preventative management of common problems such as engorgement, sore and cracked nipples<sup>5</sup>
- hand expression of breast-milk
- the importance of exclusive breastfeeding
- how to maintain exclusive breastfeeding for about 6 months
- signs/symptoms of infant feeding issues requiring referral to a qualified provider
- early feeding cues and a reminder that crying is a late cue
- no limits on how often or how long infants should be fed
- the effects of pacifiers and artificial nipples on breastfeeding and why to avoid them until lactation is established
- normal newborn feeding patterns
- collection and storage of breast-milk
- creating a safe sleep environment for breastfeeding including:
  - o the physiology of lactation and its effects on the mother leading to hormonally driven sleepiness
  - the importance of removing suffocation hazards (e.g., soft bedding/pillows) from the breastfeeding environment
- community breastfeeding support services [including how to access support and when to follow-up for formal evaluation]
- maternal/infant warning signs/symptoms of breast problems and breastfeeding problems that must receive urgent evaluation [including who they should call for assistance]

#### POSTPARTUM INFANT FORMULA FEEDING EDUCATION TOPICS INCLUDE:

- safe preparation, feeding, and storage of infant formula including:
  - o appropriate hand hygiene
- cleaning infant feeding items [bottles, nipples, rings, caps, syringes, cups, spoons, etc.] and workspace surfaces
- appropriate and safe reconstitution of concentrated and powdered infant formulas
- o accuracy of measurement of ingredients
- o safe handling of formula
- o proper storage of formula
- appropriate feeding methods which may include feeding on cue, frequent low volume feeds, paced bottle techniques, eye-to-eye contact, and holding the infant closely
- o powdered infant formula is not sterile and may contain pathogens that can cause serious illness in infants younger than 3 months
- preventative steps to minimize engorgement [if mother plans to exclusively formula feed]
- signs/symptoms of infant feeding issues requiring referral to a qualified provider
- normal newborn feeding patterns
- creating a safe sleep environment for feeding your baby including:
- the importance of removing suffocation hazards (e.g., soft bedding/pillows) from the environment
- community infant formula feeding services [including how to access support and when to follow-up for formal evaluation]
- maternal/infant warning signs/symptoms of breast problems and/or formula feeding concerns that must receive urgent evaluation and who they should call for assistance

APPENDIX B: INDICATORS FOR FACILITY MONITORING OF KEY CLINICAL PRACTICES					
KEY CLINICAL PRACTICES	INDICATOR DEFINITION NOTE: More detailed and specific guidance on numerator/denominator inclusions/ exclusions is described on the Facility Data Sheet.	TARGET	PRIMARY SOURCE	OTHER SOURCES	SUBMIT METHOD
<b>Step 3:</b> Discuss the importance and management of breastfeeding with pregnant women and their families.	Affiliated Prenatal Services: The percentage of mothers who received prenatal care at an affiliated prenatal service who received prenatal counseling on breastfeeding.	±80%	Mothers Survey	Audits	Mothers Survey Report form or Link
Step 4: Facilitate immediate and uninterrupted skin-to-skin contact and support mothers to initiate breastfeeding as soon as possible after birth.	Vaginal Delivery: The percentage of infants that were placed in skin-to-skin contact with their mothers immediately after a vaginal birth and remained there uninterrupted for at least 1 hour (longer, if needed, to allow a breastfeeding infant to complete a feeding).	<b>≵80%</b>	Clinical records	Mothers Survey and/or Audits	Facility Data Sheet Mothers Survey Report Form or Link
	<b>Cesarean Delivery:</b> The percentage of infants born by cesarean delivery that were placed in skin-to-skin contact with their mothers, when safe and feasible [mother is responsive and alert] and remained there uninterrupted for at least 1 hour (longer, if needed, to allow a breastfeeding infant to complete a feeding).	<b>≵80%</b>	Clinical records	Mothers Survey and/or Audits	Facility Data Sheet Mothers Survey Report Form or Link
	All Deliveries: The percentage of infants who were supported to breastfeed as soon as possible after birth, within the first one to two hours after delivery. NOTE: Supporting the initiation of breastfeeding is defined as placing the baby on the mother's chest (skin-to-skin) for breastfeeding, pointing out infant feeding readiness cues and gently coaching the mother to allow baby to move and attach to the breast.	<b>≵80%</b>	Clinical records	Mothers Survey and/or Audits	Facility Data Sheet Mothers Survey Report Form or Link
<b>Step 5:</b> Support mothers to initiate and maintain breastfeeding and manage common difficulties.	The percentage of breastfeeding mothers who report being taught how to position their baby for breastfeeding.	<b>!</b> 80%	Mothers Survey	Audits	Mothers Survey Report form or Link
	The percentage of breastfeeding mothers who report being taught how to attach their baby for breastfeeding.	<b>!</b> 80%	Mothers Survey	Audits	Mothers Survey Report form or Link
	The percentage of breastfeeding mothers who report being taught how to observe for expected suckling patterns.	<b>1</b> 80%	Mothers Survey	Audits	Mothers Survey Report form or Link

APPENDIX B: INDICATORS FOR FACILITY MONITORING OF KEY CLINICAL PRACTICES					
KEY CLINICAL PRACTICES	INDICATOR DEFINITION NOTE: More detailed and specific guidance on numerator/denominator inclusions/ exclusions is described on the Facility Data Sheet.	TARGET	PRIMARY SOURCE	OTHER SOURCES	SUBMIT METHOD
<b>Step 5:</b> Support mothers to initiate and maintain breastfeeding and manage	The percentage of breastfeeding mothers who report being taught how to listen for swallowing sounds.	<u>*80%</u>	Mothers Survey	Audits	Mothers Survey Report form or Link
common difficulties.	The percentage of breastfeeding mothers who report being taught how to express their breast-milk by hand.	<b>!80%</b>	Mothers Survey	Audits	Mothers Survey Report form or Link
<b>Step 6:</b> Do not provide breastfed newborns any food or fluids other than breast-milk, unless medically indicated.	The percentage of infants who received only breast-milk throughout their stay at the facility. Reminder: The US BFHI Designation Is based on implementation of clinical practices, NOT on an exclusive breastfeeding rate of +80%.	<b>1</b> 80%	Clinical records	Mothers Survey and/or Audits	Facility Data Sheet Mothers Survey Report Form or Link
	The percentage of breast-milk fed infants who received formula supplementation during their stay at the facility.	14.2%	Clinical records	Mothers Survey and/or Audits	Facility Data Sheet Mothers Survey Report Form or Link
	The percentage of mixed-feeding and formula feeding mothers who report being taught how to safely prepare, feed and store infant formula.	<b>*80%</b>	Mothers Survey	Audits	Mothers Survey Report form or Link
<b>Step 7:</b> Enable mothers and their infants to remain together and to practice rooming-in 24 hours a day.	The percent of infants who stayed with their mothers both day and night, without separation of more than 1 hour per 24-hour period.	<b>!80%</b>	Clinical records	Mothers Survey and/or Audits	Facility Data Sheet Mothers Survey Report Form or Link
<b>Step 8</b> : Support mothers to recognize and respond to their infants' cues for feeding.	The percentage of mothers [regardless of feeding method] who report being taught that salivating or rooting is an early feeding cue.	<b>!80%</b>	Mothers Survey	Audits	Mothers Survey Report form or Link
	The percentage of mothers [regardless of feeding method] who report being taught that the baby putting fingers or fist in or around his/her mouth is an early feeding cue.	<b>*80%</b>	Mothers Survey	Audits	Mothers Survey Report form or Link
	The percentage of mothers [regardless of feeding method] who report being taught that the baby becoming more active and alert is an early feeding cue.	<b>!80%</b>	Mothers Survey	Audits	Mothers Survey Report form or Link

APPENDIX B: INDICATORS FOR FACILITY MONITORING OF KEY CLINICAL PRACTICES						
KEY CLINICAL PRACTICES	INDICATOR DEFINITION NOTE: More detailed and specific guidance on numerator/denominator inclusions/ exclusions is described on the Facility Data Sheet.	TARGET	PRIMARY SOURCE	OTHER SOURCES	SUBMIT METHOD	
Step 9: Counsel mothers on the use and risks of feeding bottles, artificial nipples and pacifiers.	The percentage of breastfeeding mothers who report being taught about the risks of using feeding bottles, artificial nipples and pacifiers.	<b>180%</b>	Mothers Survey	Audits	Mothers Survey Report form or Link	
	The percentage of breastfeeding mothers who report being taught when an acceptable time is to introduce a pacifier.	<b>*80%</b>	Mothers Survey	Audits	Mothers Survey Report form or Link	
<b>Step 10</b> : Coordinate discharge so that parents and their infants have timely access to ongoing support and care.	The percentage mothers [regardless of feeding method] who report being taught how to tell if their babies are getting enough.	±80%	Mothers Survey	Audits	Mothers Survey Report form or Link	
	The percentage of mothers [regardless of feeding method] who report being taught where they can access infant feeding support in the community.	<b>!80%</b>	Mothers Survey	Audits	Mothers Survey Report form or Link	
APPENDIX C1: PERFOR	MANCE INDICATORS TO MEASURE EACH	Н СОМРЕТЕ	NCY - SORTED BY	DOMAIN/COMP	ETENCY	
DOMAINS, COMPETENCIES AND PERFORMANCE INDICATORS (All performance indicators apply to direct care staff. Specific performance indicators for which knowledge competency applies to direct care providers are marked with an ')					ION METHOD	
DOMAIN 1: CRITICAL MAN	AGEMENT PROCEDURES TO SUPPORT THE TEN	N STEPS				
Competency 01. Implement the C	ode in a health facility (Step 1A)					
'1. List at least 3 products that are	e covered by the Code.			Question or o	Question or case study	
'2. Describe at least 3 ways a direct care provider/direct care staff protects breastfeeding in practice.				Question or o	Question or case study	
*3. <b>Describe</b> at least 1 way a direct care provider/direct care staff should respond if offered information provided by manufacturers and/or distributors of products within the scope of the Code.				Question or o	Question or case study	
*4. <b>Describe</b> at least 1 type of financial or material inducement that might be offered to a direct care provider/direct care staff by a manufacturer and/or distributor of products within the scope of the Code.				turer Question or o	ase study	
'5. Describe at least 1 harm of a direct care provider/direct care staff accepting financial or material inducements.				Question or o	Question or case study	
*6. Explain at least 2 ways that the facility ensures that there is no promotion of infant formula, feeding bottles, or teats in any part of facilities providing maternity and new-born services, or by any of the direct care staff/direct care providers.				ies Question or o	ase study	

APPENDIX C1: PERFORMANCE INDICATORS TO MEASURE EACH COMPETENCY - SORTED BY DOMAIN/COMPETENCY				
DOMAINS, COMPETENCIES AND PERFORMANCE INDICATORS (All performance indicators apply to direct care staff. Specific performance indicators for which knowledge competency applies to direct care providers are marked with an ')	VERIFICATION METHOD			
DOMAIN 1: CRITICAL MANAGEMENT PROCEDURES TO SUPPORT THE TEN STEPS continued				
Competency 02. Explain a facility's infant feeding policies and monitoring systems (Step 1B and 1C)				
'7. <b>Describe</b> at least 2 elements that are in the facility's infant feeding policy.	Question or case study			
'8. Explain at least 3 ways that the infant feeding policy affects a direct care provider's/direct care staff member's work in providing safe, equitable and appropriate care.	Question or case study			
'9. Explain at least 2 reasons why monitoring of hospital practices is important to ensure quality of care.	Question or case study			
<sup>•</sup> 10. <b>Explain</b> at least 2 ways practices are monitored in this facility.	Question or case study			
DOMAIN 2: FOUNDATIONAL SKILLS: COMMUNICATING IN A CREDIBLE AND EFFECTIVE WAY				
Competency 03. Use listening and learning skills whenever engaging in a conversation with a mother (All Steps)				
'11. Demonstrate at least 3 aspects of listening and learning skills when talking with a mother.	Observation			
'12. Demonstrate at least 3 ways to adapt communication style and content when talking with a mother.	Observation			
Competency 04. Use skills for building confidence and giving support whenever engaging in a conversation with a mother (All Steps)				
'13. Demonstrate at least 2 ways to encourage a mother to share her views, taking time to understand and consider these views.	Observation			
'14. Demonstrate at least 3 aspects of building confidence and giving support when talking with a mother.	Observation			
DOMAIN 3: PRENATAL PERIOD				
Competency 05. Engage in antenatal conversation about breastfeeding (Step 3)				
'15. <b>Engage</b> in a conversation with a pregnant woman on 3 aspects of the importance of breastfeeding.	Observation			
'16. Assess at least 3 aspects of a pregnant woman's knowledge about breastfeeding in order to fill the gaps and correct inaccuracies.	Observation			
'17. Engage in a conversation with a pregnant woman about at least 4 care practices a mother/infant dyad will experience at the birthing facility that will support breastfeeding.	Observation			

APPENDIX C1: PERFORMANCE INDICATORS TO MEASURE EACH COMPETENCY - SORTED BY DOMAIN/COMPETENCY		
DOMAINS, COMPETENCIES AND PERFORMANCE INDICATORS (All performance indicators apply to direct care staff. Specific performance indicators for which knowledge competency applies to direct care providers are marked with an ')	VERIFICATION METHOD	
DOMAIN 4: BIRTH AND IMMEDIATE POSTPARTUM		
Competency 06. Implement immediate and uninterrupted skin-to-skin (Step 4)		
'18. Explain at least 3 reasons why immediate and uninterrupted skin-to-skin is important for the mother.	Question or case study	
'19. Explain at least 3 reasons why immediate and uninterrupted skin-to-skin is important for the infant.	Question or case study	
20. Demonstrate at least 3 points of how to routinely implement immediate, uninterrupted and safe skin-to-skin between mother and infant, regardless of method of birth.	Observation	
'21. Demonstrate at least 3 safety aspects to assess when mother and baby are skin-to-skin during the first 2 hours postpartum, regardless of method of birth.	Observation	
'22. List at least 3 reasons why skin-to-skin should NOT be interrupted.	Question or case study	
<sup>2</sup> 23. Explain at least 2 reasons when skin-to-skin could be interrupted for medically justifiable reasons.	Question or case study	
24. "WHERE APPLICABLE" Explain how to maintain skin-to-skin during transfer of mother and infant to another room or other recovery area.	Question or case study	
DOMAIN 5: ESSENTIAL ISSUES FOR A BREASTFEEDING MOTHER		
Competency 07. Facilitate breastfeeding within the first hour, according to cues (Step 4)		
*25. <b>Engage</b> in a conversation with a mother including at least 3 reasons why suckling at the breast in the first hour is important, when the baby is ready.	Observation	
26. Demonstrate at least 3 aspects of safe care of the newborn in the first 2 hours post-birth.	Observation	
27. Describe to a mother at least 3 pre-feeding behaviours babies show before actively sucking at the breast.	Observation	
Competency 08. Discuss with a mother how breastfeeding works (Steps 3, 5, 6 and 9)		
28. Describe at least 6 essential issues that every breastfeeding mother should know or demonstrate.	Question or case study	
'29. Engage in a conversation with a mother regarding at least 3 reasons why effective exclusive breastfeeding is important.	Observation	
'30. Engage in a conversation with a mother regarding 2 elements related to infant feeding patterns in the first 36 hours of life.	Observation	
'31. <b>Describe</b> to a mother at least 4 signs of adequate transfer of milk in the first few days.	Observation	
'66. Describe at least 1 professional medical reference or resource for identifying medications that are safe/compatible for use during lactation.	Question or case study	
APPENDIX C1: PERFORMANCE INDICATORS TO MEASURE EACH COMPETENCY - SORTED BY DOMAIN/COMPETENCY		
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DOMAINS, COMPETENCIES AND PERFORMANCE INDICATORS (All performance indicators apply to direct care staff. Specific performance indicators for which knowledge competency applies to direct care providers are marked with an ')	VERIFICATION METHOD	
DOMAIN 5: ESSENTIAL ISSUES FOR A BREASTFEEDING MOTHER continued		
Competency 09. Assist mother getting her baby to latch (Step 5)		
32. Evaluate a full breastfeeding session observing at least 5 points.	Observation	
'33. Demonstrate at least 3 aspects of how to help a mother achieve a comfortable and safe position for breastfeeding within the first 6 hours after birth and later as needed during the hospital stay.	Observation	
'34. Demonstrate how to help a mother achieve an effective and comfortable latch, noting at least 5 points.	Observation	
Competency 10. Help a mother respond to feeding cues (Steps 7 and 8)		
'35. <b>Engage</b> in a conversation with a mother regarding 2 aspects related to the importance of rooming-in 24h/day.	Observation	
'36. Explain 2 situations: 1 for the mother and 1 for the infant, when it is acceptable to separate mother and baby while in hospital.	Question or case study	
*37. Describe at least 2 early feeding cues and 1 late feeding cue.	Question or case study	
38. Describe at least 4 reasons why responsive feeding is important (also called on-demand or baby-led feeding) independent of feeding method.	Question or case study	
39. Describe at least 2 aspects of responsive feeding (also called on-demand or baby-led feeding) independent of feeding method.	Question or case study	
68. Describe 2 aspects involved in creating a safe environment for rooming-in during the hospital stay.	Question or case study	
'69. <b>Demonstrate</b> at least 3 safety aspects to assess when mother and baby are skin-to-skin during the postpartum hospitalization, regardless of method of birth.	Observation	
Competency 11. Help a mother manage milk expression (Steps 5 and 6)		
40. Demonstrate to a mother how to hand express breast milk, noting 8 points.	Observation	
41. Explain at least 3 aspects of appropriate storage of breast-milk.	Question or case study	
42. Explain at least 3 aspects of handling of expressed breast-milk.	Question or case study	

APPENDIX C1: PERFORMANCE INDICATORS TO MEASURE EACH COMPETENCY - SORTED BY DOMAIN/COMPETENCY		
DOMAINS, COMPETENCIES AND PERFORMANCE INDICATORS (All performance indicators apply to direct care staff. Specific performance indicators for which knowledge competency applies to direct care providers are marked with an ")	VERIFICATION METHOD	
DOMAIN 6: HELPING MOTHERS AND BABIES WITH SPECIAL NEEDS		
Competency 12. Help a mother to breastfeed a low-birth-weight or sick baby (Steps 5, 7 and 8)		
43. Help a mother achieve a comfortable and safe position for breastfeeding with her preterm, late preterm, or weak infant at the breast, noting at least 4 points.	Observation	
'44. Engage in a conversation with a mother of a preterm, late preterm, or low-birth-weight infant not sucking effectively at the breast, including at least 5 points.	Observation	
45. Engage in a conversation with a mother separated from her preterm or sick infant regarding at least 2 reasons to be with her infant in the intensive care unit.	Observation	
46. Engage in a conversation with a mother of a preterm, late preterm or vulnerable infant (including multiple births) regarding the importance of observing at least 2 sub-tle signs and behavioural state shifts to determine when it is appropriate to breastfeed.	Observation	
Competency 13. Help a mother whose baby needs fluids other than breast milk (Step 6)		
'47. List at least 2 potential contraindications to breastfeeding for a baby and 2 for a mother.	Question or case study	
'48. <b>Describe</b> at least 4 medical indications for supplementing breastfed newborns: 2 maternal indications and 2 newborn indications, when breastfeeding is not improved following skilled assessment and management.	Question or case study	
'49. Describe at least 3 risks of giving a breastfed newborn any food or fluids other than breast milk, in the absence of medical indication.	Question or case study	
'50. For those few health situations where infants cannot, or should not, be fed at the breast, <b>describe</b> , in order of preference, the alternatives to use.	Question or case study	
'51. Engage in a conversation with a mother who intends to feed her baby formula, noting at least 3 actions to take.	Observation	
52. Demonstrate at least 3 important items of safe preparation of infant formula to a mother who needs that information.	Observation	
<sup>•</sup> 67. Identify 3 high-risk infant populations that may warrant extra precautions to protect against severe infections associated with powdered infant formula.	Question or case study	
Competency 14. Help a mother who is not feeding her baby directly at the breast (Step 9)		
53. Demonstrate to a mother how to safely cup-feed her infant when needed, showing at least 4 points.	Observation	
54. Describe to a mother at least 4 steps to feed an infant a supplement in a safe manner.	Observation	
'55. <b>Describe</b> at least 2 alternative feeding methods other than feeding bottles.	Question or case study	
56. Engage in a conversation with a mother who requests feeding bottles, teats, pacifiers and soothers without medical indication, including at least 3 points.	Observation	

APPENDIX C1: PERFORMANCE INDICATORS TO MEASURE EACH COMPETENCY - SORTED BY DOMAIN/COMPETENCY		
DOMAINS, COMPETENCIES AND PERFORMANCE INDICATORS (All performance indicators apply to direct care staff. Specific performance indicators for which knowledge competency applies to direct care providers are marked with an ")	VERIFICATION METHOD	
DOMAIN 6: HELPING MOTHERS AND BABIES WITH SPECIAL NEEDS continued		
Competency 15. Help a mother prevent or resolve difficulties with breastfeeding (Steps 5, 8, 9 and 10)		
57. <b>Engage</b> in a conversation with a mother regarding at least 4 different ways to facilitate breastfeeding in order to prevent or resolve most common conditions of the lactating breasts (sore nipples, engorgement, mother who thinks she doesn't have enough milk, infants who have difficulty sucking).	Observation	
'58. Describe at least 4 elements to assess when a mother says that her infant is crying frequently.	Question or case study	
'59. Describe at least 4 elements of anticipatory guidance to give to a mother on calming or soothing techniques before or as alternatives to pacifiers.	Question or case study	
'70. Describe when the acceptable time is for introducing a pacifier with a breastfeeding infant, with regards to SUID/SIDS reduction strategies.	Question or case study	
<sup>65</sup> . <b>Describe</b> at least 2 maternal and 2 infant risk factors associated with delayed lactogenesis II.	Question or case study	
DOMAIN 7: CARE AT DISCHARGE		
Competency 16. Ensure seamless transition after discharge (Step 10)		
60. Describe at least 2 locally available sources for timely infant feeding information and problem management.	Question or case study	
61. Describe at least 2 ways the healthcare facility engages with community-based programs to coordinate breastfeeding messages and offer continuity of care.	Question or case study	
<sup>•</sup> 62. <b>Develop</b> individualized discharge feeding plans with a mother that includes at least 6 points.	Observation	
'63. Describe to a mother at least 4 warning signs of infant undernourishment or dehydration for a mother to contact a health care professional after discharge.	Observation	
*64. Describe at least 3 warning maternal signs for a mother to contact a health care professional after discharge.	Question or case study	

APPENDIX C2: PERFORMANCE INDICATORS TO MEASURE COMPETENCY - SORTED BY STEP		
TEN STEPS TO SUCCESSFUL BREASTFEEDING (All performance indicators apply to direct care staff. Specific performance indicators for which knowledge competency applies to direct care providers are marked with an ')	VERIFICATION METHOD	
STEP 1A. COMPLY FULLY WITH THE INTERNATIONAL CODE OF MARKETING OF BREAST-MILK SUBSTITUTES A HEALTH ASSEMBLY RESOLUTIONS. (COMPETENCY 01)	AND RELEVANT WORLD	
'1. List at least 3 products that are covered by the Code.	Question or case study	
'2. Describe at least 3 ways a direct care provider/direct care staff protects breastfeeding in practice.	Question or case study	
'3. Describe at least 1 way a direct care provider/direct care staff should respond if offered information provided by manufacturers and/or distributors of products within the scope of the Code.	Question or case study	
'4. Describe at least 1 type of financial or material inducement that might be offered to a direct care provider/direct care staff by a manufacturer and/or distributor of products within the scope of the Code.	Question or case study	
'5. Describe at least 1 harm of a direct care provider/direct care staff accepting financial or material inducements.	Question or case study	
'6. Explain at least 2 ways that the facility ensures that there is no promotion of infant formula, feeding bottles, or teats in any part of facilities providing maternity and newborn services, or by any of the direct care providers.	Question or case study	
STEP 1B. HAVE A WRITTEN INFANT FEEDING POLICY THAT IS ROUTINELY COMMUNICATED TO STAFF AND PA	RENTS. (COMPETENCY 02)	
'7. Describe at least 2 elements that are in the facility's infant feeding policy.	Question or case study	
'8. Explain at least 3 ways that the infant feeding policy affects a direct care provider's/direct care staff member's work in providing safe, equitable and appropriate care.	Question or case study	
STEP 1C. ESTABLISH ONGOING MONITORING AND DATA-MANAGEMENT SYSTEMS. (COMPETENCY 02)		
'9. Explain at least 2 reasons why monitoring of hospital practices is important to ensure quality of care.	Question or case study	
'10. Explain at least 2 ways practices are monitored in this facility.	Question or case study	
STEP 2. ENSURE THAT STAFF HAVE SUFFICIENT KNOWLEDGE, COMPETENCE AND SKILLS TO SUPPORT BREA (FOUNDATIONAL SKILLS APPLYING TO ALL STEPS. (COMPETENCY 03 AND 04)	STFEEDING.	
'11. Demonstrate at least 3 aspects of listening and learning skills when talking with a mother.	Observation	
'12. Demonstrate at least 3 ways to adapt communication style and content when talking with a mother.	Observation	
'13. Demonstrate at least 2 ways to encourage a mother to share her views, taking time to understand and consider these views.	Observation	
'14. Demonstrate at least 3 aspects of building confidence and giving support when talking with a mother.	Observation	

APPENDIX C2: PERFORMANCE INDICATORS TO MEASURE COMPETENCY - SORTED BY STEP		
TEN STEPS TO SUCCESSFUL BREASTFEEDING (All performance indicators apply to direct care staff. Specific performance indicators for which knowledge competency applies to direct care providers are marked with an ')	VERIFICATION METHOD	
STEP 3. DISCUSS THE IMPORTANCE AND MANAGEMENT OF BREASTFEEDING WITH PREGNANT WOMEN AND (COMPETENCY 05 AND 08)	THEIR FAMILIES.	
'15. Engage in a conversation with a pregnant woman on 3 aspects of the importance of breastfeeding.	Observation	
'16. Assess at least 3 aspects of a pregnant woman's knowledge about breastfeeding in order to fill the gaps and correct inaccuracies.	<b>Observation</b>	
'17. Engage in a conversation with a pregnant woman about at least 4 care practices a mother/infant dyad will experience at the birthing facility that will support breastfeeding.	Observation	
*29. Engage in a conversation with a mother regarding at least 3 reasons why effective exclusive breastfeeding is important.	Observation	
STEP 4. FACILITATE IMMEDIATE AND UNINTERRUPTED SKIN-TO-SKIN CONTACT AND SUPPORT MOTHERS TO AS SOON AS POSSIBLE AFTER BIRTH. (COMPETENCY 06 AND 07)	INITIATE BREASTFEEDING	
'18. Explain at least 3 reasons why immediate and uninterrupted skin-to-skin is important for the mother.	Question or case study	
'19. Explain at least 3 reasons why immediate and uninterrupted skin-to-skin is important for the infant.	Question or case study	
20. Demonstrate at least 3 points of how to routinely implement immediate, uninterrupted and safe skin-to-skin between mother and infant, regardless of method of birth.	Observation	
'21. Demonstrate at least 3 safety aspects to assess when mother and baby are skin-to-skin during the first 2 hours postpartum, regardless of method of birth.	Observation	
*22. List at least 3 reasons why skin-to-skin should NOT be interrupted.	Question or case study	
'23. Explain at least 2 reasons when skin-to-skin could be interrupted for medically justifiable reasons.	Question or case study	
24. "WHERE APPLICABLE" Explain how to maintain skin-to-skin during transfer of mother and infant to another room or other recovery area.	Question or case study	
'25. Engage in a conversation with a mother including at least 3 reasons why suckling at the breast in the first hour is important, when the baby is ready.	Observation	
26. Demonstrate at least 3 aspects of safe care of the newborn in the first 2 hours post-birth.	Observation	
27. Describe to a mother at least 3 prefeeding behaviors babies show before actively sucking at the breast.	Observation	

APPENDIX C2: PERFORMANCE INDICATORS TO MEASURE COMPETENCY - SORTED BY STEP		
TEN STEPS TO SUCCESSFUL BREASTFEEDING (All performance indicators apply to direct care staff. Specific performance indicators for which knowledge competency applies to direct care providers are marked with an ')	VERIFICATION METHOD	
STEP 5. SUPPORT MOTHERS TO INITIATE AND MAINTAIN BREASTFEEDING AND MANAGE COMMON DIFFICUL (COMPETENCY 08, 09, 11, 12 AND 15)	TIES.	
28. Describe at least 6 essential issues that every breastfeeding mother should know or demonstrate.	Question or case study	
'30. Engage in a conversation with a mother regarding 2 elements related to infant feeding patterns in the first 36 hours of life.	Observation	
'31. <b>Describe</b> to a mother at least 4 signs of adequate transfer of milk in the first few days.	Observation	
32. Evaluate a full breastfeeding session observing at least 5 points.	Observation	
*33. <b>Demonstrate</b> at least 3 aspects of how to help a mother achieve a comfortable and safe position for breastfeeding within the first 6 hours after birth and later as needed during the hospital stay.	Observation	
'34. Demonstrate how to help a mother achieve an effective and comfortable latch, noting at least 5 points.	Observation	
40. Demonstrate to a mother how to hand express breast milk, noting 8 points.	Observation	
43. Help a mother achieve a comfortable and safe position for breastfeeding with her preterm, late preterm, or weak infant at the breast, noting at least 4 points.	Observation	
'44. Engage in a conversation with a mother of a preterm, late preterm, or low-birth-weight infant not sucking effectively at the breast, including at least 5 points.	Observation	
57. Engage in a conversation with a mother regarding at least 4 different ways to facilitate breastfeeding in order to prevent or resolve most common conditions of the lactating breasts (sore nipples, engorgement, mother who thinks she doesn't have enough milk, infants who have difficulty sucking).	Observation	
'65. Describe at least 2 maternal and 2 infant risk factors associated with delayed lactogenesis II.	Question or case study	
STEP 6. DO NOT PROVIDE BREASTFED NEWBORNS ANY FOOD OR FLUIDS OTHER THAN BREAST-MILK, UNLESS MEDICALLY INDICATED. (COMPETENCY 08, 11, 13.)		
*29. Engage in a conversation with a mother regarding at least 3 reasons why effective exclusive breastfeeding is important.	Observation	
41. Explain at least 3 aspects of appropriate storage of breast-milk.	Question or case study	
42. Explain at least 3 aspects of handling of expressed breast-milk.	Question or case study	
*47. List at least 2 potential contraindications to breastfeeding for a baby and 2 for a mother.	Question or case study	
*48. <b>Describe</b> at least 4 medical indications for supplementing breastfed newborns: 2 maternal indications and 2 newborn indications, when breastfeeding is not improved following skilled assessment and management.	Question or case study	
'49. Describe at least 3 risks of giving a breastfed newborn any food or fluids other than breast milk, in the absence of medical indication.	Question or case study	
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APPENDIX C2: PERFORMANCE INDICATORS TO MEASURE COMPETENCY - SORTED BY STEP		
TEN STEPS TO SUCCESSFUL BREASTFEEDING (All performance indicators apply to direct care staff. Specific performance indicators for which knowledge competency applies to direct care providers are marked with an ')	VERIFICATION METHOD	
STEP 6. DO NOT PROVIDE BREASTFED NEWBORNS ANY FOOD OR FLUIDS OTHER THAN BREAST-MILK, UNLES (COMPETENCY 08, 09, 11, 13.) continued	S MEDICALLY INDICATED.	
66. Describe at least 1 professional medical reference or resource for identifying medications that are safe/compatible for use during lactation.	Question or case study	
'50. For those few health situations where infants cannot, or should not, be fed at the breast, <b>describe</b> , in order of preference, the alternatives to use.	Question or case study	
'51. Engage in a conversation with a mother who intends to feed her baby formula, noting at least 3 actions to take.	Observation	
52. Demonstrate at least 3 important items of safe preparation of infant formula to a mother who needs that information.	Observation	
°67. Identify 3 high-risk infant populations that may warrant extra precautions to protect against severe infections associated with powdered infant formula.	Question or case study	

# STEP 7. ENABLE MOTHERS AND THEIR INFANTS TO REMAIN TOGETHER AND TO PRACTICE ROOMING-IN 24 HOURS A DAY. (COMPETENCY 10 AND 12)

*35. Engage in a conversation with a mother regarding 2 aspects related to the importance of rooming-in 24h/day.	Observation	
68. Describe 2 aspects involved in creating a safe environment for rooming-in during the hospital stay.	Question or case study	
'69. <b>Demonstrate</b> at least 3 safety aspects to assess when mother and baby are skin-to-skin during the postpartum hospitalization, regardless of method of birth.	Observation	
'36. Explain 2 situations: 1 for the mother and 1 for the infant, when it is acceptable to separate mother and baby while in hospital.	Question or case study	
45. Engage in a conversation with a mother separated from her preterm or sick infant regarding at least 2 reasons to be with her infant in the intensive care unit.	Observation	
STEP 8. SUPPORT MOTHERS TO RECOGNIZE AND RESPOND TO THEIR INFANTS' CUES FOR FEEDING. (COMPETENCY 10, 12 AND 15)		
*37. Describe at least 2 early feeding cues and 1 late feeding cue.	Question or case study	
38. Describe at least 4 reasons why responsive feeding is important (also called on-demand or baby-led feeding) independent of feeding method.	Question or case study	
39. Describe at least 2 aspects of responsive feeding (also called on-demand or baby-led feeding) independent of feeding method.	Question or case study	
46. Engage in a conversation with a mother of a preterm, late preterm or vulnerable infant (including multiple births) regarding the importance of observing at least 2 subtle signs and behavioral state shifts to determine when it is appropriate to breastfeed.	Observation	
*58. <b>Describe</b> at least 4 elements to assess when a mother says that her infant is crying frequently.	Question or case study	

## APPENDIX C2: PERFORMANCE INDICATORS TO MEASURE COMPETENCY - SORTED BY STEP TEN STEPS TO SUCCESSFUL BREASTFEEDING (All performance indicators apply to direct care staff. Specific performance indicators for VERIFICATION METHOD which knowledge competency applies to direct care providers are marked with an \*) STEP 9. COUNSEL MOTHERS ON THE USE AND RISKS OF FEEDING BOTTLES, ARTIFICIAL NIPPLES (TEATS) AND PACIFIERS. (COMPETENCY 14 AND 15) Observation 53. Demonstrate to a mother how to safely cup-feed her infant when needed, showing at least 4 points. Observation 54. Describe to a mother at least 4 steps to feed an infant a supplement in a safe manner. 55. **Describe** at least 2 alternative feeding methods other than feeding bottles. **Ouestion or case study** 56. Engage in a conversation with a mother who requests feeding bottles, teats, pacifiers and soothers without medical indication, including at Observation least 3 points. <sup>5</sup>59. Describe at least 4 elements of anticipatory guidance to give to a mother on calming or soothing techniques before or as alternatives to **Ouestion or case study** pacifiers. **Ouestion or case study** '70. Describe when the acceptable time is for introducing a pacifier with a breastfeeding infant, with regards to SUID/SIDS reduction strategies.

### STEP 10. COORDINATE DISCHARGE SO THAT PARENTS AND THEIR INFANTS HAVE TIMELY ACCESS TO ONGOING SUPPORT AND CARE. (COMPETENCY 15 AND 16)

57. <b>Engage</b> in a conversation with a mother regarding at least 4 different ways to facilitate breastfeeding in order to prevent or resolve most common conditions of the lactating breasts (sore nipples, engorgement, mother who thinks she doesn't have enough milk, infants who have difficulty sucking).	Observation
60. Describe at least 2 locally available sources for timely infant feeding information and problem management.	Question or case study
61. Describe at least 2 ways the healthcare facility engages with community-based programs to coordinate breastfeeding messages and offer continuity of care	Question or case study
'62. <b>Develop</b> individualized discharge feeding plans with a mother that includes at least 6 points.	Observation
'63. Describe to a mother at least 4 warning signs of infant undernourishment or dehydration for a mother to contact a health care professional after discharge.	Observation
<sup>•</sup> 64. <b>Describe</b> at least 3 warning maternal signs for a mother to contact a health care professional after discharge.	Question or case study

## APPENDIX D: DETERMINING AFFILIATED PRENATAL SERVICES

## AFFILIATED PRENATAL SERVICES

**INTRODUCTION:** It is important to accurately determine your facility's status regarding affiliation with prenatal services early in your Baby-Friendly journey.

**INSTRUCTIONS:** The questions below describe various situations in which BFUSA considers facilities to have affiliated prenatal services. If any of the situations below is true for your facility, you are considered to have affiliated prenatal services. Carefully consider each of the questions with your multi-disciplinary team. It is also important to consider these questions again any time your facility has a change. **The questions should be applied to all primary prenatal services that have patients who deliver at your facility.** Providers who do not provide primary prenatal services, but rather are specialists who provide consultation for the patient's primary prenatal care provider, should not be included. For example, a Maternal Fetal Medicine provider who is consulted when needed but never becomes the primary provider for a woman or her infant would not be considered to be an affiliated prenatal service. A Maternal Fetal Medicine provider who acts as the patient's primary provider would be considered to be an affiliated prenatal service if one of the scenarios described in the questions below also applies.

**EVOLVING STATE OF HEALTH CARE:** Health care in the United States is dynamic. Facilities are merging into systems as well as buying and selling service lines. In large institutions, some structural changes may not be known by the facility's Baby-Friendly multi-disciplinary committee, yet they have a significant impact on the Baby-Friendly process. Therefore, **it is recommended that this questionnaire be completed annually by the facility and discussed with leadership by the multi-disciplinary committee**. The committee should then consider how the results will impact the implementation of Steps 1, 2, and 3, and the International Code of Marketing of Breast-milk Substitutes.

#### **QUESTIONS:**

Your facility is considered to have affiliated prenatal services if you answer "yes" to any of the following questions:

1. Are providers who deliver primary prenatal care at the prenatal service employed by the facility?

2. Are providers who deliver primary prenatal care at the prenatal service employed by the same system that employs staff at the facility?

3. Are providers who deliver primary prenatal care at the prenatal service contracted (or in another type of agreement, such as an MOU) by the facility or system to provide prenatal services on behalf of the facility?

4. Are staff who provide care or education at the prenatal service employed by the facility?

5. Are staff who provide care or education at the prenatal service employed by the same system that employs staff at the facility?

6. Are staff who provide care or education at the prenatal service contracted (or in another type of agreement, such as an MOU) by the facility or system to provide prenatal services on behalf of the facility?

7. Are prenatal services offering primary prenatal care owned by the facility or the system that owns the facility?

8. Do marketing or patient information materials imply that primary prenatal care is offered by the facility? (Consider the facility or system website, brochures and media marketing campaigns.)

## APPENDIX E: ACCEPTABLE MEDICAL REASONS FOR USE OF BREAST-MILK SUBSTITUTES

Most mothers can breastfeed successfully, which includes initiating breastfeeding within the first hour of life, breastfeeding exclusively for the first 6 months, and continuing breastfeeding along with giving appropriate complimentary foods up to 2 years of age or beyond.

The facility should develop a protocol/procedure that describes the current, evidence-based contraindications to breastfeeding and medical indications for supplementation. Staff and care providers should be trained to utilize the protocol/procedure as guidance in the case of supplementation. A facility may utilize the recommendations of national and international authorities [e.g., Centers for Disease Control and Prevention (CDC), World Health Organization (WHO), and Academy of Breastfeeding Medicine (ABM), American Academy of Pediatrics (AAP), American College of Obstetricians and Gynecologists (ACOG)] in developing this protocol/procedure. However, the facility is responsible for ensuring that its medical indications for supplementation are supported by current evidence.

## APPENDIX F: DEFINITION OF TERMS AND ABBREVIATIONS USED IN THIS DOCUMENT

AFFILIATED PRENATAL SERVICES – Primary prenatal care delivered through a close formal or informal association with a birthing facility. For Baby–Friendly purposes, the affiliation is determined through completion of a questionnaire regarding specific aspects of the relationship, such as business relationship, personnel relationship, and marketing of services. (See Appendix D)

**CAMPUS** — The institution's main buildings and the physical area immediately adjacent to them, other areas and structures that are not strictly contiguous to the main buildings but are located on the same property or within 250 yards of the main buildings, and any other areas determined, on an individual case basis, to be part of the provider's campus.

CLINICAL STAFF – Includes all individuals providing direct patient care. Clinical roles often require certification or licensing. Examples include: RN, LPN, Technicians, CNA, MA, etc.

**CRITERIA FOR EVALUATION** – The minimum standards which must be met to achieve Baby Friendly designation.

**COMPETENCY** — The capability to use a set of related knowledge, skills and behaviors to successfully perform identified jobs, roles or responsibilities.<sup>3</sup>

**COMPETENCY ASSESSMENT** – An evaluation of an individual's ability to use a set of related knowledge, skills and behaviors to successfully perform identified jobs, roles or responsibilities.<sup>3</sup>

**COMPETENCY VERIFICATION** – The confirmation of an individual's ability to use a set of related knowledge, skills and behaviors to successfully perform identified jobs, roles or responsibilities.

**CONFLICT OF INTEREST** — Any situation where an individual or organization is in a position to derive a benefit which is at odds with the interests / purpose of their position or organization. In this context, it is most usually seen when individual members of staff enter a relationship with companies falling within the scope of the Code (the companies) in order to gain some advantage for themselves or their service.

**COUNSELING** – Professional guidance, advice and/or assistance provided by an individual trained in the specific topic area of concern.

CUE-BASED FEEDING — Feeding practices that are based on infant readiness indicators such as alertness, rooting, orienting toward own or caregivers' hands, pacifier, breast or bottle nipple; sucking on own hands or other objects; pacing as well as pausing when an infant's stress cues are observed.

DIRECT CARE PROVIDERS — Physicians, midwives, physician assistants, and advanced practice registered nurses who provide education, assessment, support, intervention, assistance and/or follow-up with regards to infant feeding [Including the following units: Affiliated Prenatal Services, Labor and Delivery Unit, Postpartum Unit, Newborn Unit]. Interviews with direct care providers will include providers granted privileges to provide care in labor & delivery, postpartum and well newborn units.

**DIRECT CARE STAFF** — All other non-Direct Care Provider health professionals who provide education, assessment, support, intervention, assistance and/or follow-up with regards to infant feeding [Including the following units: Affiliated Prenatal Services, Labor and Delivery Unit, Postpartum Unit, Newborn Unit]. Interviews with direct care staff will include facility-based direct care nursing staff providing care in labor & delivery, postpartum and well newborn units.

**EDUCATION** – Information about what to do and why; didactic knowledge; may be provided in classroom or electronically, individually or in group settings.

**EDUCATIONAL MATERIALS** – Information provided through written or electronic sources including brochures, pamphlets, posters, websites, videos, texting programs, social media, education channels, applications, and other evolving technologies.

**EXCLUSIVE BREAST-MILK FEEDING** – The infant receives only human milk (including direct breastfeeding, expressed breast-milk or donor

human milk) and is allowed to receive vitamins, minerals, and medicines.

**FACILITY** – A building or area that is used for the provision of health care services. Some health care facilities have multiple campuses. BFUSA policies require individual assessment and designation of each individual campus.

FAIR MARKET PRICE — The International Code of Marketing of Breast-milk Substitutes, and subsequently, the BFHI call for health systems to purchase infant foods and feeding supplies at a fair market value. Fair market pricing can be determined by calculating the margin of retail price the facility pays on other items available on the retail market or by using the minimum threshold price method as described in BFUSA materials.

**FEEDING OPTIONS** — The type of food (mother's own milk, pasteurized donor human milk, infant formula) and method of feeding (direct breast feeding, expression of milk, cup, syringe, supplemental nursing system, bottle) an infant. Feeding options may consist of a combination of foods and methods. For example, a mother may directly breastfeed sometimes and occasionally pump and feed her own milk though a cup.

**GESTATIONAL AGE (INCLUDING DEFINITIONS OF PRETERM AND TERM INFANTS)** — Time elapsed between the first day of the last menstrual period and the day of delivery.

**Preterm infants** are defined as born alive before 37 weeks of pregnancy are completed. There are sub-categories of preterm birth defined by the WHO.<sup>59</sup> Related groups of infants defined by ACOG<sup>60</sup> may be admitted to the NICU based on gestational age:

- Extremely preterm (\*28 weeks)
- Very preterm (28 to 431 6/7 weeks)
- Moderate preterm (32 to 33 6/7 weeks)
- Late preterm (34 to 36 6/7 weeks)

## APPENDIX F: DEFINITION OF TERMS AND ABBREVIATIONS USED IN THIS DOCUMENT continued

Additionally, infants' size in relation to gestational age may relate to risk categories:

AGA = Appropriate for gestational age (> 10 and < 90 percentile birth weight)

LGA = large for gestational age (>90 percentile birth weight) IUGR = intrauterine growth restriction

SGA = small for gestational age (10 percentile birthweight) "Corrected Gestational Age": post-menstrual age calculated as gestational age at birth + chronological (calendar) age since birth; also sometimes called "adjusted age".

**GUIDELINES** – The standards of care which facilities strive to achieve for all patients.

HEALTH PROFESSIONAL — A health worker with a professional / degree, certification, diploma or license, such as but not limited to a medical practitioner, a registered nurse or midwife. Health professionals include all providers and clinical staff with policy making, supervisory, education and/or patient care responsibilities. Interviews with health professionals will include direct care nursing staff and privileged direct care providers.

**HEALTH PROVIDER** – A doctor, advanced practice nurse, physician assistant or midwife.

**INFANT FEEDING SUPPLIES** – Products used to nourish and/or deliver nourishment to a baby.

IN-SERVICE EDUCATION – Instruction provided to individuals already employed in a profession. ITEM - An individual object or article. Examples include:

- Written educational materials, brochures/pamphlets, etc.
- Electronic sources including websites, videos, texting programs, social media, education channels, applications, and other evolving technologies.
- Posters, calendars, notepads, pens, cups, gift packs, growth charts, bassinet cards, etc.

KANGAROO MOTHER CARE (KMC) — Kangaroo Care or Kangaroo Mother Care are often used interchangeably to refer to skin-to-skin care provided by a parent of a preterm infant (or any infant in NICU). The infant is placed against the parent's naked chest in such a fashion that the infant is held upright and/or prone to maximize contact between ventral skin surfaces. The dyad is then wrapped in a blanket or other clothing to secure the infant against the parent's chest. Ideally, the infant may be held continuously (or almost continuously) in this fashion for multiple hours. Optimally, KMC begins as soon as the infant is judged ready for skin-toskin contact or holding; sometimes part of stabilization immediately after birth.

When provided by the mother, it may allow for access to the breast for non-nutritive sucking or pre-feeding practice (nuzzling, licking, tasting drops of expressed milk) as well as direct feeding from the breast. Whether or not it includes breastfeeding, it offers benefits such as warmth/temperature regulation, respiratory support/improved oxygenation, cardiovascular stabilization, glucose homeostasis and immune support through colonization with normal flora. Maximal benefits are obtained with continuous or sustained KMC.

**LOGO** – An emblem, picture or symbol by means of which a company or product is identified.

**MOU** – Memorandum of Understanding is a formal written agreement between two or more parties.

## APPENDIX F: DEFINITION OF TERMS AND ABBREVIATIONS USED IN THIS DOCUMENT continued

NEONATAL UNIT (NICU) — Space designated and used for specialized patient care and consultation, monitoring and medical/nursing interventions. May include designated areas in maternity/postpartum units or pediatric units where infants are admitted. *Levels of neonatal care are designated*.<sup>61</sup>

LEVEL I: Well newborn nursery: for term or stable late-preterm (35-37 week gestation) infants, or for stabilization of ill or more preterm infants

LEVEL II: Special care nursery: Level I capabilities plus care for +/=32 week gestation, +/=1500 gram, moderately ill or convalescing infants, possibly requiring brief respiratory support, and/or stabilization of more preterm or ill infants

LEVEL III: NICU: Level II capabilities plus comprehensive care for infants 432 weeks and 41500 grams, including sustained life support, full range of respiratory support and advanced imaging services

LEVEL IV: Regional NICU: Level III capabilities plus surgical services, medical and surgical subspecialists, pediatric anesthesiologists, transport and outreach education.

NON-CLINICAL STAFF — Facility employees and/or contractors who interact with patients but provide no medical care. Examples: Administrative Assistants, Unit Secretaries, etc.

**PACIFIER** — An artificial nipple/teat-shaped device for non-nutritive sucking, also called a dummy or soother. (Limited use to decrease pain during procedures when the infant cannot be safely held or breastfed is acceptable.)

**PERFORMANCE INDICATOR** – Measures of a direct care provider and direct care staff's competence to protect, promote and support breastfeeding in a facility providing maternity and newborn services.

**POLICY** — An enforceable document that guides staff in the delivery of care. At the facility level, this may include policies, practice guidelines and protocols.

**PRE-SERVICE EDUCATION** – Instruction designed to enable individuals to acquire the knowledge and skills required to enter a profession.

**PROMOTE** — To employ any method of directly or indirectly encouraging a person, a health facility, or any other entity to purchase or use a designated product whether or not there is reference to a brand name.

**SAMPLE** – A small part or quantity intended to show what the whole is like.

SKILLED PROFESSIONAL — an individual with specialized training and a demonstrated ability to provide assessment, education, intervention, and follow-up in a specific field.

SKIN-TO-SKIN CONTACT (STS) — Contact between the newborn infant and its mother. (In the case of incapacitation of the mother, another adult, such as the infant's father or grandparent, may hold the infant skin-to-skin.) After birth, the infant is placed naked against the mother's naked ventral surface. The infant and mother are then covered with a warm blanket, keeping the infant's head uncovered. The infant may wear a diaper and/or a hat, but no other clothing should be between the mother's and infant's bodies. STS should continue, uninterrupted, until completion of the first feeding, or at least one hour if the mother is not breastfeeding. STS should be encouraged beyond the first hours and into the first days after birth and beyond.

## APPENDIX F: DEFINITION OF TERMS AND ABBREVIATIONS USED IN THIS DOCUMENT continued

**SPONSOR** – An individual or organization that pays some or all of the costs involved in staging an event in return for advertising.

**STANDARD** – The established requirement for delivery of evidenced-based care.

**SUPPLEMENTATION** — Additional feeding(s) provided to a breastfed infant. Options for supplementation include expressed breast-milk, pasteurized donor human milk, and appropriate breast-milk substitutes. The method of providing supplementary feedings may include supplemental nursing systems at the breast, cup feeding, spoon or dropper feeding, finger feeding, syringe feeding or bottle feeding.

**TRAINING** — Applying and/or acquiring knowledge and learning how to perform a specific skill, task, or behavior: typically requires simulation, clinical skills practice, counseling, role play and/or competency verification.

AAP	American Academy of Pediatrics
AAFP	American Academy of Family Physicians
ABM	Academy of Breastfeeding Medicine
ACNM	American College of Nurse Midwives
ACOG	American College of Obstetricians and Gynecologists
AWHONN	Association of Women's Health Obstetrical
	and Neonatal Nurses
BFHI	Baby-Friendly Hospital Initiative
BFUSA	Baby-Friendly USA Inc.
CDC	Centers for Disease Control and Prevention
КМС	Kangaroo Mother Care
NICU	Neonatal Intensive Care Unit
STS	Skin-to-skin contact
UNICEF	United Nations Children's Fund
USLCA	United States Lactation Consultant Association
WHA	World Health Assembly
WHO	World Health Organization

## APPENDIX G: EXPERT PANEL MEMBERS

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## APPENDIX H: GUIDELINES AND EVALUATION CRITERIA CLARIFICATION STATEMENTS

None at this time. We use this section to address issues that emerge between planned updates to the GEC.

- 1. World Health Organization (WHO). Implementation Guidance: Protecting, promoting and supporting Breastfeeding in facilities providing maternity and newborn servces: the revised Baby-Friendly Hospital Initiative. World Health Organization (WHO). https://www.who.int/publications/i/ item/9789241513807
- 2. World Health Organization (WHO). Guideline: protecting, promoting and supporting breastfeeding in facilities providing maternity and newborn services. https://apps.who.int/iris/ handle/10665/259386
- 3. World Health Organization (WHO). Competency Verification Toolkit Ensuring Competency of Direct Care Providers To Implement The Baby-Friendly Hospital Initiative Accessed 6/10/21, https://www.who.int/publications/i/ item/9789240008854
- Ip S, Chung M, Raman G, Trikalinos TA, Lau J. A summary of the Agency for Healthcare Research and Quality's evidence report on breastfeeding in developed countries. *Breastfeed Med.* Oct 2009;4 Suppl 1:S17-30. doi:10.1089/bfm.2009.0050
- Victora CG, Bahl R, Barros AJ, et al. Breastfeeding in the 21st century: epidemiology, mechanisms, and lifelong effect. *Lancet*. Jan 30 2016;387(10017):475-90. doi:10.1016/ s0140-6736(15)01024-7
- Pannaraj PS, Li F, Cerini C, et al. Association Between Breast Milk Bacterial Communities and Establishment and Development of the Infant Gut Microbiome. JAMA Pediatr. Jul 1 2017;171(7):647-654. doi:10.1001/jamapediatrics.2017.0378
- 7. Azad MB, Vehling L, Chan D, et al. Infant Feeding and Weight Gain: Separating Breast Milk From Breastfeeding and Formula From Food. *Pediatrics*. Oct 2018;142(4) doi:10.1542/peds.2018-1092
- 8. Chowdhury R, Sinha B, Sankar MJ, et al. Breastfeeding and maternal health outcomes: a systematic review and meta-analysis. *Acta Paediatr.* Dec 2015;104(467):96-113. doi:10.1111/apa.13102

- 9. Rameez RM, Sadana D, Kaur S, et al. Association of Maternal Lactation With Diabetes and Hypertension: A Systematic Review and Meta-analysis. JAMA Netw Open. Oct 2 2019;2(10):e1913401. doi:10.1001/jamanetworkopen.2019.13401
- 10. Schwarz EB, Ray RM, Stuebe AM, et al. Duration of lactation and risk factors for maternal cardiovascular disease. *Obstet Gynecol.* May 2009;113(5):974-982. doi:10.1097/01.A06.0000346884.67796.ca
- Nguyen B, Gale J, Nassar N, Bauman A, Joshy G, Ding D. Breastfeeding and Cardiovascular Disease Hospitalization and Mortality in Parous Women: Evidence From a Large Australian Cohort Study. J Am Heart Assoc. Mar 19 2019;8(6):e011056. doi:10.1161/jaha.118.011056
- 12. Center for Disease Control (CDC). Rates of Any and Exclusive Breastfeeding by Sociodemographics Among Children Born in 2017 Center for Disease Control (CDC). Accessed 6/10/21, https://www.cdc.gov/breastfeeding/ data/nis\_data/rates-any-exclusive-bf-socio-dem-2017.html
- 13. DiGirolamo AM, Grummer-Strawn LM, Fein SB. Effect of maternity-care practices on breastfeeding. *Pediatrics*. Oct 2008;122 Suppl 2:S43-9. doi:10.1542/peds.2008-1315e
- 14. Pérez-Escamilla R, Martinez JL, Segura-Pérez S. Impact of the Baby-friendly Hospital Initiative on breastfeeding and child health outcomes: a systematic review. *Matern Child Nutr.* Jul 2016;12(3):402-17. doi:10.1111/mcn.12294
- 15. World Health Organization (WHO). International Code of Marketing of Breastmilk Substitutes. World Health Organization (WHO). https://www.who.int/publications/i/ item/9241541601
- 16. World Health Organization (WHO). The international code of marketing of breastmilk substitutes: frequently asked questions on the roles and responsibilities of health workers. Accessed 6/10/21 https://apps. who.int/iris/handle/10665/332170

- 17. World Health Assembly (WHA). World Health Assembly Resolution on The Inappropriate Promotion of Foods for Infants and Young Children. Accessed 6/10/21, https://www. who.int/nutrition/netcode/WHA-Policy-brief. pdf
- Piwoz EG, Huffman SL. The Impact of Marketing of Breast-Milk Substitutes on WHO-Recommended Breastfeeding Practices. Food Nutr Bull. Dec 2015;36(4):373-86. doi:10.1177/0379572115602174
- 19. Ching C. Overview: Breaking the Rules, Stretching the Rules, *World Nutrition*. 2017;8(2):1-8.
- 20. Hastings G, Angus K, Eadie D, Hunt K. Selling second best: how infant formula marketing works. *Global Health*. Aug 28 2020;16(1):77. doi:10.1186/s12992-020-00597-w
- 21. Baker P, Smith J, Salmon L, et al. Global trends and patterns of commercial milk-based formula sales: is an unprecedented infant and young child feeding transition underway? *Public Health Nutr.* Oct 2016;19(14):2540-50. doi:10.1017/ s1368980016001117
- 22. Rollins NC, Bhandari N, Hajeebhoy N, et al. Why invest, and what it will take to improve breastfeeding practices? *Lancet*. Jan 30 2016;387(10017):491-504. doi:10.1016/ s0140-6736(15)01044-2
- 23. World Health Assembly (WHA). RESOLUTIONS AND DECISIONS WHA39.28 Infant and young child feeding. Accessed 6/10/21, https://www.who.int/nutrition/topics/WHA39.28\_iycn\_en.pdf?ua=1
- 24. World Health Organization (WHO). Guidance on ending the inappropriate promotion of foods for infants and young children: implementation manual. Accessed 6/10/21, https://www.who.int/publications/i/ item/9789241513470
- 25. Feldman-Winter L, Goldsmith JP. Safe Sleep and Skin-to-Skin Care in the Neonatal Period for Healthy Term Newborns. *Pediatrics*. Sep 2016;138(3)doi:10.1542/ peds.2016-1889

- 26. Moon RY. SIDS and other sleep-related infant deaths: expansion of recommendations for a safe infant sleeping environment. *Pediatrics*. Nov 2011;128(5):1030-9. doi:10.1542/peds.2011-2284
- 27. US Department of Health and Human Services, National Institutes of Health National Institute of Child Health and Human Development. How can I reduce the risk of SIDS? Accessed 6/10/21, https://www. nichd.nih.gov/health/topics/sids/conditioninfo/reduce
- 28. Mayo T. AEA 2015 Sentinel Indicators: A Systems-Based Approach to Monitoring and Evaluation. Accessed 6/10/21, https:// www.fsnnetwork.org/sites/default/files/Results%20from%20a%20Meta-analysis%20 of%20Sentinel%20Indicators%20in%20 USAID-funded%20Projects.pdf
- 29. Measure Evaluation. Complexity-Aware Methods. Accessed 6/10/21, https://www. measureevaluation.org/resources/publications/fs-17-217\_en/index.html
- 30. US Department of Health and Human Services, National Institutes of Health, National Institute of Child Health and Human Development. What are the risk factors for preterm labor and birth? Accessed 6/10/21, https://www.nichd.nih. gov/health/topics/preterm/conditioninfo/ who\_risk
- 31. NEOVITA Study Group. Timing of initiation, patterns of breastfeeding, and infant survival: prospective analysis of pooled data from three randomised trials. *Lancet Glob Health*. Apr 2016;4(4):e266-75. doi:10.1016/s2214-109x(16)00040-1
- 32. Stevens J, Schmied V, Burns E, Dahlen H. Immediate or early skin-to-skin contact after a Caesarean section: a review of the literature. *Matern Child Nutr.* Oct 2014;10(4):456-73. doi:10.1111/ mcn.12128

- 33, Alive and Thrive. Technical Brief: Implications of Cesarean Delivery for Breastfeeding Outcomes and Strategies to Support Breastfeeding. Accessed 6/10/21, https://www.aliveandthrive.org/sites/default/ files/attachments/Insight-Issue-8-Cesarean-Delivery-English.pdf
- 34. Nyqvist KH, Sjödén PO, Ewald U. The development of preterm infants' breastfeeding behavior. *Early Hum Dev.* Jul 1999;55(3):247-64. doi:10.1016/s0378-3782(99)00025-0
- 35. Nyqvist KH, Maastrup R, Hansen MN, et al. Neo-BFHI: The Baby-friendly Hospital Initiative for Neonatal Wards. Core document with recommended standards and criteria. 2015. Accessed 6/10/21. http://epilegothilasmo.gr/wp-content/ uploads/2017/04/Neo\_BFHI\_Core\_document\_2015\_Edition.pdf
- 36. World Health Organization (WHO), United Nations Children's Fund (UNICEF). Indicators for assessing infant and young child feeding practices: definitions and measurement methods. Accessed 6/10/21, https://www.ho.int/publications/i/ item/9789240018389
- 37. McFadden A, Gavine A, Renfrew MJ, et al. Support for healthy breastfeeding mothers with healthy term babies. *Cochrane Database Syst* Rev. Feb 28 2017;2(2):Cd001141. doi:10.1002/14651858.CD001141.pub5
- Hernández-Aguilar MT, Bartick M, Schreck P, Harrel C. ABM Clinical Protocol #7: Model Maternity Policy Supportive of Breastfeeding. Breastfeed Med. Nov 2018;13(9):559-574. doi:10.1089/bfm.2018.29110.mha
- 39. Becker GE, Smith HA, Cooney F. Methods of milk expression for lactating women. *Cochrane Database* Syst Rev. Sep 29 2016;9(9):Cd006170. doi:10.1002/14651858.CD006170.pub5
- 40. Meier PP, Furman LM, Degenhardt M. Increased lactation risk for late preterm infants and mothers: evidence and management strategies to protect breastfeeding.

J Midwifery Womens Health. Nov-Dec 2007;52(6):579-87. doi:10.1016/j. jmwh.2007.08.003

- 41. Boies EG, Vaucher YE. ABM Clinical Protocol #10: Breastfeeding the Late Preterm (34-36 6/7 Weeks of Gestation) and Early Term Infants (37-38 6/7 Weeks of Gestation), Second Revision 2016. *Breastfeed Med.* Dec 2016;11:494-500. doi:10.1089/ bfm.2016.29031.egb
- 42. World Health Organization (WHO) UNCs-FU. Acceptable medical reasons for use of breast-milk substitutes. Accessed 6/10/21, http://apps.who.int/iris/bitstream/handle/10665/69938/WHO\_FCH\_CAH\_09.01\_ eng.pdf?sequence=1.
- 43. Kellams A, Harrel C, Omage S, Gregory C, Rosen-Carole C. ABM Clinical Protocol #3: Supplementary Feedings in the Healthy Term Breastfed Neonate, Revised 2017. *Breastfeed Med.* May 2017;12:188–198. doi:10.1089/bfm.2017.29038.ajk
- 44. Eidelman AI, Schanler RJ. Breastfeeding and the use of human milk: an analysis of the American Academy of Pediatrics 2012 Breastfeeding Policy Statement. *Breastfeed Med*. Oct 2012;7(5):323-4. doi:10.1089/ bfm.2012.0067
- 45. American Academy of Pediatrics (AAP). Breastfeeding Overview. Accessed 6/10/21, https://www.aap.org/en-us/advocacy-and-policy/aap-health-initiatives/ Breastfeeding/Pages/Benefits-of-Breastfeeding.aspx
- 46. Center for Disease Control (CDC). Contraindications to Breastfeeding or Feeding Expressed Breast Milk to Infants. Accessed 6/10/21, https://www.cdc.gov/ breastfeeding/breastfeeding-special-circumstances/contraindications-to-breastfeeding.html
- 47. World Health Organization (WHO). Framework on integrated, people-centred health services. Accessed 6/10/21, https:// apps.who.int/gb/ebwha/pdf\_files/WHA69/ A69\_39-en.pdf?ua=1&ua=1

- 48. DeMarchis A, Israel-Ballard K, Mansen KA, Engmann C. Establishing an integrated human milk banking approach to strengthen newborn care. J Perinatol. May 2017;37(5):469-474. doi:10.1038/jp.2016.198
- 49. World Health Organization (WHO). Guidelines on Optimal feeding of low birthweight infants in low-and middle-income countries. Accessed 6/10/21, https:// www.who.int/maternal\_child\_adolescent/ documents/9789241548366.pdf?ua=1
- 50. World Health Organization (WHO). Guideline: counselling of women to improve breastfeeding practices. Accessed 6/10/21, https://www.who.int/publications/i/ item/9789241550468
- 51. The Joint Commission. Preventing newborn falls and drops. Accessed 6/10/21, https://www.jointcommission.org/-/ media/tjc/newsletters/quick\_safety\_issue\_40\_2018\_newborn\_falls\_dropspdf.pdf?db=web&hash=A91597BE199080F84B-D4EA5261F3B48B
- 52. US Department of Health and Human Services, National Institutes of Health, National Institute of Child Health and Human Development. Breastfeed Your Baby to Reduce the Risk of SIDS (Videos/Handout). Accessed 6/10/21, https://safetosleep. nichd.nih.gov/resources/caregivers/breastfeeding
- 53. Bu'Lock F, Woolridge MW, Baum JD. Development of co-ordination of sucking, swallowing and breathing: ultrasound study of term and preterm infants. *Dev Med Child Neurol.* Aug 1990;32(8):669-78. doi:10.1111/j.1469-8749.1990.tb08427.x
- 54. International Baby Food Action Network (IBFAN). International Code of Marketing of Breastmilk Substitutes. Accessed 6/10/21, https://www.ibfan.org/international-code/

- 55. Center for Disease Control (CDC). Infant Formula Preparation and Storage. Accessed 6/10/21, https://www.cdc.gov/nutrition/ infantandtoddlernutrition/formula-feeding/ infant-formula-preparation-and-storage. html
- 56. World Health Organization (WHO). Safe preparation, storage and handling of powdered infant formula: guidelines. 6/10/21. https://www.who.int/publications/i/ item/9789241595414
- 57. Hauck FR, Thompson JM, Tanabe KO, Moon RY, Vennemann MM. Breastfeeding and reduced risk of sudden infant death syndrome: a meta-analysis. *Pediatrics.* Jul 2011;128(1):103-10. doi:10.1542/ peds.2010-3000
- 58. Merewood A, Bugg K, Burnham L, et al. Addressing Racial Inequities in Breastfeeding in the Southern United States. *Pediatrics*. Feb 2019;143(2)doi:10.1542/ peds.2018-1897
- 59. World Health Organization (WHO). Preterm birth. Accessed 6/10/21, https://www. who.int/en/news-room/fact-sheets/detail/ preterm-birth
- 60. Spong CY, Mercer BM, D'Alton M, Kilpatrick S, Blackwell S, Saade G. Timing of indicated late-preterm and early-term birth. *Obstet Gynecol.* Aug 2011;118(2 Pt 1):323-333. doi:10.1097/A06.0b013e3182255999
- 61. American Academy of Pediatrics (AAP). Levels of neonatal care. *Pediatrics*. Sep 2012;130(3):587–97. doi:10.1542/ peds.2012-1999



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From:	MacGowan, Carol (CDC/ONDIEH/NCCDPHP)
Sent:	Mon, 24 Oct 2016 14:32:07 +0000
To: Shealy, Katherine (CDC/ONDIEH/NCC	
Subject:	FW: Baby-Friendly question for listserv

## Did you see this?

From: CDC Breastfeeding Programs [mailto:CDC-BREASTFEEDING-PROGRAMS@LISTSERV.CDC.GOV] On Behalf Of Henderson, Zsakeba (CDC/ONDIEH/NCCDPHP) Sent: Monday, October 24, 2016 10:00 AM To: CDC-BREASTFEEDING-PROGRAMS@LISTSERV.CDC.GOV Subject: Re: Baby-Friendly question for listserv

I just wanted to chime in to add to what was said about SC. The SC Birth Outcomes Initiative is a great example of statewide networks of perinatal care providers and public health professionals working to improve pregnancy outcomes for women and newborns known as state perinatal quality collaboratives (PQCs). CDC's Division of Reproductive Healthmhas been providing support for state PQCs since 2011, is currently funding 6 states (CA, IL, MA, NC, NY, OH), and will be launching a national network of state collaboratives next month (see <a href="http://www.cdc.gov/reproductivehealth/MaternalInfantHealth/PQC.htm">http://www.cdc.gov/reproductivehealth/MaternalInfantHealth/PQC.htm</a> for more information about PQCs). Other state PQCs that are working to advance breastfeeding support in hospitals include CO, CT, MS, NE, NC, WA, WI, and WV. The goal of the new National Network of Perinatal Quality Collaboratives is to strengthen the capacity of state PQCs to improve outcomes for moms and babies. The work of PQCs is cross-cutting and is an efficient mechanism for implementing best practices in member hospitals throughout the state. A listing of PQCs across the country and their websites/contact information is available on our webpage <a href="http://www.cdc.gov/reproductivehealth/PQC-States.html">http://www.cdc.gov/reproductivehealth/PQC-States.html</a>.

### Zsakeba

Zsakeba Henderson, MD, FACOG Project Officer, State-based Perinatal Quality Collaboratives Medical Officer, Maternal and Infant Health Branch Division of Reproductive Health, NCCDPHP Centers for Disease Control and Prevention 4770 Buford Highway NE, MS F74 Atlanta, GA 30341-3724 Phone: 770-488-6003 Fax: 770-488-6283 I telework Mon-Wed, Fri 8:00am-4:30pm http://www.cdc.gov/reproductivehealth/MaternalInfantHealth/PQC.htm

From: CDC Breastfeeding Programs [mailto:CDC-BREASTFEEDING-PROGRAMS@LISTSERV.CDC.GOV] On Behalf Of Babb, Ellen B.

Sent: Friday, October 21, 2016 3:58 PM To: <u>CDC-BREASTFEEDING-PROGRAMS@LISTSERV.CDC.GOV</u> Subject: Re: Baby-Friendly question for listserv

What has really helped us in SC is that we have a statewide "Birth Outcomes Initiative" group that I believe was started by neonatologists/physicians who really believed in breastfeeding. They have a dashboard of Baby-Friendly hospitals and really encourage the designation. I estimate we have about 100-150 attendees at the monthly meetings. (Phyllis Allen from our State Office of Nutrition recently did a webinar on this.) We have great buy-in from the SC Hospital Association--who hosts/sponsors the meetings, and we have buy-in and attendees from numerous hospitals statewide. The State Health department and La Lache League. While there are some non-participants, most of the hospitals seem to be working together on this --rather than competing - for positive birth outcomes.

Ellen B. Babb, PhD, MPH, RD, LD WIC State Breastfeeding Coordinator Bureau of Maternal and Child Health/Division of WIC S.C. Dept. of Health & Environmental Control Office: (803) 898-0657 Fax: (803) 898-0383 Connect: www.scdhec.gov Facebook Twitter



From: CDC Breastfeeding Programs <<u>CDC-BREASTFEEDING-PROGRAMS@LISTSERV.CDC.GOV</u>> on behalf of Marci C. Brewer <<u>Marci.Brewer@LA.GOV</u>> Sent: Friday, October 21, 2016 1:47:48 PM To: <u>CDC-BREASTFEEDING-PROGRAMS@LISTSERV.CDC.GOV</u> Subject: Re: Baby-Friendly question for listserv

Just some additional thoughts:

This issue has come up for us here in Louisiana as well. We recently had a call with a hospital who, after "closing" their nursery, reverted back to having a nursery and renaming it the "Baby Lounge" (ugh!). They did this after other hospitals in the community used it as a marketing tool against them. Meaning-the other hospitals said "come to our facility, we have a nursery, we will take care of you, it's your choice!"

So much of this is how we market and frame to these best practices consumers (and staff).

Additionally, this particular hospital recently proposed an idea to take a community-wide approach to rooming-in (Dr. Bobbi Philip and many others have talked about/used this approach as well). They proposed having all the hospitals in their community work together to:

- ? rename the nursery to something less exciting
- ? educate families on why it's so important for them to stay together and how staff will still meet family needs, etc.
- ? share lessons learned

Approaching this in a collaborative way also help to overcome provider resistance as well (*we're all doing it!*).

Marci Brewer, MPH Breastfeeding Program Manager Bureau of Family Health | Louisiana Department of Health 1450 Poydras Street Rm 2032 | New Orleans, Louisiana 70112

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From: CDC Breastfeeding Programs [mailto:CDC-BREASTFEEDING-PROGRAMS@LISTSERV.CDC.GOV] On Behalf Of Miller - CDPHE, Stacy Sent: Friday, October 21, 2016 12:31 PM To: <u>CDC-BREASTFEEDING-PROGRAMS@LISTSERV.CDC.GOV</u> Subject: Re: Baby-Friendly question for listserv

Hi everyone,

In Colorado we have experienced this kind of push back from hospital staff and administration. Several hospitals in the metro area have begun using the terms "family friendly" as a marketing tool to essentially be anti-Baby-Friendly as well as promote their new well baby nurseries. Additionally we have some hospital groups that are very resistant to Baby-Friendly.

There are a lot of myths out there with the public as to what Baby-Friendly is and is not (like no formula is allowed in the hospital and parents have to bring in their own, no pacifiers are allowed and parents have to sneak them in, moms can never sleep or get any rest without baby, etc.) and some of these hospitals are picking up on these public myths and going along with them I believe. I feel that if the public understands more about Baby-Friendly, more moms would be

asking for this type of care. Families need to realize that Baby-Friendly is about evidence-based maternity practices that are shown to improve health outcomes and is about educating families so that they can make an informed decision about infant feeding methods but they can still choose whatever method is best and be supported in this choice.

Otherwise it is just trying to inform and educate hospital staff about what it actually means to be Baby-Friendly, that Baby-Friendly applies to healthy, full term infants and hospital protocols/policies, and the mother's and baby's safety always takes precedence, that Baby-Friendly really is just about educating (and documenting this education) families (and staff) about breastfeeding. Using the AAP and ACOG statements are definitely useful. We are hoping to create a sort of hospital administration information pamphlet that can be shared to educate and increase understanding of Baby-Friendly and the benefits of being designated to directly try and address some of these issues.

Thanks everyone for the info on the Fed is Best movement also! And for contributing! I am always interested in hearing how it is going in other states. Feel free to connect with me directly also!

Stacy

Stacy Miller, PhD, RD, CLC Breastfeeding Specialist Prevention Services Division Colorado Department of Public Health and Environment P 303.692.2406 | F 303.756.9926 4300 Cherry Creek Drive South, Denver, CO 80246-1530 stacy.miller@state.co.us | www.breastfeedcolorado.com

On Mon, Oct 17, 2016 at 7:16 AM, Brenda Bandy (b)(6) wrote: Yes, we have encountered the "Fed is Best" movement in Kansas City. The hospital's strategy where it arose was twofold: 1) provide copies of ACOG and AAP's human milk statements so physicians (who raised the topic) would know what their professional organizations viewed as best practice. 2) Had a well-regarded physician from outside the hospital speak about this at a hospital Peds and OB section meeting to address physicians' concerns directly.

This was all coordinated by the hospital lactation service manager.

Brenda Bandy, IBCLC Program Director Kansas Breastfeeding Coalition <u>www.KSBreastfeeding.org</u> 3005 Cherry Hill, Manhattan KS 66503 (b)(6) From: CDC Breastfeeding Programs [mailto:CDC-BREASTFEEDING-PROGRAMS@LISTSERV.CDC.GOV] On Behalf Of Wilson-Thompson, Virginia (Katherine) (VDH) Sent: Monday, October 17, 2016 7:54 AM To: CDC-BREASTFEEDING-PROGRAMS@LISTSERV.CDC.GOV Subject: Re: Baby-Friendly question for listserv

Not push back exactly but we had a hospital staff asking about the Fed is Best movement. Has anyone else addressed this yet? And if you have, how?

# Katherine

V Katherine Wilson-Thompson, IBCLC, RLC Public Health Lactation Specialist Virginia Department of Health Division of Community Nutrition (804)363-2893 office (888)426-2142 fax

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From: CDC Breastfeeding Programs [mailto:CDC-BREASTFEEDING-PROGRAMS@LISTSERV.CDC.GOV] On Behalf Of Kahin, Sahra A. (CDC/ONDIEH/NCCDPHP) Sent: Monday, October 17, 2016 8:37 AM To: CDC-BREASTFEEDING-PROGRAMS@LISTSERV.CDC.GOV Subject: Baby-Friendly question for listserv

Good morning everyone,

This is a question for the entire group:

Has anyone experienced push-back while promoting Baby-Friendly strategies with a hospital? Someone on the call last week said that a hospital in their area stated Baby-Friendly practices were "mother unfriendly"... I mentioned I would share on listserv, so please share your experience and the strategies you may have used to approach this type of issue.

(Just a reminder-when replying to this email, you will be prompted to confirm your message. Simply reply with an "OK" and leave the rest of the email blank- your message will be sent.)

Thanks!

Sahra A. Kahin, MA, MPH Health Scientist Program Development and Evaluation Branch Division of Nutrition, Physical Activity and Obesity Centers for Disease Control and Prevention 4770 Buford Hwy, NE MS F-77 Atlanta, GA 30341 Work: <u>770-488-4624</u> Mobile: <u>414-573-9816</u> Email: <u>skahin@cdc.gov</u>

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To unsubscribe from the CDC-BREASTFEEDING-PROGRAMS list, click the following link: http://listserv.cdc.gov/scripts/wa.exe?SUBED1=CDC-BREASTFEEDING-PROGRAMS&A=1 From:Perrine, Cria G. (CDC/ONDIEH/NCCDPHP)Sent:Fri, 4 Nov 2016 16:01:47 +0000To:Voetsch, Karen P. (CDC/ONDIEH/NCCDPHP);Black, Erin(CDC/ONDIEH/NCCDPHP)Subject:FW: Baby-Friendly question for listserv

More discussion on our BF listserv from states on pushback from Baby-Friendly

From: Kahin, Sahra A. (CDC/ONDIEH/NCCDPHP)
Sent: Friday, November 04, 2016 11:59 AM
To: Perrine, Cria G. (CDC/ONDIEH/NCCDPHP) <hgk3@cdc.gov>; Nelson, Jennifer M.
(CDC/ONDIEH/NCCDPHP) <zcn6@cdc.gov>; Grossniklaus, Daurice (CDC/ONDIEH/NCCDPHP)
<dtg3@cdc.gov>
Subject: FW: Baby-Friendly question for listserv

Hey ladies,

For the Baby-Friendly pushback question, after Brenda Bandy (Kansas) chimed in, we got some feedback from Colorado, Louisiana, South Carolina, and someone from DRH chimed in as well. See forwarded thread. Believe these were the only conversations.

Hope this helps.

-Sahra

From: CDC Breastfeeding Programs [mailto:CDC-BREASTFEEDING-PROGRAMS@LISTSERV.CDC.GOV] On Behalf Of Henderson, Zsakeba (CDC/ONDIEH/NCCDPHP) Sent: Monday, October 24, 2016 10:00 AM To: <u>CDC-BREASTFEEDING-PROGRAMS@LISTSERV.CDC.GOV</u> Subject: Re: Baby-Friendly question for listserv

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Zsakeba

Zsakeba Henderson, MD, FACOG Project Officer, State-based Perinatal Quality Collaboratives Medical Officer, Maternal and Infant Health Branch Division of Reproductive Health, NCCDPHP Centers for Disease Control and Prevention 4770 Buford Highway NE, MS F74 Atlanta, GA 30341-3724 Phone: 770-488-6003 Fax: 770-488-6283 I telework Mon-Wed, Fri 8:00am-4:30pm http://www.cdc.gov/reproductivehealth/MaternalInfantHealth/PQC.htm

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Ellen B. Babb, PhD, MPH, RD, LD WIC State Breastfeeding Coordinator Bureau of Maternal and Child Health/Division of WIC S.C. Dept. of Health & Environmental Control Office: (803) 898-0657 Fax: (803) 898-0383 Connect: www.scdhec.gov Facebook Twitter



From: CDC Breastfeeding Programs <<u>CDC-BREASTFEEDING-PROGRAMS@LISTSERV.CDC.GOV</u>> on behalf of Marci C. Brewer <<u>Marci.Brewer@LA.GOV</u>> Sent: Friday, October 21, 2016 1:47:48 PM To: <u>CDC-BREASTFEEDING-PROGRAMS@LISTSERV.CDC.GOV</u> Subject: Re: Baby-Friendly question for listserv

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Marci Brewer, MPH Breastfeeding Program Manager Bureau of Family Health | Louisiana Department of Health 1450 Poydras Street Rm 2032 | New Orleans, Louisiana 70112

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From: CDC Breastfeeding Programs [mailto:CDC-BREASTFEEDING-PROGRAMS@LISTSERV.CDC.GOV] On Behalf Of Miller - CDPHE, Stacy Sent: Friday, October 21, 2016 12:31 PM To: <u>CDC-BREASTFEEDING-PROGRAMS@LISTSERV.CDC.GOV</u> Subject: Re: Baby-Friendly question for listserv

Hi everyone,

In Colorado we have experienced this kind of push back from hospital staff and administration. Several hospitals in the metro area have begun using the terms "family friendly" as a marketing tool to essentially be anti-Baby-Friendly as well as promote their new well baby nurseries. Additionally we have some hospital groups that are very resistant to Baby-Friendly.

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Stacy

Stacy Miller, PhD, RD, CLC Breastfeeding Specialist Prevention Services Division Colorado Department of Public Health and Environment P 303.692.2406 | F 303.756.9926 4300 Cherry Creek Drive South, Denver, CO 80246-1530 stacy.miller@state.co.us | www.breastfeedcolorado.com

On Mon, Oct 17, 2016 at 7:16 AM, Brenda Bandy (b)(6) wrote:

Yes, we have encountered the "Fed is Best" movement in Kansas City. The hospital's strategy where it arose was twofold: 1) provide copies of ACOG and AAP's human milk statements so physicians (who raised the topic) would know what their professional organizations viewed as best practice. 2) Had a well-regarded physician from outside the hospital speak about this at a hospital Peds and OB section meeting to address physicians' concerns directly.

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# Brenda Bandy, IBCLC

Program Director Kansas Breastfeeding Coalition <u>www.KSBreastfeeding.org</u> <u>3005 Cherry Hill</u>, Manhattan KS 66503 (b)(6)

From: CDC Breastfeeding Programs [mailto:<u>CDC-BREASTFEEDING-</u> <u>PROGRAMS@LISTSERV.CDC.GOV</u>] **On Behalf Of** Wilson-Thompson, Virginia (Katherine) (VDH) Sent: Monday, October 17, 2016 7:54 AM **To:** <u>CDC-BREASTFEEDING-PROGRAMS@LISTSERV.CDC.GOV</u> Subject: Re: Baby-Friendly question for listserv

Not push back exactly but we had a hospital staff asking about the Fed is Best movement. Has anyone else addressed this yet? And if you have, how?

# Katherine

V Katherine Wilson-Thompson, IBCLC, RLC Public Health Lactation Specialist Virginia Department of Health Division of Community Nutrition (804)363-2893 office (888)426-2142 fax

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From: CDC Breastfeeding Programs [mailto:CDC-BREASTFEEDING-PROGRAMS@LISTSERV.CDC.GOV] On Behalf Of Kahin, Sahra A. (CDC/ONDIEH/NCCDPHP) Sent: Monday, October 17, 2016 8:37 AM To: CDC-BREASTFEEDING-PROGRAMS@LISTSERV.CDC.GOV Subject: Baby-Friendly question for listserv

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Thanks!

Sahra A. Kahin, MA, MPH Health Scientist Program Development and Evaluation Branch Division of Nutrition, Physical Activity and Obesity Centers for Disease Control and Prevention 4770 Buford Hwy, NE MS F-77 Atlanta, GA 30341 Work: <u>770-488-4624</u> Mobile: <u>414-573-9816</u> Email: <u>skahin@cdc.gov</u>

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To unsubscribe from the CDC-BREASTFEEDING-PROGRAMS list, click the following link: http://listserv.cdc.gov/scripts/wa.exe?SUBED1=CDC-BREASTFEEDING-PROGRAMS&A=1 From:Perrine, Cria G. (CDC/ONDIEH/NCCDPHP)Sent:Fri, 4 Nov 2016 11:39:33 -0400To:Voetsch, Karen P. (CDC/ONDIEH/NCCDPHP);Nelson, Jennifer M.(CDC/ONDIEH/NCCDPHP)Subject:FW: Baby-Friendly question for listserv

From: Kahin, Sahra A. (CDC/ONDIEH/NCCDPHP)
Sent: Friday, November 04, 2016 11:38 AM
To: Perrine, Cria G. (CDC/ONDIEH/NCCDPHP) <hgk3@cdc.gov>
Subject: FW: Baby-Friendly question for listserv

Here you go! I believe there was continued conversation on this topic on listserv- let me know if you'd like me to send you further conversations. -Sahra

From: Kahin, Sahra A. (CDC/ONDIEH/NCCDPHP)
Sent: Monday, October 17, 2016 9:36 AM
To: MacGowan, Carol (CDC/ONDIEH/NCCDPHP) <<u>dvx2@cdc.gov</u>>; Perrine, Cria G.
(CDC/ONDIEH/NCCDPHP) <<u>hgk3@cdc.gov</u>>; Grossniklaus, Daurice (CDC/ONDIEH/NCCDPHP)
<<u>dtg3@cdc.gov</u>>; Nelson, Jennifer M. (CDC/ONDIEH/NCCDPHP) <<u>zcn6@cdc.gov</u>>
Subject: RE: Baby-Friendly question for listserv

Yes, and Brenda chimed in on topic as well this morning:

Yes, we have encountered the "Fed is Best" movement in Kansas City. The hospital's strategy where it arose was twofold: 1) provide copies of ACOG and AAP's human milk statements so physicians (who raised the topic) would know what their professional organizations viewed as best practice. 2) Had a well-regarded physician from outside the hospital speak about this at a hospital Peds and OB section meeting to address physicians' concerns directly.

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Sent: Monday, October 17, 2016 9:21 AM
To: Perrine, Cria G. (CDC/ONDIEH/NCCDPHP) <<u>hgk3@cdc.gov</u>>; Grossniklaus, Daurice
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<<u>zcn6@cdc.gov</u>>
Cc: Kahin, Sahra A. (CDC/ONDIEH/NCCDPHP) <<u>xfz9@cdc.gov</u>>
Subject: FW: Baby-Friendly question for listserv

Okay, so this is coming up now – as you feared, Cria	(b)(5)	
(b)(5)		

From: CDC Breastfeeding Programs [mailto:CDC-BREASTFEEDING-PROGRAMS@LISTSERV.CDC.GOV] On Behalf Of Wilson-Thompson, Virginia (Katherine) (VDH) Sent: Monday, October 17, 2016 8:54 AM To: <u>CDC-BREASTFEEDING-PROGRAMS@LISTSERV.CDC.GOV</u> Subject: Re: Baby-Friendly question for listserv

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From:	Kahin, Sahra A. (CDC/ONDIEH/NCCDPHP)
Sent:	Fri, 4 Nov 2016 11:59:11 -0400
То:	Perrine, Cria G. (CDC/ONDIEH/NCCDPHP);Nelson, Jennifer M.
(CDC/ONDIEH/N	ICCDPHP);Grossniklaus, Daurice (CDC/ONDIEH/NCCDPHP)
Subject:	FW: Baby-Friendly question for listserv

#### Hey ladies,

For the Baby-Friendly pushback question, after Brenda Bandy (Kansas) chimed in, we got some feedback from Colorado, Louisiana, South Carolina, and someone from DRH chimed in as well. See forwarded thread. Believe these were the only conversations.

Hope this helps.

-Sahra

From: CDC Breastfeeding Programs [mailto:CDC-BREASTFEEDING-PROGRAMS@LISTSERV.CDC.GOV] On Behalf Of Henderson, Zsakeba (CDC/ONDIEH/NCCDPHP) Sent: Monday, October 24, 2016 10:00 AM To: CDC-BREASTFEEDING-PROGRAMS@LISTSERV.CDC.GOV Subject: Re: Baby-Friendly question for listserv

I just wanted to chime in to add to what was said about SC. The SC Birth Outcomes Initiative is a great example of statewide networks of perinatal care providers and public health professionals working to improve pregnancy outcomes for women and newborns known as state perinatal quality collaboratives (PQCs). CDC's Division of Reproductive Healthmhas been providing support for state PQCs since 2011, is currently funding 6 states (CA, IL, MA, NC, NY, OH), and will be launching a national network of state collaboratives next month (see <u>http://www.cdc.gov/reproductivehealth/MaternalInfantHealth/PQC.htm</u> for more information about PQCs). Other state PQCs that are working to advance breastfeeding support in hospitals include CO, CT, MS, NE, NC, WA, WI, and WV. The goal of the new National Network of Perinatal Quality Collaboratives is to strengthen the capacity of state PQCs to improve outcomes for moms and babies. The work of PQCs is cross-cutting and is an efficient mechanism for implementing best practices in member hospitals throughout the state. A listing of PQCs across the country and their websites/contact information is available on our webpage

http://www.cdc.gov/reproductivehealth/MaternalInfantHealth/PQC-States.html.

#### Zsakeba

Zsakeba Henderson, MD, FACOG Project Officer, State-based Perinatal Quality Collaboratives Medical Officer, Maternal and Infant Health Branch Division of Reproductive Health, NCCDPHP Centers for Disease Control and Prevention 4770 Buford Highway NE, MS F74 Atlanta, GA 30341-3724 Phone: 770-488-6003 Fax: 770-488-6283 I telework Mon-Wed, Fri 8:00am-4:30pm http://www.cdc.gov/reproductivehealth/MaternalInfantHealth/PQC.htm

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From: CDC Breastfeeding Programs [mailto:CDC-BREASTFEEDING-PROGRAMS@LISTSERV.CDC.GOV] On Behalf Of Babb, Ellen B. Sent: Friday, October 21, 2016 3:58 PM To: <u>CDC-BREASTFEEDING-PROGRAMS@LISTSERV.CDC.GOV</u> Subject: Re: Baby-Friendly question for listserv

What has really helped us in SC is that we have a statewide "Birth Outcomes Initiative" group that I believe was started by neonatologists/physicians who really believed in breastfeeding. They have a dashboard of Baby-Friendly hospitals and really encourage the designation. I estimate we have about 100-150 attendees at the monthly meetings. (Phyllis Allen from our State Office of Nutrition recently did a webinar on this.) We have great buy-in from the SC Hospital Association--who hosts/sponsors the meetings, and we have buy-in and attendees from numerous hospitals statewide. The State Health department and La Lache League. While there are some non-participants, most of the hospitals seem to be working together on this --rather than competing - for positive birth outcomes.

Ellen B. Babb, PhD, MPH, RD, LD WIC State Breastfeeding Coordinator Bureau of Maternal and Child Health/Division of WIC S.C. Dept. of Health & Environmental Control Office: (803) 898-0657 Fax: (803) 898-0383 Connect: www.scdhec.gov Facebook Twitter



From: CDC Breastfeeding Programs <<u>CDC-BREASTFEEDING-PROGRAMS@LISTSERV.CDC.GOV</u>> on behalf of Marci C. Brewer <<u>Marci.Brewer@LA.GOV</u>> Sent: Friday, October 21, 2016 1:47:48 PM To: <u>CDC-BREASTFEEDING-PROGRAMS@LISTSERV.CDC.GOV</u> Subject: Re: Baby-Friendly question for listserv

Just some additional thoughts:

This issue has come up for us here in Louisiana as well. We recently had a call with a hospital who, after "closing" their nursery, reverted back to having a nursery and renaming it the "Baby Lounge" (ugh!). They did this after other hospitals in the community used it as a marketing tool against them. Meaning the other hospitals said "come to our facility, we have a nursery, we will take care of you, it's your choice!"

So much of this is how we market and frame to these best practices consumers (and staff).

Additionally, this particular hospital recently proposed an idea to take a community-wide approach to rooming-in (Dr. Bobbi Philip and many others have talked about/used this approach as well). They proposed having all the hospitals in their community work together to:

? rename the nursery to something less exciting

? educate families on why it's so important for them to stay together and how staff will still meet family needs, etc.

? share lessons learned

Approaching this in a collaborative way also help to overcome provider resistance as well (*we're all doing it!*).

--Marci Brewer, MPH Breastfeeding Program Manager Bureau of Family Health | Louisiana Department of Health 1450 Poydras Street Rm 2032 | New Orleans, Louisiana 70112

Cell: 410 925-9834 Main: 504 568-3504 Fax: 504 568-3503



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From: CDC Breastfeeding Programs [mailto:CDC-BREASTFEEDING-PROGRAMS@LISTSERV.CDC.GOV] On Behalf Of Miller - CDPHE, Stacy Sent: Friday, October 21, 2016 12:31 PM To: <u>CDC-BREASTFEEDING-PROGRAMS@LISTSERV.CDC.GOV</u> Subject: Re: Baby-Friendly question for listserv

Hi everyone,

In Colorado we have experienced this kind of push back from hospital staff and administration. Several hospitals in the metro area have begun using the terms "family friendly" as a marketing

tool to essentially be anti-Baby-Friendly as well as promote their new well baby nurseries. Additionally we have some hospital groups that are very resistant to Baby-Friendly.

There are a lot of myths out there with the public as to what Baby-Friendly is and is not (like no formula is allowed in the hospital and parents have to bring in their own, no pacifiers are allowed and parents have to sneak them in, moms can never sleep or get any rest without baby, etc.) and some of these hospitals are picking up on these public myths and going along with them I believe. I feel that if the public understands more about Baby-Friendly, more moms would be asking for this type of care. Families need to realize that Baby-Friendly is about evidence-based maternity practices that are shown to improve health outcomes and is about educating families so that they can make an informed decision about infant feeding methods but they can still choose whatever method is best and be supported in this choice.

Otherwise it is just trying to inform and educate hospital staff about what it actually means to be Baby-Friendly, that Baby-Friendly applies to healthy, full term infants and hospital protocols/policies, and the mother's and baby's safety always takes precedence, that Baby-Friendly really is just about educating (and documenting this education) families (and staff) about breastfeeding. Using the AAP and ACOG statements are definitely useful. We are hoping to create a sort of hospital administration information pamphlet that can be shared to educate and increase understanding of Baby-Friendly and the benefits of being designated to directly try and address some of these issues.

Thanks everyone for the info on the Fed is Best movement also! And for contributing! I am always interested in hearing how it is going in other states. Feel free to connect with me directly also! Stacy

Stac

Stacy Miller, PhD, RD, CLC Breastfeeding Specialist Prevention Services Division Colorado Department of Public Health and Environment P 303.692.2406 | F 303.756.9926 4300 Cherry Creek Drive South, Denver, CO 80246-1530 Stacy.miller@state.co.us | www.breastfeedcolorado.com

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To unsubscribe from the CDC-BREASTFEEDING-PROGRAMS list, click the following link: http://listserv.cdc.gov/scripts/wa.exe?SUBED1=CDC-BREASTFEEDING-PROGRAMS&A=1 From:Perrine, Cria G. (CDC/ONDIEH/NCCDPHP)Sent:Thu, 19 Jul 2018 20:29:12 +0000To:Anstey, Erica Hesch (CDC/DDNID/NCCDPHP) (CTR);Barrera, Chloe M.(CDC/ONDIEH/NCCDPHP);Beauregard, Jennifer (CDC/DDNID/NCCDPHP);Grossniklaus, Daurice(CDC/DDNID/NCCDPHP);Hamner, Heather (CDC/DDNID/NCCDPHP);Li, Ruowei (Rosie)(CDC/DDNID/NCCDPHP);Nelson, Jennifer M. (CDC/DDNID/NCCDPHP)Subject:FW: Baby-Friendly USA

Hi team, sharing a statement from BFUSA.

From: Trish MacEnroe (b)(6) Sent: Thursday, July 19, 2018 4:21 PM To: Perrine, Cria G. (CDC/ONDIEH/NCCDPHP) <hgk3@cdc.gov> Subject: Baby-Friendly USA

Hi Cria,

Below is a statement we issued today.

https://www.babyfriendlyusa.org/newsviews-pages/statement-from-trish-macenroe-july-2018

# **Baby-Friendly USA**

Restoring Breastfeeding as a Viable Choice for 1 Million Babies and Moms

Trish MacEnroe, Executive Director, Baby-Friendly USA

July 2018



It's great to have breastfeeding in the news. The mere

fact that we are discussing the importance and challenges of this critical public health issue is encouraging, even if the attention is not always positive.

The most intriguing thing to me in the recent discourse is the erroneous assertion among some that breastfeeding supporters seek to limit a mother's choice of how to feed her newborn. In fact, after years of commercial interests pulling us in the opposite direction, we have made great strides to restore breastfeeding as a viable option for new mothers.

Mass-production of infant formulas beginning just a few decades ago, combined with aggressive marketing to convince the public that formula was the optimal infant feeding method for the modern mom, resulted in nearly an entire generation being persuaded not to breastfeed in favor of formula. This aggressive marketing also influenced care practices in maternity wards across the country where it was common to take newborns away from their mothers immediately after birth, formula feed them in the nursery for much of the hospital stay, and send the mom home with a free gift bag of formula and related goods.

The decision of how to feed her newborn was literally taken out of the mother's hands. She essentially had no choice as breastfeeding was often not presented or considered as an option for mothers. Even if a woman insisted on breastfeeding, the care practices in place at the time often interfered with it. Hospital maternity wards unwittingly served as marketing channels for the increasingly influential infant formula companies. As irrefutable scientific evidence mounted that breastfeeding has many significant health benefits for mothers and babies, decisive action was necessary to push back this alarming trend.

The World Health Organization (WHO) and the United Nations Children's Fund (UNICEF) launched the Baby-Friendly Hospital Initiative (BFHI) in 1991 to remove commercial influence (e.g., free formula or promotional packages) from the birth facility and optimize mother-baby bonding and support through practices such as "skin-to-skin" (baby is placed on mother's chest immediately after birth), "rooming-in" (mothers and infants sharing a hospital room), and training staff and new parents about breastfeeding benefits and best practices in service of informed decisions.

Earlier this month, the BFHI achieved an important and amazing milestone when Baby-Friendly USA (BFUSA) announced that more than one million babies are now born each year in Baby-Friendly designated facilities in the US. That's more than the total number of babies born each year in many other major countries – including Argentina, Australia, Germany, Italy, France, and Saudi Arabia.

I am thrilled that we as a nation have achieved this important milestone. In an industry that is typically slow to shift its deeply-embedded practices, we have seen massive change in a few short years. Baby-Friendly practices are now standard care in maternity wards across the country, even for many facilities that are not officially designated as Baby-Friendly institutions.

I'm proud that the BFHI and BFUSA have played pivotal roles in making that happen. But mostly, I'm happy for the more than one million mothers and babies each year whose precious first days together will occur in environments that uphold the highest standards of infant feeding care. Commercial interests are now banned from most maternity settings and breastfeeding is once again a viable option for new moms. Even our most ardent critics must recognize and celebrate this major accomplishment.

At the same time, I recognize that we have room for improvement and would like to use this milestone as a moment for some reflection. We have tried to be clear that our guidelines support all feeding methods, that we understand each situation and parent-infant relationship is unique, and that we respect every mother's individual informed decision of how she wants to feed her baby. We must strive even more to reinforce this more inclusive message and ensure that families feel supported, not pressured by the very systems and providers who are there to assist and champion their success.

In that spirit, I would like to underscore several key principles behind Baby-Friendly practices which should continue to guide us as we push ahead to the next milestones in our journey.

# Safety First

Baby-Friendly protocols are designed to support individualized care and appropriate clinical decision-making, not inflexibility or rigid adherence at all cost. Healthcare professionals are responsible for making clinical judgments on a case-by-case basis about when supplementation or other deviation from Baby-Friendly protocol is appropriate.

Individualized care requires health professionals to recognize conditions that merit further assessment and close follow-up with the mother, infant, or both. Ideally most situations are resolved through increased lactation support. This also includes situations in which the baby would benefit from – or critically needs – supplementation, which might be temporary and serve as a bridge back to breastfeeding or, in some cases, result in continued supplementation. This is a delicate matter and practitioners must carefully weigh the risks and benefits of this decision. Our guidelines call for this kind of judgment by clearly stating that "additional individualized assistance should be provided to high risk and special needs mothers and infants and to mothers who have breastfeeding problems."

# **Respect Mother's Informed Decision**

While the BFHI certainly emphasizes the health benefits of breastfeeding, Baby-Friendly guidelines support all feeding methods and our practices respect the mother's right to decide how to feed her baby.

We understand that exclusive breastfeeding is not the right decision in some circumstances and that some mothers will decide to formula feed their infant or need to supplement even if their plan is to breastfeed. A nurse or lactation consultant should engage in a collaborative discussion with every family about their individual circumstances and preferences for infant feeding. We recognize these conversations can be very delicate as some mothers will respond positively to additional encouragement and support while others will not. The BFHI strives to support each mother in fully understanding her options and weighing the pros and cons of each method. Ultimately, the mother's informed decision should be fully respected.

# **Supporting Mothers Through Caring Conversations**

Baby-Friendly practices are designed to help families understand their options and achieve their infant feeding goals, regardless of their selected feeding method. Every new life is precious and no mother should be made to feel guilt or shame for her infant feeding decisions.

In implementing BFHI guidelines, we all need to be acutely aware that our enthusiasm for breastfeeding along with our ethical responsibilities to inform mothers of the evidence, can send overt or subtle negative or judgmental messages to families who decide to formula feed their baby. It is the responsibility of every Baby-Friendly practitioner and facility to engage in educational, helpful, supportive, caring, and non-judgmental conversations with all families.

# What's Next

Just as expecting parents have a lot to think about as their big day approaches, we at BFUSA and everyone else in the breastfeeding community have a lot to think about as we now work toward new milestones. We should celebrate the fact that, for moms across the United States, the decision of how to feed their child is now entirely their own to make. Yet I know our work is not done. We all have much to do every day to continue optimizing our support for all families in one of the most precious times of their lives.

» Back to top

Sent from my iPhone

From:	Perrine, Cria G. (CDC/ONDIEH/NCCDPHP)
Sent:	Fri, 28 Apr 2017 15:34:53 -0400
То:	Nelson, Jennifer M. (CDC/ONDIEH/NCCDPHP)
Subject:	FW: BF brief
Attachments:	Baby Friendly Hospital Initiative v4.docx

From: Gunn, Janelle P. (CDC/ONDIEH/NCCDPHP)
Sent: Friday, April 28, 2017 3:30 PM
To: Perrine, Cria G. (CDC/ONDIEH/NCCDPHP) <hgk3@cdc.gov>; Galuska, Deborah A.
(CDC/ONDIEH/NCCDPHP) <dbg6@cdc.gov>; Petersen, Ruth (CDC/ONDIEH/NCCDPHP) <rip0@cdc.gov>
Cc: MacGowan, Carol (CDC/ONDIEH/NCCDPHP) <dvx2@cdc.gov>; DNPAO/Health Policy Team (CDC)
<DNPAOPolicy@cdc.gov>
Subject: BF brief

Hi – I heard from the Center that "Dr. Bauer and Dr. Schuchat spoke yesterday and we have been given the green light to finish processing the Bass and Gottheimer responses. We no longer need to prepare a written brief for Dr. Schuchat. A draft of the final Bass letter is attached for your reference." ... I am sending you the final version Deb, Cria and I agreed upon for your records... and because this will likely come up again.

Janelle Peralez Gunn Associate Director for Policy, Partnerships and Communications Division of Nutrition, Physical Activity and Obesity Centers for Disease Control and Prevention P: 770-488-8231, M: 404-429-3633 E: bfy2@cdc.gov Page 0806

Page 0807

From:	Grossniklaus, Daurice (CDC/ONDIEH/NCCDPHP)
Sent:	Thu, 15 Dec 2016 17:43:20 +0000
То:	Nelson, Jennifer M. (CDC/ONDIEH/NCCDPHP)
Subject:	FW: BFHI and website

Jennifer,

I apologize that I should have copied you on this. I will follow the plan for the phase 1 webpage we discussed on phone. In mid-January we will pick up on phase 2. Let me know if you have questions or concerns. Thank you,

Daurice

From: Grossniklaus, Daurice (CDC/ONDIEH/NCCDPHP)
Sent: Thursday, December 15, 2016 12:21 PM
To: Anstey, Erica Hesch (CDC/ONDIEH/NCCDPHP) (CTR) <yhm7@cdc.gov>; Borda, Ashley
(CDC/ONDIEH/NCCDPHP) (CTR) <wrg5@cdc.gov>
Cc: MacGowan, Carol (CDC/ONDIEH/NCCDPHP) <dvx2@cdc.gov>
Subject: RE: BFHI and website

All,

I was just on a call with the nutrition branch leadership and the policy and communication folks. The timeline for the safety in maternity care webpage is not as urgent but needs to move forward in a timely manner. The goal is to get the webpage up by mid-January. Since Erica will be out of the office over the holidays, I will submit the content for the webpage into clearance, and I will follow it through the process. Rather than asking Curtis to do re-work, I think we should hold off on any further changes on the web dev server until we have a better sense of what will make it through clearance.

I agree that we can wait until mid-January to discuss phase 2 as my understanding is that the phase 2 content will be more focused on (b)(5)

Please keep in mind that Kat will be in the EOC starting January 9<sup>th</sup>. Please be sensitive of her time prior to her departure as she may have time-sensitive work she needs to wrap up.

Please let me know if you have questions or concerns.

Thank you,

Daurice

From: Anstey, Erica Hesch (CDC/ONDIEH/NCCDPHP) (CTR) Sent: Thursday, December 15, 2016 11:54 AM To: Borda, Ashley (CDC/ONDIEH/NCCDPHP) (CTR) <<u>WRG5@cdc.gov</u>> Cc: Grossniklaus, Daurice (CDC/ONDIEH/NCCDPHP) <<u>dtg3@cdc.gov</u>> Subject: FW: BFHI and website Ashley,

I just wanted to let you know that I chatted with Daurice about this yesterday. We will have a few changes to the Dev site (b)(5) Once I get confirmation from Daurice, I'll email you and Curtis about changes needed. We will need to submit this through a formal clearance process, but I think it will be quick since we already have Rafa's approval. Providing a link to the Dev site will help as well. If you are off on holiday, can I work with Curtis and just Cc you so I can move this into eClearance? Does Kristen or anyone else from the Comm team need to see it as well or will they be looped in somehow during eClearance? I just want to make sure I understand the process.

Mid-January (when you are back from (b)(6). I would like to schedule time to work on Phase 2 of these pages. We can discuss the level of urgency and where to fit this into our overall web redesign timeline. We should schedule a meeting with Daurice, Jennifer, Chloe and probably Kat as well. We need to identify who is best to write this content and how to develop the content in this section so that it

- Is easy to access by the user
- Organized appropriately by topic area
- Reflects CDC's alignment with other partner agencies/organizations

Thanks, Erica

From: Black, Erin (CDC/ONDIEH/NCCDPHP) Sent: Monday, December 12, 2016 2:36 PM To: Voetsch, Karen P. (CDC/ONDIEH/NCCDPHP) <<u>kmp9@cdc.gov</u>> Cc: Anstey, Erica Hesch (CDC/ONDIEH/NCCDPHP) (CTR) <<u>yhm7@cdc.gov</u>>; Torres, Monica (CDC/ONDIEH/NCCDPHP) <<u>enz2@cdc.gov</u>>; Black, Erin (CDC/ONDIEH/NCCDPHP) <<u>epm7@cdc.gov</u>>; Borda, Ashley (CDC/ONDIEH/NCCDPHP) (CTR) <<u>WRG5@cdc.gov</u>> Subject: RE: BFHI and website

We had a call this afternoon to discuss the website. Erica proposed for Phase 1 to add the following links to the CDC BF website under the 'guidelines and recommendations' section in a new section called (b)(5) Ashley is out (b)(6) coday, but hopefully she'll feel better tomorrow and can work with Curtis to create a mock up for you and Deb to review and then hopefully it can go live shortly.

(b)(5)

Phase 2 will include more CDC description/content and links to the following (and possibly others we are able to identify as being useful)

(b)(5)

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Sent: Monday, December 05, 2016 2:23 PM
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Cc: Anstey, Erica Hesch (CDC/ONDIEH/NCCDPHP) (CTR) <<u>yhm7@cdc.gov</u>>; Torres, Monica
(CDC/ONDIEH/NCCDPHP) <<u>enz2@cdc.gov</u>>
Subject: RE: BFHI and website

Hi all,

If we could include some links related to what has already been published in the short term (i.e. by the end of the month) that would be ideal (b)(5) (b)(5) Daurice may have some other ideas.

I don't know if it's urgency...more that we have asked Baby Friendly USA to be a little bit more out front on this issue and we want to ensure that we have something on our website as well.

Hope that makes sense.

Thanks.

Karen

From: Black, Erin (CDC/ONDIEH/NCCDPHP) <<u>epm7@cdc.gov</u>> Date: December 5, 2016 at 10:18:14 AM EST To: Borda, Ashley (CDC/ONDIEH/NCCDPHP) (CTR) <<u>WRG5@cdc.gov</u>>, Voetsch, Karen P. (CDC/ONDIEH/NCCDPHP) <<u>kmp9@cdc.gov</u>> Cc: Torres, Monica (CDC/ONDIEH/NCCDPHP) <<u>enz2@cdc.gov</u>>, Anstey, Erica Hesch (CDC/ONDIEH/NCCDPHP) (CTR) <<u>yhm7@cdc.gov</u>> Subject: RE: BFHI and website

Karen can answer.

From: Borda, Ashley (CDC/ONDIEH/NCCDPHP) (CTR) Sent: Monday, December 05, 2016 10:17 AM To: Black, Erin (CDC/ONDIEH/NCCDPHP) <<u>epm7@cdc.gov</u>>; Torres, Monica

## (CDC/ONDIEH/NCCDPHP) <<u>enz2@cdc.gov</u>> Cc: Anstey, Erica Hesch (CDC/ONDIEH/NCCDPHP) (CTR) <<u>yhm7@cdc.gov</u>>; Voetsch, Karen P. (CDC/ONDIEH/NCCDPHP) <<u>kmp9@cdc.gov</u>> Subject: RE: BFHI and website

Erin,

Do you know what the level of urgency is for this request? It is built into our overarching web plan, but we are not at that section yet.

### Ashley

From: Borda, Ashley (CDC/ONDIEH/NCCDPHP) (CTR) Sent: Monday, December 05, 2016 9:01 AM To: Black, Erin (CDC/ONDIEH/NCCDPHP) <<u>epm7@cdc.gov</u>>; Torres, Monica (CDC/ONDIEH/NCCDPHP) <<u>enz2@cdc.gov</u>> Subject: RE: BFHI and website

Hi Erin and Monica,

Can you give me some time to pull together what Erica and I have discussed re: BFHI/safety and website updates?

We have been working on this for some time and it would help set up the conversation w/Daurice and Jennifer. That way we can ask them for gaps/specifics to get the pages done.

Thanks! Ashley

From: Black, Erin (CDC/ONDIEH/NCCDPHP) Sent: Monday, December 05, 2016 8:00 AM To: Torres, Monica (CDC/ONDIEH/NCCDPHP) <<u>enz2@cdc.gov</u>> Cc: Borda, Ashley (CDC/ONDIEH/NCCDPHP) (CTR) <<u>WRG5@cdc.gov</u>> Subject: Fw: BFHI and website

Can you set up a meeting with you, me, Ashley, Daurice and Jennifer Nelson to discuss. Thanks

From: Voetsch, Karen P. (CDC/ONDIEH/NCCDPHP) <<u>kmp9@cdc.gov</u>>
Sent: Monday, December 5, 2016 6:59 AM
To: Black, Erin (CDC/ONDIEH/NCCDPHP)
Cc: Torres, Monica (CDC/ONDIEH/NCCDPHP); Borda, Ashley (CDC/ONDIEH/NCCDPHP) (CTR)
Subject: BFHI and website

Hi Erin,

During the last meeting that we had on the BFHI and safety, we thought it would be a good idea to update our website with some language and links to some of the new documents that have been developed (b)(5)

(b)(5) Can you work with Ashley and Monica on this? This may entail connecting with Daurice and/or Jennifer Nelson.

Let me know if you have any questions.

Thanks.

Karen

From:	MacGowan, Carol (CDC/ONDIEH/NCCDPHP)
Sent:	Tue, 17 Jan 2017 21:26:31 +0000
То:	Murphy, Paulette (CDC/ONDIEH/NCCDPHP)
Subject:	FW: BFHI and website

For some reading, should you have some time (especially the last 3 emails). Just interesting – we were talking about this, this morning.

From: Anstey, Erica Hesch (CDC/ONDIEH/NCCDPHP) (CTR) Sent: Tuesday, January 17, 2017 12:00 PM To: Grossniklaus, Daurice (CDC/ONDIEH/NCCDPHP) <dtg3@cdc.gov> Cc: MacGowan, Carol (CDC/ONDIEH/NCCDPHP) <dvx2@cdc.gov> Subject: RE: BFHI and website

Thanks Daurice,

I don't doubt the leadership's expertise or judgement on this issue and I'm certain I did not suggest or imply otherwise. I also do not think we need to (b)(5)

(b)(5)

Respectfully, Erica

From: Grossniklaus, Daurice (CDC/ONDIEH/NCCDPHP)
Sent: Tuesday, January 17, 2017 7:25 AM
To: Anstey, Erica Hesch (CDC/ONDIEH/NCCDPHP) (CTR) <<u>yhm7@cdc.gov</u>>; Borda, Ashley
(CDC/ONDIEH/NCCDPHP) (CTR) <<u>WRG5@cdc.gov</u>>
Cc: MacGowan, Carol (CDC/ONDIEH/NCCDPHP) <<u>dvx2@cdc.gov</u>>
Subject: RE: BFHI and website

Erica,

Thank you for sharing your thoughts on this issue. By putting it into clearance, we are allowing the clearance chain to make the decision. They have been involved in addressing this issue between Divisions, higher up in the CDC system, and with leadership in other federal agencies and external partners. I believe the Branch and Division leadership has a more comprehensive understanding of the issues than I do.

In my role as the SME on maternity care pract	ices, I am not	(b)(5)

If you have concerns and would like to discuss further with Carol, please follow up. I certainly believe that the Leadership will use their best judgement and make the determination, (b)(5)

(b)(5) It is not my decision.

Thanks again for sharing your concerns and thoughts.

Daurice

From: Anstey, Erica Hesch (CDC/ONDIEH/NCCDPHP) (CTR)
Sent: Monday, January 16, 2017 5:00 PM
To: Grossniklaus, Daurice (CDC/ONDIEH/NCCDPHP) <<u>dtg3@cdc.gov</u>>; Borda, Ashley
(CDC/ONDIEH/NCCDPHP) (CTR) <<u>WRG5@cdc.gov</u>>
Cc: MacGowan, Carol (CDC/ONDIEH/NCCDPHP) <<u>dvx2@cdc.gov</u>>
Subject: RE: BFHI and website

Hi Daurice,

Thanks for sending this along. I believe we briefly discussed the (b)(5) reference before, but I am not sure I was able to clearly articulate my thoughts about it. I'm going to try again here. The proposed

(b)(5)

(b)(5)

My 2 cents. I hope this makes more sense. Please let me know if you want to discuss this further. Thank you for helping to shepherd this through Clearance while Ashley was out. I'm glad we will be posting materials on (b)(5) on our site soon as it's such an important topic. Best,

Erica

From: Grossniklaus, Daurice (CDC/ONDIEH/NCCDPHP)
Sent: Wednesday, January 11, 2017 11:38 AM
To: Borda, Ashley (CDC/ONDIEH/NCCDPHP) (CTR) <<u>WRG5@cdc.gov</u>>; Anstey, Erica Hesch
(CDC/ONDIEH/NCCDPHP) (CTR) <<u>yhm7@cdc.gov</u>>
Subject: RE: BFHI and website

The document is currently in Rafa's box. Attached is the version that Heather approved. As you know, there may be revisions required before final approval. Please let me know if you have additional questions. Thank you, Daurice

From: Borda, Ashley (CDC/ONDIEH/NCCDPHP) (CTR) Sent: Wednesday, January 11, 2017 11:07 AM To: Grossniklaus, Daurice (CDC/ONDIEH/NCCDPHP) < dtg3@cdc.gov>; Anstey, Erica Hesch (CDC/ONDIEH/NCCDPHP) (CTR) < yhm7@cdc.gov> Subject: RE: BFHI and website

Hi Daurice,

I wanted to check in with you regarding the status of this.

- 1. Could you let us know who this is currently with (in eClearance)?
- 2. Could you also provide us a copy of the original submission and/or any recent comments/edits from reviewers so that we may track it for website development purposes?

Many thanks! Ashley

From: Grossniklaus, Daurice (CDC/ONDIEH/NCCDPHP) Sent: Thursday, December 15, 2016 1:30 PM To: Anstey, Erica Hesch (CDC/ONDIEH/NCCDPHP) (CTR) <<u>vhm7@cdc.gov</u>>; Borda, Ashley (CDC/ONDIEH/NCCDPHP) (CTR) <<u>WRG5@cdc.gov</u>> Subject: RE: BFHI and website

Yes, I will share - keep in mind that what comes out may be markedly different than what went in.

From: Anstey, Erica Hesch (CDC/ONDIEH/NCCDPHP) (CTR)
Sent: Thursday, December 15, 2016 1:12 PM
To: Grossniklaus, Daurice (CDC/ONDIEH/NCCDPHP) < dtg3@cdc.gov
; Borda, Ashley
(CDC/ONDIEH/NCCDPHP) (CTR) < WRG5@cdc.gov
Subject: RE: BFHI and website</pre>

Thanks Daurice- Can you share the draft text wish Ashley and I before submitting to Clearance, just so we stay in the loop? Let me know if you need help. I am working over the holidays, just remotely from 12/20-12/29. I'll be least available on 12/20 and 12/29 as those are our travel days. Thanks, Erica

From: Grossniklaus, Daurice (CDC/ONDIEH/NCCDPHP) Sent: Thursday, December 15, 2016 12:41 PM To: Borda, Ashley (CDC/ONDIEH/NCCDPHP) (CTR) <<u>WRG5@cdc.gov</u>>; Anstey, Erica Hesch (CDC/ONDIEH/NCCDPHP) (CTR) <<u>yhm7@cdc.gov</u>> Subject: RE: BFHI and website Importance: High

I think our emails passed in cyberspace. Because Erica will be out over the holidays, I plan to submit the page related to (b)(5) nto clearance. Please let me know if there are problems with this. Thanks, Daurice

From: Borda, Ashley (CDC/ONDIEH/NCCDPHP) (CTR) Sent: Thursday, December 15, 2016 12:35 PM To: Anstey, Erica Hesch (CDC/ONDIEH/NCCDPHP) (CTR) <<u>yhm7@cdc.gov</u>> Cc: Grossniklaus, Daurice (CDC/ONDIEH/NCCDPHP) <<u>dtg3@cdc.gov</u>> Subject: RE: BFHI and website

Erica,

The best thing to do since this is a NEW section of the website is to have everything in its final format in a word document. Include hyperlinks, photos, etc. When it is approved, send the word doc to Curtis but attach the photos as files.

Normally, I should be the one submitting everything into eClearance for website pages. For this specific section, (b)(5) you can submit into eClearance since it is an urgent request and we know I will be out for an extended amount of time. When we approach phase 2, I will then submit and it will give Kristen the opportunity to provide input.

The second half of what you said all sounds good.

Ashley

From: Anstey, Erica Hesch (CDC/ONDIEH/NCCDPHP) (CTR)
Sent: Thursday, December 15, 2016 11:54 AM
To: Borda, Ashley (CDC/ONDIEH/NCCDPHP) (CTR) <<u>WRG5@cdc.gov</u>>
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Sent: Monday, December 5, 2016 6:59 AM
To: Black, Erin (CDC/ONDIEH/NCCDPHP)

**Cc:** Torres, Monica (CDC/ONDIEH/NCCDPHP); Borda, Ashley (CDC/ONDIEH/NCCDPHP) (CTR) **Subject:** BFHI and website

Hi Erin,

During the last meeting that we had on the BFHI and safety, we thought it would be a good idea to update our website with some language and links to some of the new documents that have been developed (b)(5)

(b)(5) Can you work with Ashley and Monica on this? This may entail connecting with Daurice and/or Jennifer Nelson.

Let me know if you have any questions.

Thanks.

Karen

From:	MacGowan, Carol (CDC/ONDIEH/NCCDPHP)
Sent:	Thu, 11 May 2017 20:01:06 +0000
To:	Flores-Ayala, Calixto Rafael (CDC/ONDIEH/NCCDPHP)
Subject:	FW: BFUSA agenda

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From: Gunn, Janelle P. (CDC/ONDIEH/NCCDPHP)
Sent: Tuesday, May 9, 2017 9:38 PM
To: Perrine, Cria G. (CDC/ONDIEH/NCCDPHP) <hgk3@cdc.gov>; Nelson, Jennifer M.
(CDC/ONDIEH/NCCDPHP) <zcn6@cdc.gov>; Grossniklaus, Daurice (CDC/ONDIEH/NCCDPHP)
<dtg3@cdc.gov>
Cc: MacGowan, Carol (CDC/ONDIEH/NCCDPHP) <dvx2@cdc.gov>; Voetsch, Karen P.
(CDC/ONDIEH/NCCDPHP) <kmp9@cdc.gov>
Subject: RE: BFUSA agenda

Thanks Cria. Maybe its under emerging issues or its own item, I think we should tackle a discussion about (b)(5)

(hoping we can start a dialog, or pick up where we left off... on (b)(5)

(b)(5)

From: Perrine, Cria G. (CDC/ONDIEH/NCCDPHP)

Sent: Tuesday, May 09, 2017 9:33 PM

**To:** Nelson, Jennifer M. (CDC/ONDIEH/NCCDPHP) <<u>zcn6@cdc.gov</u>>; Grossniklaus, Daurice (CDC/ONDIEH/NCCDPHP) <<u>dtg3@cdc.gov</u>>

Cc: MacGowan, Carol (CDC/ONDIEH/NCCDPHP) < <u>dvx2@cdc.gov</u>>; Voetsch, Karen P.

(CDC/ONDIEH/NCCDPHP) <<u>kmp9@cdc.gov</u>>; Gunn, Janelle P. (CDC/ONDIEH/NCCDPHP) <<u>bfy2@cdc.gov</u>> Subject: BFUSA agenda

Below in blue is what BFUSA proposed for our agenda. I've added some thoughts in red. Other major ideas we're missing? Also, do we have a particular "ask?"

From:	MacGowan, Carol (CDC/ONDIEH/NCCDPHP)
Sent:	Thu, 11 May 2017 20:01:31 +0000
To:	Flores-Ayala, Calixto Rafael (CDC/ONDIEH/NCCDPHP)
Subject:	FW: BFUSA agenda

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From: Grossniklaus, Daurice (CDC/ONDIEH/NCCDPHP)
Sent: Wednesday, May 10, 2017 8:17 AM
To: Nelson, Jennifer M. (CDC/ONDIEH/NCCDPHP) <zcn6@cdc.gov>; Gunn, Janelle P.
(CDC/ONDIEH/NCCDPHP) <bfy2@cdc.gov>; Perrine, Cria G. (CDC/ONDIEH/NCCDPHP) <hgk3@cdc.gov>
Cc: MacGowan, Carol (CDC/ONDIEH/NCCDPHP) <dvx2@cdc.gov>; Voetsch, Karen P.
(CDC/ONDIEH/NCCDPHP) <kmp9@cdc.gov>
Subject: RE: BFUSA agenda

Do we have any specific asks related to	(b)(5)	
	(b)(5)	0.

From: Nelson, Jennifer M. (CDC/ONDIEH/NCCDPHP)
Sent: Wednesday, May 10, 2017 7:36 AM
To: Gunn, Janelle P. (CDC/ONDIEH/NCCDPHP) <<u>bfy2@cdc.gov</u>>; Perrine, Cria G.
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(CDC/ONDIEH/NCCDPHP) <<u>kmp9@cdc.gov</u>>
Subject: RE: BFUSA agenda

l agree that (b)(5)	need to be items to discuss with Baby Friendly (either at this
meeting or in the future).	(b)(5)
(b)(5)	

From: Gunn, Janelle P. (CDC/ONDIEH/NCCDPHP)
Sent: Tuesday, May 9, 2017 9:38 PM
To: Perrine, Cria G. (CDC/ONDIEH/NCCDPHP) <<u>hgk3@cdc.gov</u>>; Nelson, Jennifer M.
(CDC/ONDIEH/NCCDPHP) <<u>zcn6@cdc.gov</u>>; Grossniklaus, Daurice (CDC/ONDIEH/NCCDPHP)
<<u>dtg3@cdc.gov</u>>
Cc: MacGowan, Carol (CDC/ONDIEH/NCCDPHP) <<u>dvx2@cdc.gov</u>>; Voetsch, Karen P.
(CDC/ONDIEH/NCCDPHP) <<u>kmp9@cdc.gov</u>>
Subject: RE: BFUSA agenda

Thanks Cria. Maybe its under emerging issues or its own item, I think we should tackle a discussion about (b)(5)

	(hoping we can start a dialog, or pick up where we left off on	(b)(5)
--	--	--------

(b)(5)

From: Perrine, Cria G. (CDC/ONDIEH/NCCDPHP) Sent: Tuesday, May 09, 2017 9:33 PM To: Nelson, Jennifer M. (CDC/ONDIEH/NCCDPHP) < <u>zcn6@cdc.gov</u>>; Grossniklaus, Daurice (CDC/ONDIEH/NCCDPHP) < dtg3@cdc.gov> Cc: MacGowan, Carol (CDC/ONDIEH/NCCDPHP) <<u>dvx2@cdc.gov</u>>; Voetsch, Karen P. (CDC/ONDIEH/NCCDPHP) < < href="https://www.kmp9@cdc.gov">kmp9@cdc.gov</cd> Subject: BFUSA agenda

Below in blue is what BFUSA proposed for our agenda. I've added some thoughts in red. Other major ideas we're missing? Also, do we have a particular "ask?"

From: Trish MacEnroe Sent: Tue, 31 Jul 2018 17:58:58 -0400 To: Nelson, Jennifer M. (CDC/ONDIEH/NCCDPHP) Subject: FW: BFUSA Expert Panel Information Attachments: 1. Expert Panel DRAFT Agenda.docx, 2. Guideline - Protecting, Promoting and Supporting Breastfeeding in F providing MNS.pdf, 3. Implementation Guidance-2018 - Protecting, Promoting and Supporting Breastfeeding in F providing MNS.pdf, 4. Implementation Guidance-2018appendix - Protecting, Promoting and Supporting Breastfeeding in F providing MNS.pdf, 5. GEC2016 v2-180716.pdf, 6. 2016 GEC-2018 WHO Criteria Comparison.xlsx, 7. a Guyatt guideline panel should not GRADE good practice statements.pdf, 7. b. Mobbs et al-2015-Acta Paediatrica.pdf, 7.c. Proposed Guidelines for SSC Should be Inclusive.pdf

Dear Jennifer,

I am very excited about our upcoming expert panel. This email includes the details for the meeting. It will be held in the **MACRON ROOM** at the

August 6 from 8:30 AM - 5:00 PM and August 7 from 8:30 AM - 2:00 PM

> Sheraton Atlanta Hotel 165 Courtland Street NE Atlanta, GA 30303

I hope you were able to successfully arrange for your transportation to the hotel. Based on your response to a prior email, here are the arrangements we have made for you. Please review them let me know ASAP, if anything is incorrect.

Last Name	Fir st Na m e	Gu est Nu m be r	Ro om 8/5 /18	Ro om 8/6 /18	Ro om 8/7 /18	Atten ding USBC 8/3- 5/20 18	Din ner 8/5 /18	Breakfa st 8/6/1 8	Lunch 8/6/ 18	Dinner 8/6/1 8	Breakfa st 8/7/1 8	Lunc h 8/7 /18	Dietary Needs
Nelson	Je nn ife r		No	No	No	No	??	??	Yes	??	??	Yes	None

I have also attached some meeting materials. Those include

1. Draft Agenda

- 2. GUIDELINE Protecting, promoting and supporting Breastfeeding in facilities providing maternity and newborn services: the revised BABY-FRIENDLY HOSPITAL INITIATIVE
- 3. IMPLEMENTATION GUIDANCE Protecting, promoting and supporting Breastfeeding in facilities providing maternity and newborn services: the revised BABY-FRIENDLY HOSPITAL INITIATIVE

- 4. Appendix Indicators for Monitoring Protecting, promoting and supporting Breastfeeding in facilities providing maternity and newborn services: the revised BABY-FRIENDLY HOSPITAL INITIATIVE
- 5. BFUSA Current GEC
- 6. 2016 GEC 2018 WHO Criteria Comparison
- 7. Several Articles of interest

I am looking forward to seeing you next week.

Trish MacEnroe Executive Director Baby-Friendly USA, Inc. 125 Wolf Rd., Suite 402 Albany, NY 12205



www.babyfriendlyusa.org



# **BFUSA EXPERT PANEL MEETING**

August 6-7, 2018 SHERATON ATLANTA HOTEL 165 Courtland Street NE Atlanta, GA 30303

For those of you who are in town on Sunday evening, we invite you to a WELCOME DINNER

SUNDAY – August 5, 2018 6:00 Welcome Dinner – VALDOSTA ROOM

AGENDA										
TIME	TIME TOPIC PRESENTER									
/londa loom	y – August 6, 2018 - MEETII	NG in MACRON Room/MEALS in VALDOS								
		(b)(5)								

Tuesday – August 7, 2018 - MEETING in MACRON Room/MEALS in VALDOSTA Room

(b)(5)

The meal menus are below.

#### Dinner Buffet - 8/5/18

House Mixed Greens Bourbon Glazed Salmon Vegetarian Lasagna Steamed Broccoli Brussel Sprouts

#### Breakfast 8/6/18

Continental Breakfast Bagels

## Lunch - Grab and Go 8/6/18 Vegetarian Wrap Tuna

Roast Turkey

## Dinner Buffet 8/6/18

House Mixed Greens Sage Marinated Seared Chicken Breast Penne Primavera Roasted Vegetable Medley Asparagus

## Breakfast 8/7/18 Continental Breakfast Bagels

Lunch - Grab and Go 8/7/18
Baby-Friendly USA.

Baby-Friendly USA, Inc. 125 Wolf Road, Suite 402 Albany, NY 12205 PHONE: 518.621.7982 FAX: 518.621.7983

Vegetarian Wrap Roast Beef and Onion Grilled Chicken



# Protecting, promoting and supporting **BREASTFEEDING IN FACILITIES** providing maternity and newborn services





# **GUIDELINE:**

# Protecting, promoting and supporting BREASTFEEDING IN FACILITIES

providing maternity and newborn services



Guideline: protecting, promoting and supporting breastfeeding in facilities providing maternity and newborn services.

#### ISBN 978-92-4-155008-6

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# **Publication history**

This guideline, *Protecting*, *promoting and supporting breastfeeding in facilities providing maternity and newborn services* is an update of, and supersedes, the Ten Steps to Successful Breastfeeding, as published in a joint statement by the World Health Organization (WHO) and the United Nations Children's Fund (UNICEF) <u>Protecting</u>, <u>promoting and supporting breastfeeding</u>: the special role of maternity services in 1989. This complements the operational guidance of the <u>Innocenti Declaration on the protection</u>, <u>promotion and support of breastfeeding</u>, published in 1990 and the <u>Innocenti Declaration 2005 on infant and young child feeding</u>, published in 2005. It also complements some of the implementation guidance of the <u>Baby-friendly Hospital Initiative</u>, published in 1991 and updated in 2009 (only inasmuch as aspects of the Ten Steps to Successful Breastfeeding remain unchanged).

In order to produce this guideline, the rigorous procedures described in the <u>WHO handbook for guideline development</u> were followed. This document presents the direct and indirect evidence, as well as the qualitative reviews that served to inform the recommendations herein. It expands the sections on dissemination as well as those on ethical and equity considerations, summarized in the most recent reviews those on these topics.

# Acknowledgements

This guideline was coordinated by the WHO Evidence and Programme Guidance Unit, Department of Nutrition for Health and Development. Dr Pura Rayco-Solon and Dr Juan Pablo Peña-Rosas oversaw the preparation of this document.

WHO acknowledges the technical guidance from the members of the WHO steering committee for this normative work (in alphabetical order): Ms Maaike Arts (UNICEF), Dr Shannon Barkley (Department of Service Delivery and Safety), Dr Bernadette Daelmans (Department of Maternal, Newborn, Child and Adolescent Health), Dr Laurence Grummer-Strawn, Dr Juan Pablo Peña-Rosas, Dr Pura Rayco-Solon (Department of Nutrition for Health and Development), Dr Özge Tuncalp (Department of Reproductive Health and Research) and Mr Gerardo Zamora (Gender, Equity and Human Rights Team). We also would like to express thanks for the technical contributions to this guideline of the following individuals (in alphabetical order): Ms Jane Badham, Ms Kelly Brown, Ms Evelyn Boy-Mena, Ms Elizabeth Centeno Tablante, Dr Lisa Rogers, Dr Nigel Rollins, Dr Yo Takemoto and Mr Gerardo Zamora.

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# Guideline<sup>1</sup>: protecting, promoting and supporting breastfeeding in facilities providing maternity and newborn services

# **Executive summary**

Breastfeeding is the cornerstone of child survival, nutrition and development and maternal health. The World Health Organization (WHO) recommends exclusive breastfeeding for the first 6 months of life, followed by continued breastfeeding with appropriate complementary foods for up to 2 years or beyond.<sup>2</sup> In 2012, the World Health Assembly Resolution 65.6 endorsed a <u>Comprehensive implementation plan on maternal, infant and young child nutrition</u>,<sup>3</sup> specifying six global nutrition targets for 2025, one of which is to increase the rate of exclusive breastfeeding in the first 6 months up to at least 50%.

In order to support women and optimize the chances of breastfeeding in line with WHO's recommendations, WHO and the United Nations Children's Fund (UNICEF) published a joint statement in 1989 on <u>Protecting</u>, promoting and supporting breastfeeding: the special role of maternity services,<sup>4</sup> which listed Ten Steps to Successful Breastfeeding. The Ten Steps were re-emphasized in the <u>Innocenti Declaration on the protection</u>, promotion and support of breastfeeding, adopted in Florence, Italy in 1990,<sup>5</sup> and the <u>Innocenti Declaration 2005 on infant and young child feeding</u>, published in 2005.<sup>6</sup> They became part of the Baby-friendly Hospital Initiative, published in 1991, and the updated version in 2009.<sup>7</sup>

The <u>Baby-friendly Hospital Initiative</u> provides guidance on the implementation, training, monitoring, assessment and re-assessment of the Ten Steps to Successful Breastfeeding and the <u>International Code of Marketing of Breastmilk Substitutes</u>,<sup>8</sup> a set of recommendations to regulate the marketing of breast-milk substitutes, feeding bottles and teats adopted by the 34th World Health Assembly (WHA) in 1981, and its <u>subsequent related WHA resolutions</u>.<sup>9</sup> The <u>Baby-friendly Hospital Initiative</u> has since been shown to positively impact breastfeeding outcomes as a whole, and with a dose-response relationship between the number of interventions the mother is exposed to and the likelihood of improved breastfeeding outcomes.

This guideline examines each of the practices in the Ten Steps to Successful Breastfeeding, in order to bring together evidence and considerations to inform practice. The scope of the guideline is limited to specific practices that could be implemented in facilities providing maternity and newborn services to protect, promote and support breastfeeding.

<sup>1</sup> This publication is a World Health Organization (WHO) guideline. A WHO guideline is any document, whatever its title, containing WHO recommendations about health interventions, whether they be clinical, public health or policy interventions. A standard guideline is produced in response to a request for guidance in relation to a change in practice, or controversy in a single clinical or policy area, and is not expected to cover the full scope of the condition or public health problem. A recommendation provides information about what policy-makers, health-care providers or patients should do. It implies a choice between different interventions that have an impact on health and that have ramifications for the use of resources. All publications containing WHO recommendations are approved by the WHO Guidelines Review Committee.

<sup>2</sup> Global strategy for infant and young child feeding. Geneva: World Health Organization; 2003 (http://apps.who.int/iris/bitstream/10665/42590/1/9241562218.pdf).

<sup>3</sup> Resolution WHA65.6. Comprehensive implementation plan on maternal, infant and young child nutrition. In: Sixty-fifth World Health Assembly, Geneva, 21–26 May 2012. Resolutions and decisions, annexes. Geneva: World Health Organization; 2012:12–13 (WHA65/2012/ REC/1; http://www.who.int/nutrition/topics/WHA65.6\_resolution\_en.pdf).

<sup>4</sup> Protecting, promoting and supporting breast-feeding: the special role of maternity services: a joint WHO/UNICEF statement. Geneva: World Health Organization; 1989 (http://apps.who.int/iris/bitstream/10665/39679/1/9241561300.pdf).

<sup>5</sup> Innocenti Declaration on the protection, promotion and support of breastfeeding. New York: United Nations Children's Fund; 1991 (http://www.who.int/about/agenda/health\_development/events/innocenti\_declaration\_1990.pdf).

<sup>6</sup> Innocenti Declaration 2005 on infant and young child feeding, 22 November 2005, Florence, Italy. Geneva: United Nations Children's Fund; 2005 (http://www.unicef.org/nutrition/files/innocenti2005m\_FINAL\_ARTWORK\_3\_MAR.pdf).

<sup>7</sup> World Health Organization, United Nations Children's Fund. Baby-friendly Hospital Initiative: revised, updated and expanded for integrated care. Geneva: World Health Organization; 2009 (<u>http://apps.who.int/iris/handle/10665/43593</u>).

<sup>8</sup> International Code of Marketing of Breast-milk Substitutes. Geneva: World Health Organization; 1981 (http://www.who.int/nutrition/publications/code\_english.pdf).

<sup>9</sup> The International Code of Marketing of Breast-milk Substitutes: frequently asked questions 2017 update. Geneva: World Health Organization; 2017 (WHO/NMH/NHD/17.1; http://apps.who.int/iris/bitstream/10665/254911/1/WHO-NMH-NHD-17.1-eng.pdf?ua=1).

This guideline does not aim to be a comprehensive guide on all potential interventions that can protect, promote and support breastfeeding. For instance, it will not discuss breastfeeding support beyond the stay at the facility providing maternity and newborn services, such as community-based practices, peer support or support for breastfeeding in the workplace. Neither will it review the articles and provisions of the <u>International Code of</u> <u>Marketing of Breast-milk Substitutes</u> and its subsequent related WHA resolutions.

This guideline complements interventions presented in the Essential newborn care course,<sup>1</sup> Kangaroo mother care: a practical guide,<sup>2</sup> Pregnancy, childbirth, postpartum and newborn care: a guide for essential practice<sup>3</sup> and the Standards for improving quality of maternal and newborn care in health facilities<sup>4</sup> and does not supersede or replace them.

An implementation guide that will encompass the recommendations included in this guideline, the <u>International</u> <u>Code of Marketing of Breast-milk Substitutes</u> and the <u>Baby-friendly Hospital Initiative</u> has been developed by WHO and UNICEF and will be published separately in Protecting, promoting and supporting breastfeeding in facilities providing maternity and newborn services: the revised Baby-friendly Hospital Initiative 2017.

## Purpose of the guideline

This guideline provides global, evidence–informed recommendations on protection, promotion and support for breastfeeding in facilities that provide maternity and newborn services, as a public health intervention, to protect, promote and support optimal breastfeeding practices, and improve nutrition, health and development outcomes.

The recommendations in this guideline are intended for a wide audience, including policy-makers, their expert advisers, and technical and programme staff at government institutions and organizations involved in the design, implementation and scaling-up of programmes for infant and young child feeding. The guideline may also be used by health-care professionals, clinicians, universities and training institutions, to disseminate information.

This guideline will affect women delivering in hospitals,<sup>5</sup> maternity facilities<sup>6</sup> or other facilities providing maternity and newborn services, and their infants. These include mother–infant pairs with term infants, as well as those with preterm, low-birth-weight or sick infants and those admitted to neonatal intensive care units. There is further guidance for low-birth-weight infants from the WHO <u>Guidelines on optimal feeding of low birth-weight</u> *infants in low- and middle-income countries.*<sup>7</sup> Infants who are, or who have mothers who are, living with HIV can, in addition, be referred to current guidelines on HIV and infant feeding.

This guideline aims to help WHO Member States and their partners to make evidence-informed decisions on the appropriate actions in their efforts to achieve the <u>Sustainable Development Goals</u>,<sup>8</sup> and implement the <u>Comprehensive implementation plan on maternal</u>, infant and young child nutrition,<sup>9</sup> the <u>Global strategy for women's</u>, children's and adolescents' health (2016–2030)<sup>10</sup> and the Global strategy for infant and young child feeding.<sup>11</sup>

4 Standards for improving quality of maternal and newborn care in health facilities. Geneva: World Health Organization; 2016 (http://apps.who.int/iris/bitstream/10665/249155/1/9789241511216-eng.pdf?ua=1).

Essential newborn care course. Geneva: World Health Organization; 2010 (http://www.who.int/maternal\_child\_adolescent/documents/newborncare\_course/en/).

<sup>2</sup> Kangaroo mother care: a practical guide. Geneva: World Health Organization; 2003 (http://apps.who.int/iris/bitstream/10665/42587/1/9241590351.pdf).

<sup>3</sup> World Health Organization, United Nations Population Fund, United Nations Children's Fund. Integrated management of pregnancy and childbirth. Pregnancy, childbirth, postpartum and newborn care: a guide for essential practice, 3rd ed. Geneva: World Health Organization; 2015 (http://apps.who.int/iris/bitstream/10665/249580/1/9789241549356-eng.pdf?ua=1).

<sup>5</sup> A hospital is defined as any health facility with inpatient beds, supplies and expertise to treat a woman or newborn with complications.

<sup>6</sup> A maternity facility is defined as any health centre with beds or a hospital where women and their newborns receive care during childbirth and delivery, and emergency first aid. (This definition and the one above have been taken from Pregnancy, childbirth, postpartum and newborn care: a guide for essential practice. Geneva: World Health Organization; 2015 (http://apps.who.int/iris/bitstream/10665/249580/1/9789241549356-eng.pdf?ua=1).

<sup>7</sup> Guidelines on optimal feeding of low birth-weight infants in low- and middle-income countries. Geneva: World Health Organization; 2011 (http://www.who.int/maternal\_child\_adolescent/documents/9789241548366.pdf).

<sup>8</sup> United Nations Sustainable Development Knowledge Platform. Sustainable Development Goals (https://sustainabledevelopment.un.org/sdgs).

<sup>9</sup> Resolution WHA65.6. Comprehensive implementation plan on maternal, infant and young child nutrition. In: Sixty-fifth World Health Assembly, Geneva, 21–26 May 2012. Resolutions and decisions, annexes. Geneva: World Health Organization; 2012:12–13 (WHA65/2012/ REC/1; http://www.who.int/nutrition/topics/WHA65.6\_resolution\_en.pdf).

<sup>10</sup> Global strategy for women's, children's and adolescents' health (2016–2030). Survive, thrive transform. Geneva: World Health Organization; 2015 (http://www.who.int/pmnch/media/events/2015/gs\_2016\_30.pdf).

<sup>11</sup> Global strategy for infant and young child feeding. Geneva: World Health Organization; 2003 (http://apps.who.int/iris/bitstream/10665/42590/1/9241562218.pdf).

This document is not intended as a comprehensive operational manual or implementation tool for the Baby-friendly Hospital Initiative, the International Code of Marketing of Breast-milk Substitutes or other breastfeeding protection, promotion and support programmes.

### Guideline development methodology

WHO developed the present evidence-informed recommendations using the procedures outlined in the <u>WHO handbook for guideline development</u>.<sup>1</sup> The steps in this process included: (i) identification of priority questions and critical outcomes; (ii) retrieval of the evidence; (iii) assessment and synthesis of the evidence; (iv) formulation of recommendations, including research priorities; and planning for (v) dissemination; (vi) implementation, equity and ethical considerations; and (vii) impact evaluation and updating of the guideline. The Grading of Recommendations Assessment, Development and Evaluation (<u>GRADE</u>)<sup>2</sup> methodology was followed, to prepare evidence profiles related to preselected topics, based on up-to-date systematic reviews. The Developing and Evaluating Communication Strategies to support Informed Decisions and Practice based on Evidence (<u>DECIDE</u>)<sup>3</sup> framework, an evidence-to-decision tool that includes intervention effects, values, resources, equity, acceptability and feasibility criteria, was used to guide the formulation of the recommendations by the guideline development group.

The scoping of the guideline and the prioritization of the outcomes was done by the guideline development group – nutrition actions 2016–2018, on 11–13 April 2016, in Geneva, Switzerland. The development and finalization of the evidence–informed recommendations were done in a meeting held in Florence, Italy on 7–11 November 2016. Three options for types of recommendations were agreed, namely: (i) recommended; (ii) context–specific recommendation (recommended only in specific contexts); and (iii) not recommended. Fourteen experts served as technical peer–reviewers of the draft guideline.

### Available evidence

The available evidence included 22 systematic reviews that followed the procedures of the <u>Cochrane handbook</u> <u>for systematic reviews of interventions</u><sup>4</sup> and assessed the effects of interventions to protect, promote and support breastfeeding in facilities providing maternity and newborn services. All studies compared a group of participants who received advice on, or practised, one of the behaviours described in the Ten Steps to Successful Breastfeeding, which appeared in the 1989 joint statement by WHO and UNICEF on <u>Protecting, promoting and supporting</u> <u>breastfeeding: the special role of maternity services</u>,<sup>5</sup> to a group that received a placebo or usual care, or did not practise the intervention. For the studies to be included in the reviews, co-interventions other than the practices of interest had to have been used for both the control and intervention study arms. The overall quality of the available evidence varied from very low to high, for the critical outcomes of breastfeeding rates, nutrition or health in the different interventions.<sup>6</sup>

Additional syntheses of qualitative evidence served to assess the values and preferences of mothers on the benefits and harms associated with each intervention and the acceptability of each of the interventions to health workers. The findings of the qualitative reviews were appraised using the GRADE confidence in the evidence from reviews of qualitative research (<u>GRADE-CERQual</u>)<sup>7</sup> approach. Overall confidence in the evidence from reviews of qualitative research was based on four components: (i) methodological limitations of the individual studies; (ii) adequacy of the data; (iii) coherence of the evidence; and (iv) relevance of the individual studies to the review findings. The overall confidence in the synthesis of qualitative evidence was very low to

<sup>1</sup> WHO handbook for guideline development, 2nd ed. Geneva: World Health Organization; 2014 (http://www.who.int/kms/handbook\_2nd\_ed.pdf?ua=1).

<sup>2</sup> GRADE (http://www.gradeworkinggroup.org/).

<sup>3</sup> DECIDE 2011–2015. Evidence to Decision (EtD) framework (http://www.decide-collaboration.eu/evidence-decision-etd-framework).

<sup>4</sup> Higgins J, Green S, editors. Cochrane handbook for systematic reviews of interventions. Version 5.10. York: The Cochrane Collaboration; 2011 (http://handbook-5-1.cochrane.org/).

<sup>5</sup> Protecting, promoting and supporting breast-feeding: the special role of maternity services: a joint WHO/UNICEF statement. Geneva: World Health Organization; 1989 (http://apps.who.int/iris/bitstream/10665/39679/1/9241561300.pdf).

<sup>6</sup> The GRADE approach defines the overall rating of confidence in the body of evidence from systematic reviews as the extent to which one can be confident of the effect estimates across all outcomes considered critical to the recommendation. Each of the critical outcomes had a confidence rating based on the quality of evidence – high, moderate, low or very low. High-quality evidence indicates confidence in the effect lies close to that of the estimate of the effect. Moderate-quality evidence indicates that moderate confidence in the effect estimate and that the true estimate is likely to be close to the estimate of the effect, but there is a possibility that it is substantially different. Low-quality evidence indicates that confidence in the effect estimate is limited and the true effect may be substantially different from the estimate of the effect. Very low-quality evidence indicates very little confidence in the effect is likely to be substantially different from the estimate of effect.

<sup>7</sup> GRADE-CERQual. Confidence in the evidence from reviews of qualitative research (http://www.cerqual.org/).

moderate for maternal values and preferences and very low to moderate for health-facility staff acceptability.<sup>1</sup> A search of the published literature was also performed to inform on resource use, feasibility and equity and human rights issues for each of the interventions.

A decision-making framework was used to promote deliberations and consensus decision-making. This included the following considerations: (i) the quality of the evidence across outcomes critical to decision-making; (ii) the balance of benefits and harms; (iii) values and preferences related to the recommended intervention in different settings and for different stakeholders, including the populations at risk; (iv) the acceptability of the intervention among key stakeholders; (v) resource implications for programme managers; (vi) equity; and (vii) the feasibility of implementation of the intervention.

### Recommendations

#### Immediate support to initiate and establish breastfeeding

- 1. Early and uninterrupted skin-to-skin contact between mothers and infants should be facilitated and encouraged as soon as possible after birth (*recommended*, *moderate-quality evidence*).
- 2. All mothers should be supported to initiate breastfeeding as soon as possible after birth, within the first hour after delivery (*recommended*, *high-quality evidence*).
- 3. Mothers should receive practical support to enable them to initiate and establish breastfeeding and manage common breastfeeding difficulties (*recommended*, *moderate-quality evidence*).
- 4. Mothers should be coached on how to express breast milk as a means of maintaining lactation in the event of their being separated temporarily from their infants (*recommended*, *very low-quality evidence*).
- 5. Facilities providing maternity and newborn services should enable mothers and their infants to remain together and to practise rooming-in throughout the day and night. This may not apply in circumstances when infants need to be moved for specialized medical care (*recommended*, *moderate-quality evidence*).
- 6. Mothers should be supported to practise responsive feeding as part of nurturing care (recommended, very low-quality evidence).

#### Feeding practices and additional needs of infants

- 7. Mothers should be discouraged from giving any food or fluids other than breast milk, unless medically indicated (*recommended*, *moderate-quality evidence*).
- 8. Mothers should be supported to recognize their infants' cues for feeding, closeness and comfort, and enabled to respond accordingly to these cues with a variety of options, during their stay at the facility providing maternity and newborn services (*recommended*, *high-quality evidence*).
- 9. For preterm infants who are unable to breastfeed directly, non-nutritive sucking and oral stimulation may be beneficial until breastfeeding is established (*recommended*, *low-quality evidence*).
- 10. If expressed breast milk or other feeds are medically indicated for term infants, feeding methods such as cups, spoons or feeding bottles and teats may be used during their stay at the facility (*recommended*, *moderate-quality evidence*).
- 11. If expressed breast milk or other feeds are medically indicated for preterm infants, feeding methods such as cups or spoons are preferable to feeding bottles and teats (*recommended*, *moderate-quality evidence*).

According to the GRADE-CERQual, high confidence indicates that it is highly likely that the review finding is a reasonable representation of the phenomenon of interest. Moderate confidence indicates that it is likely that the review finding is a reasonable representation of the phenomenon of interest. Low confidence indicates that it is possible that the review finding is a reasonable representation of the phenomenon of interest. Very low confidence indicates that it is not clear whether the review finding is a reasonable representation of the phenomenon of interest.

#### **Creating an enabling environment**

- 12. Facilities providing maternity and newborn services should have a clearly written breastfeeding policy that is routinely communicated to staff and parents (*recommended*, *very low-quality evidence*).
- 13. Health-facility staff who provide infant feeding services, including breastfeeding support, should have sufficient knowledge, competence and skills to support women to breastfeed (*recommended*, *very low-quality evidence*).
- 14. Where facilities provide antenatal care, pregnant women and their families should be counselled about the benefits and management of breastfeeding (*recommended*, *moderate-quality evidence*).
- 15. As part of protecting, promoting and supporting breastfeeding, discharge from facilities providing maternity and newborn services should be planned for and coordinated, so that parents and their infants have access to ongoing support and receive appropriate care (*recommended*, *low-quality evidence*).

This guideline is an update of, and supersedes, the Ten Steps to Successful Breastfeeding, as published in a joint statement by WHO and UNICEF in 1989, <u>Protecting, promoting and supporting breastfeeding: the special role of</u> maternity services. It complements the operational guidance of the <u>Innocenti Declaration on the protection, promotion</u> and support of breastfeeding, adopted in Florence, Italy in 1990, and the <u>Innocenti Declaration 2005 on infant and young</u> child feeding, published in 2005. It also complements some of the implementation guidance of the <u>Baby-friendly</u> Hospital Initiative, published in 1991 and updated in 2009 (only inasmuch as aspects of the Ten Steps to Successful Breastfeeding remain unchanged).

## Remarks

The remarks in this section are points to consider regarding implementation of the recommendations, based on the discussions of the guideline development group and the external experts.

- Focused and optimal immediate support to initiate and establish breastfeeding in the first hours and days of life have positive effects far beyond the stay at the facilities providing maternity and newborn services.
- Although there is evidence of benefit for immediate and uninterrupted skin-to-skin contact starting at less
  than 10 minutes after delivery, this practice can often be started much sooner, by the second or third minute
  after delivery, while continued assessment, drying and suctioning (if needed) are done while the infant is
  experiencing skin-to-skin contact. Uninterrupted skin-to-skin contact ideally lasts for more than an hour,
  and longer periods, when well tolerated by both mother and infant, should be encouraged.
- During early skin-to-skin contact and for at least the first 2 hours after delivery, sensible vigilance and safety
  precautions should be taken, so that health-care personnel can observe for, assess and manage any signs
  of distress.
- Early initiation of breastfeeding has been shown to have positive effects when done within the first hour after delivery. Among healthy term infants, feeding cues from the infant may be apparent within the first 15–20 minutes after birth, or may not be apparent until later.
- Because there is a dose-response effect, in that earlier initiation of breastfeeding results in greater benefits, mothers who are not able to initate breastfeeding during the first hour after delivery should still be supported to breastfeed as soon as they are able. This may be relevant to mothers that deliver by caesarean section, after an anaesthetic, or those who have medical instability that precludes initiation of breastfeeding within the first hour after birth.
- Mothers should be enabled to achieve effective breastfeeding, including being able to position and attach their infants to the breast, respond to their infants' hunger and feeding cues, and express breast milk when required.
- Expression of breast milk is often a technique used to stimuate attachment and effective suckling during the establishment of breastfeeding, not only when mothers and infants are separated.

- Mothers of infants admitted to the neonatal intensive care unit should be sensitively supported to enable them to have skin-to-skin contact with their infants, recognize their infants' behaviour cues, and effectively express breast milk soon after birth.
- Additional foods and fluids apart from breast milk should only be given when medically acceptable reasons exist. Lack of resources, staff time or knowledge are not justifications for the use of early additional foods or fluids.
- Proper guidance and counselling of mothers and other family members enables them to make informed
  decisions on the use or avoidance of pacifiers and/or feeding bottles and teats until the succesful establishment
  of breastfeeding.
- Supporting mothers to respond in a variety of ways to behavioural cues for feeding, comfort or closeness enables them to build caring, nurturing relationships with their infants and increase their confidence in themselves, in breastfeeding and in their infants' growth and development. Ways to respond to infant cues include breastfeeding, skin-to-skin contact, cuddling, carrying, talking, singing and so forth.
- There should be no promotion of breast-milk substitutes, feeding bottles and teats, pacifiers or dummies in any part of facilities providing maternity and newborn services, or by any of the staff.
- Health facilities and their staff should not give feeding bottles and teats or other products within the scope of the *International Code of Marketing of Breast-milk Substitutes* and its subsequent related WHA resolutions, to breastfeeding infants.
- Creating an enabling environment for breastfeeding includes having policies and guidelines that underpin the quality standards for promoting, protecting and supporting breastfeeding in facilities providing maternity and newborn services. These policies and guidelines include provisions of the <u>International Code of Marketing of</u> Breast-milk Substitutes and its subsequent related WHA resolutions.
- Relevant training for health workers is essential to enable quality standards to be implemented effectively
  according to their roles.
- Parents should be offered antenatal breastfeeding education that is tailored to their individual needs and sensitively given and considers their social and cultural context. This will prepare them to address challenges they may face.
- Mothers should be prepared for discharge by ensuring that they can feed and care for their infants and have
  access to continuing breastfeeding support. The breastfeeding support in the succeeding days and weeks after
  discharge will be crucial in identifying and addressing early breastfeeding challenges that occur.
- Minimizing disruption to breastfeeding during the stay in the facilities providing maternity and newborn services will require health-care practices that enable a mother to breastfeed for as much, as frequently and for as long as she wishes.
- Coordination of clinical systems in facilities providing maternity and newborn services, so that standards of care for breastfeeding support are coordinated across the obstetric, midwifery and paediatric services, helps develop services that improve the outcomes for those using them.

## **Research gaps**

Discussions between the members of the WHO guideline development group and the external resource group highlighted the limited evidence available in some knowledge areas, meriting further research.

• More studies across different regions, countries, population groups (e.g. by income levels, educational levels, cultural and ethnic backgrounds) and contexts are required, in order to adequately and sensitively protect, promote and support breastfeeding.

- The available evidence about breastfeeding education and training of health workers in the knowledge, attitudes, skills and competence needed to work effectively with breastfeeding parents is limited and of poor quality. Further research is required to compare different durations, content (including clinical and practical skills) and modes of training delivery, in order to meet minimum competency to address common breastfeeding challenges.
- · More research is needed on the advanced competencies required to address persistent or complex problems.
- The involvement of family in education, counselling and information efforts about the benefits and management
  of breastfeeding is also understudied.
- Research is needed on skin-to-skin contact among less healthy or unstable parent-infant pairs, taking into
  account the stability of the individuals and the pairs. More research is needed on the time of initiation of
  the intervention, the effects of the intervention on the microbiome and long-term neurodevelopmental and
  health outcomes.
- More research on methods of implementation for safe skin-to-skin contact and rooming-in practices would be valuable in operationalization, such as the timing and frequency of assessments and methods to decrease sentinel events (such as sudden infant collapse or falls).
- Implementation research on responsive feeding, cue-based demand feeding, or infant-led feeding would bring
  more clarity to the wider process of commencing breastfeeding, readiness to suckle, hunger and feeding cues,
  and the adequacy of information given to parents. Additional outcomes besides breastfeeding rates include
  maternal outcomes (for instance, exhaustion, stress, sleep adequacy, trauma, anaesthesia, breastfeeding
  satisfaction, self-confidence) and infant outcomes (for instance, attachment, sudden infant death, infection
  and other elements of security and safety).
- Medical requirements for and effects of additional feeds on infants and mothers need further research. Analysis
  of these effects by maternal condition, infant condition, mode of delivery, prematurity or birth weight, timing,
  types of food and fluids and other factors may be useful.
- More robust studies on non-nutritive sucking and oral stimulation among preterm infants is needed.
- More high-quality research is needed on the practices and implementation of the recommendations in facilities
  providing maternity and newborn services, as the basis for experience and observational studies, especially for
  recommendations for which the available evidence is of low or very low quality.

### Plans for updating the guideline

The WHO steering group will continue to follow research developments in the area of protection, promotion and support of breastfeeding in facilities providing maternity and newborn services, particularly for questions in which the quality of evidence was found to be low or very low. If the guideline merits an update, or if there are concerns about the validity of the guideline, the Department of Nutrition for Health and Development, in collaboration with other WHO departments or programmes, will coordinate the guideline update, following the formal procedures of the WHO handbook for guideline development.<sup>1</sup>

As the guideline nears the 10-year review period, the Department of Nutrition for Health and Development at the WHO headquarters in Geneva, Switzerland, along with its internal partners, will be responsible for conducting a search for appropriate new evidence.

<sup>1</sup> WHO handbook for guideline development, 2nd ed. Geneva: World Health Organization; 2014 (http://www.who.int/kms/handbook\_2nd\_ed.pdf?ua=1).

# Guideline: protecting, promoting and supporting breastfeeding in facilities providing maternity and newborn services

# Introduction

Evidence on the importance of breastfeeding as the cornerstone of child survival, nutrition and development and maternal health continues to increase. A series of systematic reviews have shown the effect of breastfeeding in decreasing child infections and dental malocclusion and increasing intelligence. Mothers who breastfeed are at decreased risk of breast cancer. Improving breastfeeding rates globally can prevent over 800 000 deaths in children under 5 years of age and 20 000 deaths from breast cancer annually. Not breastfeeding is associated with annual economic losses of over US\$ 300 billion worldwide or 0.5% of the world's gross income (1-13).

The World Health Organization (WHO) recommends exclusive breastfeeding for the first 6 months of life, followed by continued breastfeeding with appropriate complementary foods for up to 2 years or beyond (14-16). In 2012, the World Health Assembly Resolution 65.6 endorsed a *Comprehensive implementation plan on maternal*, *infant and young child nutrition* (15), specifying six global nutrition targets for 2025, one of which is to increase the rate of exclusive breastfeeding in the first 6 months up to at least 50% (17). Currently, only 37% of infants younger than 6 months of age are exclusively breastfed (2).

Women need support in order to optimize their chances of breastfeeding in line with WHO's recommendations. There is evidence showing that implementation of the Ten Steps to Successful Breastfeeding, as listed in the WHO and United Nations Children's Fund (UNICEF) joint statement *Protecting, promoting and supporting breastfeeding: the special role of maternity facilities (18),* emphasized in the *Innocenti Declarations* on infant feeding (19, 20) and incorporated in the Baby-friendly Hospital Initiative (21, 22) (see Box 1), have a positive impact on breastfeeding outcomes (12, 23–25), with a dose–response relationship between the number of interventions the mothers are exposed to and improved outcomes (23).

This guideline examines each of the practices of the Ten Steps to Successful Breastfeeding, in order to bring together evidence and considerations to inform practice. It provides global, evidence-informed recommendations to support Member States in enabling protection, promotion and support of breastfeeding in facilities providing maternity and newborn services, as a public health intervention, in order to improve breastfeeding, health and nutrition outcomes.

#### Box 1. Ten Steps to Successful Breastfeeding (18–22)

Every facility providing maternity services and care for newborn infants should:

- Have a written breastfeeding policy that is routinely communicated to all health-care staff.
- 2. Train all health-care staff in the skills necessary to implement this policy.
- Inform all pregnant women about the benefits and management of breastfeeding.
- 4. Help mothers initiate breastfeeding within a half-hour of birth.
- Show mothers how to breastfeed and how to maintain lactation, even if they are separated from their infants.
- 6. Give newborn infants no food or drink other than breast milk, unless medically indicated.
- Practise rooming-in allow mothers and infants to remain together – 24 hours a day.
- 8. Encourage breastfeeding on demand.
- 9. Give no artificial teats or pacifiers (also called dummies or soothers) to breastfeeding infants.
- Foster the establishment of breastfeeding support groups and refer mothers to them on discharge from the hospital or clinic.

### **Objectives**

This guideline provides global, evidence-informed recommendations on protection, promotion and support of optimal breastfeeding in facilities providing maternity and newborn services, as a public health intervention, to protect, promote and support optimal breastfeeding practices and improve nutrition, health and development outcomes.

This guideline is intended to contribute to discussions among stakeholders when selecting or prioritizing interventions to be undertaken in their specific context. The guideline presents the key recommendations, a summary of the supporting evidence and a description of the considerations that contributed to the deliberations and consensus decision-making. It is not intended as a comprehensive operational manual or implementation tool for the Baby-friendly Hospital Initiative (21, 22), the International Code of Marketing of Breast-milk Substitutes (26) or other breastfeeding protection, promotion and support programmes.

This guideline aims to help WHO Member States and their partners to make evidence-informed decisions on the appropriate actions in their efforts to achieve the Sustainable Development Goals (27) and the global targets for 2025 as put forward in the *Comprehensive implementation plan on maternal, infant and young child nutrition* (15), endorsed by the Sixty-fifth World Health Assembly in 2012, in resolution WHA65.6, the Global strategy for women's, children's, and adolescents' health (2016–2030) (16), and the Global strategy for infant and young child feeding (14).

### Scope

This guideline, Protecting, promoting and supporting breastfeeding in facilities providing maternity and newborn services is an update of, and supersedes, the Ten Steps to Successful Breastfeeding, as listed in the joint statement of WHO and UNICEF in 1989, Protecting, promoting and supporting breastfeeding: the special role of maternity services (18). This complements the operational guidance of the Innocenti Declaration on the protection, promotion and support of breastfeeding (19), adopted in Florence, Italy in 1990, and the Innocenti Declaration on infant and young child feeding (20) published in 2005. It also complements some of the operational guidance in the Baby-friendly Hospital Initiative published in 1991 (21) and updated in 2009 (22) (only inasmuch as aspects of the Ten Steps to Successful Breastfeeding remain unchanged).

The Baby-friendly Hospital Initiative provides guidance on the implementation, training, monitoring, assessment and re-assessment of the Ten Steps to Successful Breastfeeding and the International Code of Marketing of Breast-milk Substitutes (26), a set of recommendations to regulate the marketing of breast-milk substitutes, feeding bottles and teats adopted by the 34th World Health Assembly (WHA) in 1981, and its subsequent related WHA resolutions (28). The Baby-friendly Hospital Initiative has since been shown to positively impact breastfeeding outcomes as a whole, and with a dose-response relationship between the number of interventions the mother is exposed to and the likelihood of improved breastfeeding outcomes (23).

This guideline examines each of the practices in the Ten Steps to Successful Breastfeeding, in order to bring together evidence and considerations to inform practice. The scope of the guideline is limited to specific practices that could be implemented in facilities providing maternity and newborn services to protect, promote and support breastfeeding.

This guideline does not aim to be a comprehensive guide on all potential interventions that can protect, promote and support breastfeeding. For instance, it will not discuss breastfeeding support beyond the stay at the facilities providing maternity and newborn services, such as community-based practices, peer support or support for breastfeeding in the workplace. Neither will it review the articles and provisions of the *International Code of Marketing of Breast-milk Substitutes* and its subsequent related WHA resolutions (26, 28).

This guideline complements interventions presented in the Essential newborn care course (29), Kangaroo mother care: a practical guide (30), Pregnancy, childbirth, postpartum and newborn care: a guide for essential practice (31) and the Standards for improving quality of maternal and newborn care in health facilities (32) and does not supersede or replace them.

An implementation guide that will encompass the recommendations included in this guideline, the International Code of Marketing of Breast-milk Substitutes (26) and the Baby-friendly Hospital Initiative (22) has been developed by WHO and UNICEF and will be published separately in Protecting, promoting and supporting breastfeeding in facilities providing maternity and newborn services: the revised Baby-friendly Hospital Initiative 2017.

### **Target audience**

The recommendations in this guideline are intended for a wide audience, including policy-makers, their expert advisers, and technical and programme staff at government institutions and organizations involved in the design, implementation and scalingup of programmes for infant and young child feeding. The guideline may also be used by health-care professionals, clinicians, universities and training institutions, to disseminate information. The end-users of this guideline are:

- national and local policy-makers;
- implementers and managers of national and local nutrition programmes;
- nongovernmental and other organizations and professional societies involved in the planning and management of nutrition actions;
- administrative and health workers involved in policy-making, information sharing, education and training in hospitals, facilities providing maternity and newborn services and other institutions that provide maternity services;
- health professionals, including managers of nutrition and health programmes and public health policy-makers in all settings;
- health workers in facilities providing maternity and newborn services.

### **Population of interest**

This guideline will affect women delivering in hospitals,<sup>1</sup> maternity facilities<sup>2</sup> or other facilities providing maternity and newborn services, and their infants.

These include mother-infant pairs with term infants, as well as those with preterm, low-birth-weight or sick infants and those admitted to neonatal intensive care units. There is further guidance for low-birth-weight infants from the WHO *Guidelines on optimal feeding of low birth-weight infants in low- and middle-income countries* (33). Infants who are, or who have mothers who are, living with HIV can, in addition, be referred to current guidelines on HIV and infant feeding (34–36).

Infants born at home or in the community setting and those with medical reasons not to breastfeed, temporarily or permanently (37), will not be considered in this guideline.

### **Priority questions**

The following key questions were posed, based on the policy and programme guidance needs of Member States and their partners. The population, intervention, comparator, outcomes (PICO) format was used. The key questions listed next give an example of one of the critical outcomes considered. The questions, with population and intervention subgroups and a full list of critical outcomes, guiding the evidence review and synthesis for the recommendations in this guideline are listed in <u>Annex 1</u>.

#### Immediate support to initiate and establish breastfeeding

- Should mothers giving birth (P) practise early skinto-skin contact (I), compared to not practising early skin-to-skin contact (C), in order to increase rates of early initiation of breastfeeding within 1 hour after birth (O)?
- Should mothers giving birth (P) practise early initiation of breastfeeding (I), compared to not practising early initiation of breastfeeding (C), in order to increase rates of exclusive breastfeeding during the stay at the facility (O)?
- Should mothers giving birth (P) be assisted with correct positioning and attachment, so that their infants achieve proper effective suckling (I), compared to not assisting mothers to position and attach (C), in order to increase rates of exclusive breastfeeding during the stay at the facility (O)?
- Should mothers giving birth (P) be shown how to practise expression of breast milk (I), compared to not being shown expression of breast milk (C), in order to increase rates of exclusive breastfeeding during the stay at the facility (O)?
- Should mothers giving birth in hospitals or facilities providing maternity and newborn services and their infants (P) remain together or practise rooming-in (I), compared to not rooming-in (C), in order to increase rates of exclusive breastfeeding during the stay at the facility (O)?
- Should mothers giving birth (P) practise feeding on demand or responsive feeding or infant-led breastfeeding (I), compared to not practising feeding on demand or feeding by schedule (C), in order to increase rates of exclusive breastfeeding during the stay at the facility (O)?

# Feeding practices and additional needs of infants

 Should newborn infants (P) be given no foods or fluids other than breast milk unless medically indicated (I), compared to giving early additional food or fluids (C), in order to increase rates of exclusive breastfeeding during the stay at the facility (O)?

<sup>1</sup> A hospital is defined as any health facility with inpatient beds, supplies and expertise to treat a woman or newborn with complications (31).

<sup>2</sup> A maternity facility is defined as any health centre with beds or a hospital where women and their newborns receive care during childbirth and delivery, and emergency first aid (31).

- Should infants (P) not be allowed to use pacifiers or dummies (I), compared to allowing use of pacifiers or dummies (C), in order to increase rates of exclusive breastfeeding during the stay at the facility (O)?
- Should infants who are or will be breastfed (P) not be fed supplements with feeding bottles and teats but only by cup, dropper, gavage, finger, spoon or other methods not involving artificial teats (I), compared to using feeding bottles and teats (C), in order to increase rates of exclusive breastfeeding during the stay at the facility (O)?

#### **Creating an enabling environment**

- Should hospitals and facilities providing maternity and newborn services (P) have a written breastfeeding policy that is routinely communicated to staff (I), compared to those without a written breastfeeding policy (C), in order to increase rates of early initiation of breastfeeding (O)?
- Should health-facility staff (P) be trained on breastfeeding and supportive feeding practices (I), compared to not being trained (C), in order to increase rates of early initiation of breastfeeding (O)?
- Should mothers giving birth (P) be given antenatal breastfeeding education (I), compared to not having antenatal breastfeeding education (C), in order to increase rates of exclusive breastfeeding during the stay at the facility (O)?
- Should mothers giving birth in hospitals or facilities providing maternity and newborn services (P) be given linkage to continuing breastfeeding support after discharge from the facilities (I), compared to not providing any linkage to continuing breastfeeding support after discharge (C), in order to increase rates of exclusive breastfeeding at 1 month (O)?

### **Outcomes of interest**

The outcomes of interest considered critical for decision-making included the following:

#### Infant outcomes

- Early skin-to-skin contact
- Early initiation of breastfeeding within 1 hour after birth
- Early initiation of breastfeeding within 1 day after birth
- Exclusive breastfeeding during the stay at the facility
- Exclusive breastfeeding at 1 month

- Exclusive breastfeeding at 3 months
- Exclusive breastfeeding at 6 months
- Duration of exclusive breastfeeding (in months)
- Duration of any breastfeeding (in months)
- Morbidity (respiratory infections, diarrhoea, others)
- Neonatal, infant or child mortality (all-cause)

#### Maternal outcomes

- Onset of lactation
- Breast conditions (sore or cracked nipples, engorgement, mastitis, etc.)
- Effectiveness of breast-milk expression (volume of breast milk expressed)

#### Facilities providing maternity and newborn services and staff outcomes

- Awareness of staff of the infant feeding policy of the hospital
- Knowledge of health-care workers on infant feeding
- Quality of skills of health-facility staff in improving practices of mothers in optimal infant feeding
- Attitudes of staff on infant feeding
- Adherence to the provisions of the International Code of Marketing of Breast-milk Substitutes (26)

For each of the PICO questions, potential harms of the interventions were also considered as important outcomes. The key questions and outcomes guiding the evidence review and synthesis for the recommendations in this guideline are listed in Annex 1.

# Presentation of the recommendations

The recommendations on protecting, promoting and supporting breastfeeding in facilities providing maternity and newborn services were classified into three domains: (i) immediate support to initiate and establish breastfeeding; (ii) feeding practices and additional needs of infants; and (iii) creating an enabling environment.

Prior to presenting each domain and the considerations for each of the PICO questions, the summary of considerations for determining the direction of the recommendations that apply to all PICO questions was presented. These include:

- the feasibility of the intervention;
- equity and human rights considerations.

Each domain is presented in a separate section covering the following contents:

- summary of evidence from systematic reviews for each of the interventions;
- summary of considerations for determining the direction of the recommendations that apply to each individual PICO question, which includes:
  - quality of the evidence;
  - balance of benefits and harms;
  - values and preferences of mothers;
  - acceptability to health workers;
  - resource implications.

Three options for types of recommendations were agreed by the guideline development group, namely:

- recommended;
- recommended only in specific contexts;
- not recommended.

At the end of each section, a short summary brings together:

- the recommendations;
- the rationale;
- additional remarks for consideration in implementing the recommendations.
- In presenting the summary of evidence from systematic reviews for each of the interventions, standardized statements of effects were used for different combinations of the magnitude of effect and the quality of evidence (assessed using the Grading of Recommendations Assessment, Development and Evaluation [GRADE] (38)). Table 1, adapted from Cochrane Norway (39), was used as a guide.

# Description of the interventions

The following section describes the operational definitions used to gather and synthesize evidence that informed the recommendations.

#### Immediate support to initiate and establish breastfeeding

Interventions relating to immediate support to initiate and establish breastfeeding focus on the critical first hours or days after delivery at the facilities providing maternity and newborn services. These include early skin-to-skin contact, early initiation of breastfeeding, rooming-in and demand feeding.

Skin-to-skin contact is when the infant is placed prone on the mother's abdomen or chest in direct ventral-to-ventral skin-to-skin contact. Immediate skin-to-skin contact is done immediately after delivery, less than 10 minutes after birth. Early skin-to-skin contact was defined as beginning any time from delivery to 23 hours after birth. Skin-toskin contact should be uninterrupted for at least 60 minutes. The infant is thoroughly dried and kept warm (for instance by being covered across the back with a warmed blanket). Among preterm and lowbirth-weight infants, kangaroo mother care (30) involves similarly placing the infant in skin-to-skin contact, and firmly attached to the mother's chest, often between the breasts, as soon as the infant is able. Kangaroo mother care can be shared with other providers of skin-to-skin contact, often with the mother's partner, the other parent of the infant, close

	Important benefit or harm	Less important benefit or harm	No important benefit or harm	
High quality of evidence	[Intervention] improves/ reduces [outcome] (high quality of evidence)	[Intervention] slightly improves/reduces [outcome] (high quality of evidence)	[Intervention] makes little or no difference to [outcome] (high quality of evidence)	
Moderate quality of evidence	[Intervention] probably improves/reduces [outcome] (moderate quality of evidence)	[Intervention] probably slightly improves/reduces [outcome] (moderate quality of evidence)	[Intervention] probably makes little or no difference to [outcome] (moderate quality of evidence)	
Low quality of evidence	[Intervention] may improve/reduce [outcome] (low quality of evidence)	[Intervention] may slightly improve/reduce [outcome] (low quality of evidence)	[Intervention] may make little or no difference to [outcome] (low quality of evidence)	
Very low quality of evidence	It is uncertain whether [ <i>intervention</i> ] improves/reduces [ <i>outcome</i> ], as the quality of the evidence has been assessed as very low			
No studies	None of the studies looked at [outcome]			

#### Table 1. Table of standardized statements about effect (39)

kin or an accompanying person. Comparators included dressed or swaddled infants held in the arms or placed in cribs or elsewhere.

**Early initiation of breastfeeding** involves a breastfeeding initiation time of within 1 hour after birth. Delayed breastfeeding initiation means initiating breastfeeding after the first hour after birth (2–23 hours after birth or a day or more after birth). Infants placed skin-to-skin usually find their own way to the breast and attach spontaneously, unless sedated by analgesics given to the mother.

Showing mothers how to breastfeed is a complex mix of supportive interventions (practical, emotional, motivational or informational) that enable mothers to breastfeed successfully. This support usually involves showing mothers how to hold and position their infant to attach to the breast, and presenting opportunities to discuss and assist with questions or problems with breastfeeding.

**Showing mothers how to express breast milk** can be useful to reassure mothers that milk is being produced by their breasts (particularly in the first few days after birth) and, eventually, to enable a mother to provide breast milk in the event that she will need to be separated from her infant. Expression of breast milk is primarily done or taught through hand expression, with the use of a mechanical pump only when necessary. The systematic review on expression of breast milk (40) included studies that provided instruction or a support protocol for hand expression or mechanical pumping (with provision of mechanical pumping equipment).

**Rooming-in** involves keeping mothers and infants together in the same room, immediately after leaving the labour or delivery room after a normal facility birth or from the time when the mother is able to respond to the infant, until discharge. This means that the mother and infant are together throughout the day and night, apart from short intervals when the mother has a specific need, for instance, to use the bathroom. The comparison intervention is that mothers and infants are roomed separately for all or part of the time, and the primary site of care for the infant is the facility nursery during the hospital stay.

**Demand feeding** (or responsive feeding or babyled feeding) involves recognizing and responding to the infant's display of hunger and feeding cues and readiness to feed, as part of a nurturing relationship between the mother and infant. Demand, responsive or baby-led feeding puts no restrictions on the frequency or length of the infants' feeds, or the use of one or both breasts at a feed, and mothers are advised to breastfeed whenever the infant shows signs of hunger, or as often as the infant wants. The comparator, scheduled feeding, involves a predetermined, and usually timerestricted, frequency and schedule of feeds.

#### Feeding practices and additional needs of infants

Interventions that relate to feeding practices and additional needs of infants include issues around early additional food or fluids, pacifiers or dummies, and feeding bottles and teats.

**Early additional foods or fluids** are any feeds given before 6 months of life, the recommended duration of exclusive breastfeeding. In the facilities providing maternity and newborn services, this can be in the form of pre-lacteal feeds given before the first breastfeed, of either colostrum, water, glucose water or artificial milk given outside of the WHO guidance on Acceptable medical reasons for use of breast-milk substitutes (37).

Avoidance of pacifiers or dummies involves advising mothers to avoid offering pacifiers or dummies and may, in addition, involve teaching mothers alternative methods to calm and soothe their infants. Unrestricted pacifier use means that pacifiers or dummies can be offered liberally to infants to suck on during their stay at the facility providing maternity and newborn services. Non-nutritive sucking or oral stimulation among preterm infants, which occurs in the absence of nutrient flow to facilitate sucking behaviour, often involves the use of pacifiers, a gloved finger or a breast that is not yet producing milk.

Avoidance of feeding bottles and teats involves offering oral feeds (of expressed breast milk or, when medically indicated, a combination of expressed breast milk and other fluids) without using feeding bottles and teats, but instead feeding by cup, dropper, gavage, finger or spoon when the infant is not on the breast.

#### **Creating an enabling environment**

Effective and sustained improvement in practices often requires appropriate policies and a supportive environment. At the facilities providing maternity and newborn services, interventions considered under the domain of creating an environment to enable mothers to breastfeed include having a written breastfeeding policy, training of health workers, antenatal breastfeeding education and preparation for mothers, and discharge planning and linkage to continuing breastfeeding support.

**Breastfeeding policies in facilities** providing maternity and newborn services need to cover all established standards of practice and be fully implemented and publicly and regularly communicated to staff. They help to focus on social, environmental and practical factors that affect a mother's ability to breastfeed her infant. The systematic review on breastfeeding policies in facilities (41) included all randomized controlled trials, cluster randomized trials, quasirandomized trials, non-randomized trials and observational studies evaluating facilities with a written breastfeeding policy.

**Training of health workers** enables them to build on existing knowledge and develop effective skills, give consistent messages and implement policy standards according to their roles. The systematic review on training of health workers (42) included all randomized controlled trials comparing breastfeeding education and training for health workers with no or usual training and education.

Antenatal breastfeeding education for mothers can encourage discussion, help prepare mothers practically and promote initiation of breastfeeding after delivery. It may include counselling and information given in a variety of ways. Antenatal breastfeeding education differs from breastfeeding support in that breastfeeding support is given postnatally to the individual mother according to her needs at that time: psychological, physical, financial or targeted information. Two systematic reviews were reported, one on antenatal breastfeeding education (43) and a second on broader antenatal breastfeeding-promotion activities to encourage initiation of breastfeeding (44), which included studies with support from nonhealth-care professionals.

**Discharge planning and linkage to continuing support**: before discharge from the facility providing maternity and newborn services, it is necessary to plan for breastfeeding after discharge and to provide linkage to continuing and consistent support outside the facility, to help mothers to sustain breastfeeding. A systematic review was done to assess the evidence around providing linkage to further breastfeeding support (45). The review did not assess the effects of any actual breastfeeding support after discharge (such as peer support, clinical support or specialized lactation support), but rather the linkage to further support made by the facilities.

# **Evidence and recommendations**

# Summary of considerations common to all recommendations

A search of the published literature was performed to inform on feasibility and equity and human rights issues. The information on these two issues was common to all interventions and is presented next.

#### Feasibility

Based on information from 70 countries in 2010-2011 and from 61 countries in 2006, for a total of 131 countries, the number of facilities providing maternity and newborn services worldwide that have ever been designated as "Baby-friendly" is 21 328. This number represents 27.5% of all facilities providing maternity and newborn services worldwide: 8.5% in high-income countries and 31% in low- and middle-income countries (46). More recent data from the 2016-2017 Global Nutrition Policy Review of 155 countries show that 71% of countries had operational Baby-friendly Hospital Initiative programmes (47). It is estimated that 10% of births in 2016 were made in facilities designated as "Baby-friendly" (47). Thus, over 25 years from the initial inception of the Ten Steps to Successful Breastfeeding and the Babyfriendly Hospital Initiative, the percentage of births occurring in designated "Baby-friendly" facilities providing maternity and newborn services remains low. Challenges include sustainability, resources and competing priorities (47, 48). Embedding the interventions that promote, protect and support breastfeeding into quality standards for facilities providing maternity and newborn services may be a way to ensure sustained integration of optimal lactation management into standard care.

#### **Equity and human rights**

As for any other area of human activity and social interaction, breastfeeding has also been subject to debate from a human rights perspective, raising fundamental questions pertaining to women's rights and infants' rights in the broader perspective of interrelatedness and indivisibility of all human rights.

In 2016, the United Nations Special Rapporteurs on the Right to Food and the Right to Health, the Working Group on Discrimination against Women in law and in practice, and the Committee on the Rights of the Child produced a joint statement in support of increased efforts to protect, promote and support breastfeeding (49). The statement outlines principles and provides human rights-based guidance for Member States, which are called to support and protect breastfeeding:

- Breastfeeding is a human rights issue for both the child and the mother.
- Children have the right to life, survival and development and to the highest attainable standard of health, of which breastfeeding must be considered an integral component, as well as safe and nutritious foods.
- Women have the right to accurate, unbiased information needed to make an informed choice about breastfeeding. They also have the right to good quality health services, including comprehensive sexual, reproductive and maternal health services. And they have the right to adequate maternity protection in the workplace and to a friendly environment and appropriate conditions in public spaces for breastfeeding, which are crucial to ensure successful breastfeeding practices.
- States are reminded of their obligations under relevant international human rights treaties to provide all necessary support and protection to mothers and their infants and young children to facilitate optimal feeding practices. States should take all necessary measures to protect, promote and support breastfeeding, and end the inappropriate promotion of breast-milk substitutes and other foods intended for infants and young children.
- States must recognize that providing the support and protection necessary for women to make informed decisions concerning the optimal nutrition for their infants and young children is a core human rights obligation.
- Restriction of women's autonomy in making decisions about their own lives leads to violation of women's rights to health, and infringes women's dignity and bodily integrity. In helping women make informed choices about breastfeeding, states and others should be careful not to condemn or judge women who do not want to or who cannot breastfeed.

Civil society organizations have also advocated for breastfeeding as a human right of the infant and the mother (50). These organizations have also been key in the development of a human rights perspective to breastfeeding.

A number of reviews and primary studies among high-, middle- and low-income countries have found that early initiation of breastfeeding tends to be equitable across wealth quintiles (51, 52), and that counselling interventions promoting breastfeeding

are more likely to have a greater effect on low-income populations, thus making such counselling prone to bridging gaps with wealthier populations in terms of health outcomes linked to breastfeeding (53). With respect to duration of breastfeeding, the available evidence is mixed, but frequently shows that population subgroups whose children are most at risk for mortality and increased morbidity from not being breastfed are least likely to show improvements in the duration of breastfeeding (54), thus highlighting the need to introduce equity-oriented approaches in breastfeeding interventions, in order to progressively close unjust gaps between population groups. Other bodies of evidence suggest that women of different backgrounds and contexts exposed to public health programmes such as antenatal care are more likely to breastfeed and engage in breastfeeding for longer, which also contributes to reducing health inequities (55, 56).

## Immediate support to initiate and establish breastfeeding

The evidence that formed the recommendations on immediate support for breastfeeding women and their babies is based on nine systematic reviews from the Cochrane Pregnancy and Chidlbirth Group, Cochrane Neonatal Review Group and independent authors (40, 57–64). The PICO questions and critical outcomes guiding the evidence review and synthesis for the recommendations in this guideline are listed in <u>Annex 1</u>. The details of the systematic reviews can be found in <u>Annex 2</u> and the summary of findings tables can be found in <u>Annex 3</u>.

The WHO Secretariat further performed a qualitative evidence synthesis of published literature, to identify and summarize qualitative research findings on the values and preferences of mothers (see <u>Annex 4</u> for the summary of qualitative findings tables) and factors that influence acceptability among health workers and stakeholders (see <u>Annex 5</u> for the summary of qualitative findings tables).

A search of the published literature was performed to inform on resource implications, feasibility and equity and human rights issues for each of the interventions. The information on feasibility and equity and human rights issues was common to all interventions and is presented above.

Though the issues around resource implications were similar for many of the interventions, some of the resource implications were more specific and are presented for each of the interventions. It should be noted throughout, though, that breastfeeding has short- and long-term health, economic and environmental advantages for children, women and society. The economic loss of not breastfeeding has been estimated to be US\$ 302 billion annually worldwide (1). Investments towards protecting, promoting and supporting breastfeeding are necessary to realize these gains.

#### Early skin-to-skin contact

#### Summary of evidence

The systematic review comparing immediate (within 10 minutes after birth) or early (between 10 minutes and 23 hours after birth) skin-to-skin contact between mothers and healthy term newborn infants to standard care included 46 trials with 3850 motherinfant pairs (62). The review showed that immediate or early skin-to-skin contact probably improves exclusive breastfeeding at hospital discharge to 1 month of age (risk ratio [RR]: 1.30; 95% confidence interval [CI]: 1.12 to 1.49; 6 studies, n = 711; moderate quality of evidence), and may improve exclusive breastfeeding at 6 weeks to 6 months of age (RR: 1.50; 59% CI: 1.18 to 1.90; 7 studies, n = 640; low quality of evidence). Immediate or early skin-to-skin contact probably improves any breastfeeding at 1-4 months of age (RR: 1.24; 95% CI: 1.07 to 1.43; 14 studies, n = 887; moderate quality of evidence), compared to standard care. There was no statistically significant difference in the effect of skin-to-skin contact compared to standard care on the likelihood of breastfeeding at 1-4 months by time of initiation of skin-to-skin contact (immediate [within 10 minutes after birth] and early [between 10 minutes and 23 hours after birth]; test for subgroup difference  $\chi^2 = 1.13$ ; P = 0.29).

Only one study reported on suckling during the first 2 hours after birth and it showed that immediate or early skin-to-skin contact may make little or no difference to suckling in the first 2 hours, compared to standard care (RR: 1.06; 95% CI: 0.83 to 1.35; 1 study, n = 88; low quality of evidence).

Among low-birth-weight infants born in hospitals, a systematic review of kangaroo mother care (the main component of which is skin-to-skin contact between the mother and infant as far as the mother-infant pair can tolerate it (30)), compared to conventional neonatal care, was done (57). The review included 21 studies with 3042 infants. Exclusive and any breastfeeding among low-birth-weight infants with kangaroo mother care are probably improved at discharge or at 40-41 weeks' postmenstrual age (exclusive breastfeeding: RR: 1.16; 95% CI: 1.07 to 1.25; 6 studies, n = 1453; moderate quality of evidence; any breastfeeding: RR: 1.20; 59% CI: 1.07 to 1.34; 10 studies, n = 1696; moderate quality of evidence), compared to conventional neonatal care. Kangaroo mother care may improve exclusive or any breastfeeding at 1-3 months' follow-up (exclusive breastfeeding: RR: 1.20; 95% CI: 1.01 to 1.43; 5 studies, n = 600; low quality of evidence; any breastfeeding: RR: 1.17; 95% CI: 1.05 to 1.31; 9 studies, n = 1394; low quality of evidence). Kangaroo mother care probably makes little or no difference to any breastfeeding at 6–12 months' follow-up (RR: 1.12; 95% CI: 0.98 to 1.29; 5 studies, n = 952; moderate quality of evidence) and may make little or no difference to exclusive breastfeeding at 6–12 months' follow-up (RR: 1.29; 95% CI: 0.95 to 1.76; 3 studies, n = 810; low quality of evidence).

Only one study compared early (within 23 hours after birth) versus late (starting 24 hours or more after birth) kangaroo mother care among relatively stable low-birth-weight infants and found there is probably little or no difference in the rate of exclusive breastfeeding at 24 hours of age (RR: 1.02; 95% CI: 0.67 to 1.57; 1 study, n = 73; low quality of evidence), at 2 weeks of age (RR: 1.00; 95% CI: 0.89 to 1.04; 1 study, n = 71; moderate quality of evidence), at 4 weeks of age (RR: 0.94; 95% CI: 0.85 to 1.04; 1 study, n = 67; moderate quality of evidence) and at 6 months of age (RR: 2.69; 95% CI: 0.99 to 7.31; 1 study, n = 55; low quality of evidence).

#### **Quality of evidence**

The overall quality of evidence for early skin-to-skin contact on the critical outcomes is moderate. The PICO question and critical outcomes can be found in <u>Annex 1</u>. The details of the systematic reviews can be found in <u>Annex 2</u>. The summary of findings tables can be found in <u>Annex 3</u>.

#### **Balance of benefits and harms**

The review by Conde-Agudelo and Díaz-Rossello (57) found a decreased risk of mortality (RR: 0.67; 95% CI: 0.48 to 0.95; 12 studies, n = 2293) and severe infection or sepsis (RR: 0.5; 95% CI: 0.36 to 0.69; 8 studies, n = 1463) at latest follow-up among infants who received kangaroo mother care. The review found no difference in the length of hospital stay (mean difference [MD]: -1.61 days; 95% CI: -3.41 to 0.18; 11 studies, n = 1057).

The review by Moore et al. (62) found a clinically meaningful increase in blood glucose in infants who received immediate or early skin-to-skin contact (blood glucose mg/dL at 75–180 minutes after birth MD: 10.49; 95% CI: 8.39 to 12.59; 3 studies, n = 144). There was also a slight increase in infant axillary temperature at 90–150 minutes after birth (MD: 0.30 °C; 95% CI: 0.13 to 0.47; 6 studies, n = 558) though none of the study infants were hyper– or hypothermic.

There is a concern about cases of sudden infant collapse, most commonly reported among infants of primiparous mothers who are unobserved by healthcare personnel during a period of skin-to-skin contact with the infant prone or on the side of the mother's chest. Sudden unexpected postnatal collapse of an apparently healthy infant occurring within the first 2 hours after birth have been estimated to occur in between 1.6 and 5 cases per 100 000 live births, with death rates of 0-1.1 per 100 000 live births (65-71).

In light of the clear benefits on mortality rates and breastfeeding outcomes, the desirable effects outweigh the undesirable effects. However, during the implementation of immediate skin-to-skin contact and for at least the first 2 hours after delivery, healthcare personnel in the delivery or recovery room should observe and assess for any signs of distress in all infants, whether full term, preterm or low birth weight.

#### Values and preferences

The review of literature on the values and preferences of mothers towards early skin-to-skin contact identified 13 studies from 9 countries (Australia, Colombia, Egypt, Italy, Palestine, Russia, Sweden, the United Kingdom of Great Britain and Northern Ireland [United Kingdom] and the United States of America [United States]). In general, most mothers valued immediate skin-to-skin contact and felt happy doing this. This finding was consistent among mothers who had normal deliveries and had normal-term infants, those who had caesarean deliveries and those whose infants were admitted to the neonatal intensive care unit or were preterm or low birth weight. There was moderate confidence in the evidence (see Annex 4).

#### Acceptability

The review of literature on the acceptability of early skin-to-skin contact among health-care personnel identified 15 studies conducted in 7 countries (Australia, Canada, China, France, India, New Zealand and the USA). Three themes were identified among the studies: (i) health workers valued and had favourable views towards early skin-to-skin contact (low confidence in the evidence); (ii) health workers had safety concerns during skin-to-skin contact after caesarean delivery or anaesthesia; health workers found that practising early skin-to-skin contact in the operating room was impractical, and unsafe and would interfere with their routines (moderate confidence in the evidence); and (iii) health workers had safety concerns about early skin-to-skin contact and breastfeeding when the infant was admitted to the neonatal intensive care unit; they felt that the risk of physiological instability among the fragile infants would be too great (moderate confidence in the evidence) (see Annex 5).

#### **Resource implications**

Several issues with resource implications for the early skin-to-skin contact were identified. These include: (i) the time spent with mothers; (ii) staff capacity; and (iii) staff knowledge of breastfeeding. There is often inadequate time for staff to observe and support mothers during early skin-to-skin contact (72). Limited staff capacity reduces the quality time that staff can spend with mothers (73) and Lack of staff knowledge regarding breastfeeding and early skinto-skin support reduces their self-efficacy and may lead to a need for more specialized training (72, 74–76).

#### Recommendation

 Early and uninterrupted skin-to-skin contact between mothers and infants should be facilitated and encouraged as soon as possible after birth (recommended, moderate-quality evidence).

#### **Early initiation of breastfeeding**

#### Summary of evidence

The systematic review on early initiation of breastfeeding (less than 1 hour after birth) compared with delayed (2-23 hours or 24 hours or more after birth) included five studies with 136 047 infants (63). Compared to infants who initiate breastfeeding within 1 hour of birth, those who initiate breastfeeding at 2-23 hours after birth, or those who initiate breastfeeding after the first day after birth, are more likely to die in the first 28 days after birth (initiated breastfeeding 2-23 hours after birth: RR: 1.33; 95% CI: 1.13 to 1.56; 5 studies, n = 136 047; initiated breastfeeding 24 hours or more after birth: RR: 2.19; 95% CI: 1.73 to 2.77; 5 studies, n = 136 047; high quality of evidence). Breastfeeding within the first hour after birth may improve survival to 3 months and to 6 months, compared to those who initiate breastfeeding later (low quality of evidence).

Initiating breastfeeding after the first hour after delivery probably increases non-exclusively breastfeeding at 1 month (initiated breastfeeding 2-23 hours after birth: RR: 1.15; 95% CI: 1.13 to 1.17; 1 study, n = 87 576; initiated breastfeeding 24 hours or more after birth: RR: 1.27; 95% CI: 1.24 to 1.31; 1 study, n = 87576; moderate quality of evidence) and at 3 months (intiated breastfeeding at 2-23 hours after birth: RR: 1.05; 95% CI: 1.04 to 1.06; 1 study, n = 86 692; initiated breastfeeding 24 hours or more after birth: RR: 1.06; 95% CI: 1.04 to 1.08; 1 study, n = 86692; moderate quality of evidence), compared to initiating breastfeeding in the first hour after birth. Initiating breastfeeding later also probably increases the non-breastfeeding rates at 1 month (moderate quality of evidence) and may increase non-breastfeeding rates at 3 months (low quality of evidence), compared to initiating breastfeeding in the first hour after delivery.

#### **Quality of evidence**

The overall quality of evidence for early initiation of breastfeeding on the critical outcomes is high. The PICO question and critical outcomes can be found in <u>Annex 1</u>. The details of the systematic review can be found in <u>Annex 2</u>. The summary of findings table can be found in <u>Annex 3</u>.

#### Balance of benefits and harms

The review by Smith et al. (63) showed that infants who initiated breastfeeding 24 hours or more after birth had an increased risk of neonatal mortality compared to when initiation was started under 24 hours after birth (RR: 1.70; 95% CI: 1.44 to 2.01; 6 studies, n = 142729). This association was consistent when limiting the population to infants who were exclusively breastfed (RR: 1.85; 95% CI: 1.29 to 2.67; 4 studies, n = 62 215) or when limiting the population to low-birth-weight infants (RR: 1.73; 95% CI: 1.38 to 2.18; 4 studies, n = 21 258).

#### Values and preferences

No studies were found on the values and preferences of mothers specifically pertaining to early initiation of breastfeeding. However, the members of the guideline development group posited that they would probably be close to the values and preferences related to early skin-to-skin contact and that there was minor variability on how much mothers would value early initiation of breastfeeding.

#### Acceptability

The review of literature on the acceptability to health workers of early initiation of breastfeeding identified the same studies as those describing acceptability of early skin-to-skin contact. The synthesis of qualitative evidence identified the same three themes where health workers generally value early initiation of breastfeeding but had safety concerns when the mother received anaesthesia or had a caesarean section, or when the infant was admitted to the neonatal intensive care unit for prematurity or low birth weight (see <u>Annex 5</u>).

#### **Resource implications**

Issues identified that had resource implications included staff time, staff capacity and staff knowledge (72-76).

#### Recommendation

2. All mothers should be supported to initiate breastfeeding as soon as possible after birth, within the first hour after delivery (*recommended*, *high-quality evidence*).

#### Showing mothers how to breastfeed

#### Summary of evidence

The systematic review on giving mothers practical, emotional, educational or social breastfeeding support in addition to standard care, compared to standard care alone, included 100 studies with 83 246 mother– infant pairs (61). Breastfeeding counselling and support at both the antenatal and postnatal period probably improved any breastfeeding before the last study assessment up to 6 months of age (RR: 0.89; 95% CI: 0.85 to 0.93; 51 studies, n = 21 708; moderate

quality of evidence), may have improved exclusive breastfeeding before the last study assessment up to 6 months (RR: 0.89; 95% CI: 0.86 to 0.93; 46 studies, n = 18 303; low quality of evidence), improved any breastfeeding up to 4-6 weeks (RR: 0.86; 95% CI: 0.79 to 0.93; 33 studies, *n* = 10 776; high quality of evidence), and may have improved exclusive breastfeeding up to 4-6 weeks (RR: 0.79; 95% CI: 0.69 to 0.89; 32 studies, n = 10 271; low quality of evidence), compared to standard care alone. Postnatal breastfeeding counselling and support (with no antenatal support provided) also probably improved any or exclusive breastfeeding before the last study assessment up to 6 months, and improved any or exclusive breastfeeding up to 4-6 weeks, compared to mothers who had standard care alone.

The systematic review to assess the effects of feedingreadiness instruments among preterm infants through randomized or quasi-randomized trials found no studies that met the inclusion criteria (58), though the authors mention several preterm oralfeeding-readiness scales.

The systematic review assessing different methods of milk expression included 41 studies with 2293 participants (40). Owing to heterogeneity in interventions and outcomes, most of the included results were derived from single studies. It was uncertain whether relaxation techniques, breast massage or warmed breasts increase the quantity of expressed milk, as the quality of the evidence has been assessed as very low. No technique for expression of breast milk (hand expression, manual or electric breast pump) was shown to consistently increase the volume of milk obtained.

#### **Quality of evidence**

The overall quality of evidence on the critical outcomes is moderate for showing mothers how to breastfeed healthy term infants and very low for providing instruction on expression of breast milk. No evidence was identified for assessing the readiness to breastfeed of a preterm infant. The PICO questions and critical outcomes can be found in <u>Annex 1</u>. The details of the systematic reviews can be found in <u>Annex 2</u>. The summary of findings tables can be found in <u>Annex 3</u>.

#### **Balance of benefits and harms**

No adverse events were reported in showing mothers how to breastfeed healthy term infants or in assessing a preterm infant's readiness to breastfeed.

Breastfeeding and the provision of human milk to the human baby is the biologically normal activity. Becker et al. (40) emphasize that breast-milk expression and pumping may be a complex and individual activity outside of the norm.

There was no evidence that a particular type of pump was associated with a higher level of milk contamination, infant sepsis or transfer to feeding at the breast. Adverse effects related to the mother, such as nipple or breast pain, were reported in three of the 41 studies included in the review (40) and showed no difference between methods of breastmilk expression, though the actual numbers reporting these adverse outcomes were small.

#### Values and preferences

The review of literature on the values and preferences of mothers towards being shown how to breastfeed and how to express breast milk identified eight studies from three countries (Canada, the United Kingdom and the United States). Mothers of normal-term infants found that being shown how to breastfeed was helpful but sometimes inadequately done, with inconsistent or infrequent support (low confidence in the evidence). They also found that being taught how to express breast milk (hand expression or mechanical pumping) was useful and allowed them the option of having someone else feed the child when they were unable to (low confidence in the evidence). The mothers of infants admitted to the neonatal intensive care unit found that breast-milk expression was a "paradoxical experience", in which they felt intense dislike of breast-milk pumping but that providing their own breast-milk to their infants was a source of valuable connection (moderate confidence in the evidence) (see Annex 4).

#### Acceptability

The review of literature on the acceptability among health workers of showing mothers how to breastfeed identified 21 studies conducted in 8 countries (Australia, Canada, Iraq, Ireland, Pakistan, South Africa, the United Kingdom and the United States). The synthesis of qualitative evidence identified three themes: (i) barriers to showing mothers how to breastfeed; (ii) differing levels of confidence in showing mothers how to breastfeed; and (iii) negative attitudes among health workers towards showing mothers how to breastfeed. Health workers felt that there were too many barriers, primarily related to time and staff availability, to adequately show mothers how to breastfeed (moderate confidence in the evidence). Some of the health workers felt that they did not have the necessary skills to show mothers how to breastfeed, and thus felt that someone else, with more experience or more specialized in lactation support, would be more appropriate (moderate confidence in the evidence). A third theme revealed that there was a negative attitude among health workers towards showing mothers how to breastfeed. The reasons cited included lack of privacy, disempowering of women and making them less self-sufficient, making nonbreastfeeding mothers who are staying in the same ward feel guilty, and fear of hurting the relationship

with the mothers (moderate confidence in the evidence) (see Annex 5).

No studies were found specifically on the acceptability among health workers of showing mothers how to express breast milk.

#### **Resource implications**

Issues identified with resource implications for showing mothers how to breastfeed and how to express breast milk include staff time, staff capacity, staff knowledge and training, and costs of optional equipment (for instance, manual or electronic pumps) (62-66).

#### Recommendations

- 3. Mothers should receive practical support to enable them to initiate and establish breastfeeding and manage common breastfeeding difficulties (recommended, moderate-quality evidence).
- 4. Mothers should be coached on how to express breast milk as a means of maintaining lactation in the event of their being separated temporarily from their infants (*recommended*, *very low-quality evidence*).

#### **Rooming-in**

#### Summary of evidence

The systematic review on keeping the mother and her infant together in the same room versus separating them after birth identified only one study, with 176 participants, that met the criteria for inclusion (60). Keeping mother-infant pairs together in the same room probably improves exclusive breastfeeding at 4 days postpartum (RR: 1.92; 95% CI: 1.34 to 2.76; 1 study, *n* = 153; moderate quality of evidence) but probably makes little or no difference to any breastfeeding at 6 months (RR: 0.84; 95% CI: 0.51 to 1.39; 1 study, n = 153; moderate quality of evidence). An additional analysis of prospective non-randomized controlled trials examining rooming-in, compared to separate care, identified three studies (77-79) that measured any breastfeeding at 3-4 months of age. It was uncertain whether rooming-in improves any breastfeeding at 3-4 months, as the quality of the evidence has been assessed as very low (RR: 1.18: 95% CI: 1.00 to 1.40; 3 studies, n = 553; very low quality of evidence).

#### **Quality of evidence**

The overall quality of evidence for rooming-in on the critical outcomes is moderate. The PICO question and critical outcomes can be found in <u>Annex 1</u>. The details of the systematic review can be found in <u>Annex 2</u>. The summary of findings table can be found in <u>Annex 3</u>.

#### **Balance of benefits and harms**

The review by Jaafar et al. (60) reported that the

overall median duration of any breastfeeding was 4 months, with no significant difference between groups (rooming-in versus separate care). The review also reported a mean frequency of breastfeeding of 8.3 times per day (standard deviation [SD]: 2.2) in the rooming-in group, compared to the fixed scheduled interval feeding of 7 times per day in the separate care group.

#### Values and preferences

The review of literature on the values and preferences of mothers towards rooming-in identified seven studies from seven countries (Indonesia, Ireland, Norway, Russia, Sweden, the United Kingdom and the United States). The synthesis of qualitative evidence showed that most mothers preferred to room-in their infant, although there was also a significant proportion who would prefer not to room-in at night (moderate confidence in the evidence) (see <u>Annex 4</u>).

#### Acceptability

The review of literature on the acceptability of rooming-in among health workers identified seven studies from four countries (Australia, Canada, India and the United States). Some health workers viewed rooming-in favourably and would encourage its practice but most felt that it was not necessary. Most health workers reported that they would often offer separate care to mothers, in order to allow the mothers to rest. Health workers working in neonatal intensive care units reported that limits to their resources would not allow mothers and infants to stay together for 24 hours a day (moderate confidence in the evidence) (see <u>Annex 5</u>).

#### **Resource implications**

Issues identified with resource implications for the implementation of rooming-in include costs related to hospital infrastructure. Inadequate delivery resources and space could mean bed-sharing among multiple labour and delivery patients (73), which may potentially lead to unsafe sleeping environments. Neonatal intensive care units are often not equipped for mothers and infants to room-in or stay together the whole day (72).

#### Recommendation

5. Mothers giving birth in facilities providing maternity and newborn services should enable mothers and their infants to remain together and to practise rooming-in throughout the day and night. This may not apply in circumstances when infants need to be moved for specialized medical care (recommended, moderate-quality evidence).

#### **Demand feeding**

#### Summary of evidence

The systematic reviews on demand feeding among

healthy term newborns (59) and on feeding of preterm infants in response to their hunger and satiation cues (64), compared to scheduled or timed feeding, did not find any studies that were eligible for inclusion into the reviews.

#### **Quality of evidence**

There was no evidence identified from randomized controlled trials to inform on optimum feeding patterns (baby-led or demand feeding versus scheduled or timed feeding) on the critical outcomes among term or preterm infants. The PICO question and critical outcomes can be found in <u>Annex 1</u>. The details of the systematic reviews can be found in <u>Annex 2</u>.

#### **Balance of benefits and harms**

The review by Watson and McGuire (64) among preterm infants showed that infants fed in response to their hunger and satiation cues, compared to those fed on scheduled intervals, had a lower rate of weight gain (MD: -1.36 g/kg/day; 95% CI: -2.44 to -0.29; 4 studies; n = 305), based on four studies with moderate risk of bias (none of the participants or outcome assessors were blinded and two of the studies had unclear or high risk of selection bias). There were three other studies that reported no significant differences in the rate of weight gain between the two groups but the duration of intervention was for less than one week.

The infants from the two groups also did not statistically differ in the duration of hospital stay (MD: -1.03; 95% CI: -9.41 to 7.34; 2 studies; n = 145), based on two studies, both with unclear selection bias and no blinding. Two other studies reported no significant difference in the duration of hospital stay between the two groups but did not report numerical data. One additional study reported a duration of hospital stay of 31 days among infants with responsive feeding and 33 days among infants with scheduled interval feedingbut did not state whether this difference was statistically significant and did not report standard deviations.

The infants who were fed in response to their hunger and satiation cues had a slightly younger postmenstrual age at discharge (MD: -0.48 weeks;

95% CI: -0.94 to -0.01; 2 studies; n = 138), based on two studies with unclear or high risk of selection bias and no blinding. They also had a shorter time taken to achieve full oral feeding (MD: -5.53 days; 95% CI: -6.80 to -4.25 days; 2 studies; n = 167), based on two studies with no blinding.

#### Values and preferences

The review of literature on the values and preferences of mothers towards demand feeding identified four studies from four countries (Japan, Russia, Sweden and the United Kingdom). Mothers valued demand feeding but felt that they needed more support. Some felt uncertain and anxious about the hunger and feeding cues from their infants. Mothers with infants admitted to the neonatal intensive care unit felt that they needed more support in the transition to demand feeding as their infants showed signs of interest in sucking (low confidence in the evidence) (see Annex 4).

#### Acceptability

The review of literature on the acceptability of demand feeding among health workers identified seven studies conducted in six countries (Australia, Canada, China, India, Ireland and the United States). Health workers had differing views on demand feeding. Some were unaware of the concept of demand, responsive or infant-led feeding, or the normal infant feeding patterns in the first few days after birth. Some health workers were uncomfortable about promoting demand feeding (especially against persisting practice of more experienced staff to schedule feeds), while others saw demand feeding as standard care except in specialized units such as the neonatal intensive care unit where strict documentation of feeds is required (low confidence in the evidence) (see Annex 5).

#### **Resource implications**

Resource implications identified for demand feeding are closely related to those for rooming-in. They include costs related to hospital infrastructure and possible difficulties in space or equipment (72, 73).

#### Recommendation

6. Mothers should be supported to practise responsive feeding as part of nurturing care (recommended, very low-quality evidence).

#### Box 2. Summary of recommendations on immediate support to initiate and establish breastfeeding

- Early and uninterrupted skin-to-skin contact between mothers and infants should be facilitated and encouraged as soon as possible after birth (recommended, moderate-quality evidence).
- All mothers should be supported to initiate breastfeeding as soon as possible after birth, after delivery (recommended, high-quality evidence).
- 3. Mothers should receive practical support to enable them to initiate and establish breastfeeding and manage common breastfeeding difficulties (recommended, moderate-quality evidence).
- 4. Mothers should be coached on how to express breast milk as a means of maintaining lactation in the event of their being separated temporarily from their infants (recommended, very low-quality evidence).
- 5. Facilities providing maternity and newborn services should enable mothers and their infants to remain together and to practise rooming-in throughout the day and night. This may not apply in circumstances when infants need to be moved for specialized medical care (recommended, moderate-quality evidence).
- 6. Mothers should be supported to practise responsive feeding as part of nurturing care (recommended, very low-quality evidence).

# Rationale for immediate support to initiate and establish breastfeeding

The following factors were taken into consideration during the deliberations.

 Interventions to support the establishment of breastfeeding in the immediate period after birth have the strongest evidence for mortality prevention and positive breastfeeding outcomes beyond the stay at the facilities providing maternity and newborn services. Early skin-to-skin contact and early initiation of breastfeeding can increase the likelihood of any or exclusive breastfeeding up to 3–6 months of life. Showing mothers how to breastfeed in the immediate postnatal period makes them more likely to continue any or exclusive breastfeeding to 6 months of age. Mothers and infants who room-in together are almost twice as likely to be exclusively breastfeeding during the stay at the facilities providing maternity and newborn services. Fostering sensitive, reciprocal and nurturing relationships between mothers and infants results in considerable benefit to both.

- Supporting mothers to form an early and close relationship and feeding with their infants is highly valued by mothers. Mothers who experience early skin-to-skin contact or who have had a positive experience with being supported in the initial breastfeeds appreciate and would like to repeat these experiences. Mothers who are given conflicting advice or are given information in a mechanistic manner feel undermined.
- Many health workers report little knowledge about breastfeeding and have poor confidence in their skills to support a mother to breastfeed. Guidance to health workers on the minimum support that all mothers need, and competence towards addressing common breastfeeding problems, may be appropriate. This will allow health workers to assess infants' health and feeding, as well as to provide support to breastfeeding mothers tailored to their individual needs, sensitively given and considering their social and cultural context, in order that they may overcome any challenges they may face. Collaboration or referral to address more complex breastfeeding challenges may be useful.

#### Remarks

The remarks in this section are points to consider regarding implementation of the recommendations for immediate support to initiate and establish breastfeeding, based on the discussion of the guideline development group and the external experts.

- Focused and optimal immediate support to initiate and establish breastfeeding in the first hours and days of life have positive effects far beyond the stay at the facilities providing maternity and newborn services.
- Although there is evidence of benefit for immediate and uninterrupted skin-to-skin contact starting at less than 10 minutes after delivery, this practice can often be started much sooner, by the second or third minute after delivery, while continued assessment, drying and suctioning (if needed) are done while the infant is in skin-to-skin contact. Uninterrupted skin-to-skin contact ideally lasts for more than 1 hour, and longer periods, when well tolerated by both mother and infant, should be encouraged.

- During early skin-to-skin contact and for at least the first 2 hours after delivery, sensible vigilance and safety precautions should be taken, so that health-care personnel can observe for, assess and manage any signs of distress.
- Early initiation of breastfeeding has been shown to have positive effects when done within the first hour after delivery. Among healthy term infants, feeding cues from the infant may be apparent within the first 15–20 minutes after birth, or may not be apparent until later.
- Because there is a dose-response effect in that earlier initiation of breastfeeding results in greater benefits, mothers who are not able to initate breastfeeding during the first hour after delivery should still be supported to breastfeed as soon as they are able. This may be relevant to mothers who deliver by caesarean section, after an anaesthetic, or those who have medical instability that precludes initiation of breastfeeding within the first hour after birth.
- Mothers should be enabled to achieve effective breastfeeding, including being able to position and attach their infants to the breast, respond to their infants' hunger and feeding cues, and express breast milk when required.
- Expression of breast milk is often a technique used to stimuate attachment at the breast and effective suckling during the establishment of breastfeeding, not only when mothers and infants are separated.
- Mothers of infants admitted to the neonatal intensive care unit should be sensitively supported to enable them to have skin-to-skin contact with their infants, recognize their infants' behaviour cues, and effectively express breast milk soon after birth.

## Feeding practices and additional needs of infants

The evidence that formed the recommendation on feeding practices and additional needs of infants is based on seven systematic reviews from the Cochrane Pregnancy and Childbirth Group, St Luke's International University (as part of the Cochrane Pregnancy and Childbirth Group in Tokyo, Japan) and Cochrane Neonatal Review Group (8o-86). The key questions and outcomes guiding the evidence review and synthesis for the recommendations in this guideline are listed in <u>Annex 1</u>. The details of the systematic reviews can be found in <u>Annex 2</u> and the summary of findings tables can be found in <u>Annex 3</u>.

The WHO Secretariat further performed a qualitative evidence synthesis of published literature, to identify and summarize qualitative research on the values and preferences of mothers (see <u>Annex 4</u> for the summary of qualitative findings tables) and factors that influence acceptability among health workers and stakeholders (see <u>Annex 5</u> for the summary of qualitative findings tables).

A search of the published literature was performed to inform on resource use, feasibility and equity and human rights issues for each of the interventions. The information on feasibility and equity and human rights issues was common to all interventions and is presented earlier.

Though the issues around resource implications were similar for many of the interventions, some of the resource implications were more specific and are presented for each of the interventions.

#### Early additional foods or fluids

#### Summary of evidence

The systematic review on giving additional foods (for instance, artificial milk) or fluids (for instance, water or glucose water) other than breast milk to full-term infants, in the first few days after birth, identified 11 studies with 2542 randomized mother-infant pairs (86). Three studies (with 270 mother-infant pairs) contributed to the evidence. Addition of artificial milk in the first few days after birth probably makes little or no difference to breastfeeding at discharge (RR: 1.02; 95% CI: 0.97 to 1.08; 1 study, n = 100; moderate quality of evidence), compared to those not given additional artificial milk. It was uncertain whether giving artificial milk in the first few days after birth has an effect on breastfeeding at 3 months (RR: 1.21; 95% CI: 1.05 to 1.41; 2 studies, n = 137; very low quality of evidence) or exclusively breastfeeding for the last 24 hours at 3 months of age (RR: 1.43; 95% CI: 1.15 to 1.77; 2 studies, n = 138; very low quality of evidence), as the quality of the evidence has been assessed as very low.

Giving additional water in the first few days after birth probably reduces any breastfeeding at 4 weeks (RR: 0.83; 95% CI: 0.73 to 0.94; 1 study, n = 170; moderate quality of evidence), at 12 weeks (RR: 0.68; 95% CI: 0.53 to 0.87; 1 study, n = 170; moderate quality of evidence) and at 20 weeks (RR: 0.69; 95% CI: 0.50 to 0.95; 1 study, n = 170; moderate quality of evidence), compared to not giving any additional water.

#### **Quality of evidence**

The overall quality of evidence for giving early additional foods or fluids other than breast milk on the critical outcomes is moderate. The PICO question and critical outcomes can be found in <u>Annex 1</u>. The details of the systematic review can be found in <u>Annex 2</u>.

The summary of findings table can be found in Annex 3.

#### **Balance of benefits and harms**

The review by Smith and Becker (86) showed no clinically significant difference in the incidence of fever, serum glucose levels by day 2, and weight change by day 3 between infants given glucose water and those who were exclusively breastfed.

The review also reports one study on term infants that showed decreased risk of allergy symptoms at 18 months of age among infants given infant formula every 4 hours until the "mother's breast-milk production started", compared to those not given infant formula (RR: 0.56; 95% CI: 0.35 to 0.91; 1 study; n = 207). This study had a high risk of selection bias (quasi-randomized trial with alternating months for allocation of intervention), high risk of detection bias and unclear reporting bias. There was more family history of allergy among the breastfeeding group than in the infant formula group (58% versus 46%) (87).

The evidence on breastfeeding outcomes from the systematic review adds to the already substantial body of evidence of positive health benefits from exclusive breastfeeding in the first 6 months of life and optimal infant feeding practices thereafter, including introduction of complementary foods while continuing to breastfeed up to 2 years and beyond (3, 4, 6-11, 13).

#### Values and preferences

The review of literature on the values and preferences of mothers towards giving early additional foods or fluids identified three studies from Ethiopia, Nigeria and Pakistan. Mothers living in cultural contexts where pre-lacteal feeds are acceptable valued prelacteal feeds. Mothers perceive them as beneficial to the infant (e.g. cleaning of the stomach, positive effect on health, prevention of afflictions) (moderate confidence in the evidence) (see Annex 4).

#### Acceptability

The review of literature on the acceptability to health workers of giving early additional foods or fluids identified 12 studies from 6 countries (Australia, Canada, China, India, the United Kingdom and the United States). Health workers felt that breast milk is good, but that breast-milk substitutes were also fine. Several studies reported that health workers view infant formula as an acceptable option that will not harm an infant. Some studies describe healthcare providers as saying that giving early additional foods or fluids is the mother's choice and that formula should be an option if that is what she wants, or that protecting mothers from tiredness during the night by feeding the infant with breast-milk substitutes was an acceptable reason (moderate confidence in the evidence) (see Annex 5).

#### **Resource implications**

Possible resource implications of implementing no giving of early additional foods or fluids include continued implementation of the *International Code of Marketing of Breast-milk Substitutes* (26) as adopted by the 34th session of the WHA (76, 88, 89).

#### Recommendation

7. Mothers should be discouraged from giving any food or fluids other than breast milk, unless medically indicated (recommended, moderate-quality evidence).

#### Avoidance of pacifiers or dummies

#### Summary of evidence

The systematic review on the effect of restricted or unrestricted pacifier use on breastfeeding duration among term infants included three randomized controlled trials with 1915 infants (85). The three randomized controlled trials included two trials where the intervention was conducted during the stay at the facilities providing maternity and newborn services (90, 91) and one in which the intervention was started 2 weeks after the birth (92). The results were thus modified to exclude the study implemented outside of the stay in the facilities providing maternity and newborn services.

Restricted pacifier use by term infants during their stay at the facilities providing maternity and newborn services makes little or no difference to breastfeeding at discharge (RR: 1.01; 95% CI: 1.00 to 1.03; 1 study, n = 541; high quality of evidence), at 3–4 months (RR: 1.02; 95% CI: 0.95 to 1.11; 2 studies, n = 799; high quality of evidence) and at 6 months (RR: 1.06; 95% CI: 0.92 to 1.23; 1 study, n = 541; high quality of evidence). Restricted pacifier use probably makes little or no difference to exclusive breastfeeding at 3–4 months (RR: 1.08; 95% CI: 0.77 to 1.51; 1 study, n = 258; moderate quality of evidence). The overall quality of evidence for these critical outcomes from randomized controlled trials was high for avoidance of pacifier use among term infants.

Two systematic reviews on non-nutritive sucking and oral stimulation were done among preterm infants. The systematic review by Foster et al. on the effect of non-nutritive sucking on physiological stability and nutrition in preterm infants identified 12 studies with 746 preterm infants (82). Provision of non-nutritive sucking may make little or no difference to exclusive breastfeeding at discharge (RR: 1.08; 95% CI: 0.88 to 1.33; 1 study, n = 303; low quality of evidence), and probably makes little or no difference to any breastfeeding at discharge (RR: 1.16; 95% CI: 0.88 to 1.17; 1 study, n = 303; moderate quality of evidence). It was uncertain whether non-nutritive sucking had an effect on any breastfeeding 3 months after discharge (RR: 0.92; 95% CI: 0.69 to 1.23; 1 study, n = 283; very low quality of evidence), or any breastfeeding 6 months after discharge (RR: 0.80; 95% CI: 0.54 to 1.17; 1 study, n = 281; very low quality of evidence), as the quality of the evidence has been assessed as very low.

The review by Greene et al. on preterm infants who were healthy enough to have oral feeding identified 19 studies with 823 participants (84). It was uncertain whether oral stimulation has an effect on exclusively direct breastfeeding at discharge (RR: 1.83; 95% CI: 0.96 to 3.48; 1 study, n = 59; very low quality of evidence) or on any direct breastfeeding at discharge (RR: 1.24; 95% CI: 0.58 to 2.66; 2 studies, n = 110; very low quality of evidence), as the quality of the evidence has been assessed as very low.

A further review of observational studies was done to assess the association between pacifier use during the stay at the facilities providing maternity and newborn services and breastfeeding outcomes. Two relevant observational studies were found. A study conducted in Poland in 1995 used a survey form completed by hospital staff on feeding practices and a number of other variables such as pregancy duration, parity, delivery method, birth weight, hyperbilirubinaemia, time of first breastfeeding, skin-to-skin contact, rooming-in, separation from the infant, use of nipple shield and use of pacifier, on 11 973 mother-infant pairs (93). Among the subset of 11 422 (97.2%) who initiated breastfeeding, 7870 were exclusively breastfed on discharge. Those who were not exclusively breastfeeding on discharge were more likely to have been using a pacifier (unadjusted odds ratio [OR]: 4.97; 95% CI: 3.83 to 6.45; n = 11 422).

In a study in Switzerland in 1999, midwives and nurses in 28 facilities providing maternity and newborn services collected information on infants and their feeding practices such as birth weight, gestational age, type of delivery, time of breastfeeding initiation, and use of artificial teats or pacifiers (94). Of the 5790 questionnaries filled in, 4351 were used after excluding the preterm or low-birth-weight neonates, those who medically needed breast-milk substitutes, those who were transferred to the neonatal intensive care unit, and those with missing or invalid information. Infants who were given supplementation with water-based liquids or infant formula during the hospital stay were not statistically significantly more likely to have used a pacifier (OR: 1.11; 95% CI: 0.93 to 1.31; n = 4351). When the odds ratio was adjusted for maternal age, parity, education, nationality, birth weight, gestational age, rooming-in, time of initiation of breastfeeding and place of birth, those who were given supplementation were more likely to have used pacifiers or dummies during the stay at the facilities providing maternity and newborn services (adjusted odds ratio [aOR]: 1.85; 95% CI: 1.47 to 2.33; n = 4186).

Combining the raw data (unadjusted) of the observational studies done in Poland and Switzerland shows that infants who were not exclusively breastfeeding at discharge were more likely to have been introduced to a pacifier (OR: 1.78; 95% CI: 1.56 to 2.04; 2 studies, n = 15 770).

Observational studies that show an association are generally unable to clearly show whether the association is causal or due to confounding, reverse causality or self-selection. An epidemiologic and prospective ethnographic study was done in Brazil in 1993, in order to investigate the association between pacifier use and breastfeeding practice (95). From a cohort of 650 mothers, 450 were not excluded for stopping breastfeeding by 1 month of age, for reporting breastfeeding problems, or having incomplete followup. Among these 450 mothers, the association of pacifier use and stopping breastfeeding by 6 months of age (adjusted for use of cow's milk or formula, use of feeding bottle, maternal age, skin colour, low birth weight, sex, type of delivery, breastfeeding at hospital discharge, breastfeeding on demand at 1 month of age, and maternal opinion that pacifiers affect breastfeeding) was aOR: 2.5 (95% CI: 1.40 to 4.01; n = 439). The ethnographic analysis among a cohort of 80 mothers who had repeated in-depth interviews and participant observations showed that pacifier use was widely accepted, that mothers stimulated their infants to accept the pacifier, and that they used pacifiers to increase the intervals between breastfeeds or to wean the infant completely off the breast. The mothers who offered pacifiers to their infants tended to have more breastfeeding difficulties, and be more anxious and less self-confident about breastfeeding and their infants' development.

#### **Quality of evidence**

The overall quality of evidence for pacifier use among term infants on the critical outcomes is high. The overall quality of evidence for non-nutritive sucking or oral stimulation among preterm infants on the critical outcomes is low. The PICO question and critical outcomes can be found in <u>Annex 1</u>. The details of the systematic reviews can be found in <u>Annex 2</u>. The summary of findings tables can be found in <u>Annex 3</u>.

#### Balance of benefits and harms

The review by Foster et al. (82) showed that nonnutritive sucking versus no provision of non-nutritive sucking did not significantly affect the number of days from birth to full breastfeeding (MD: -1.0 days; 95% CI: -6.7 to 4.7; 1 study; n = 303) or weight gain (MD: -1.6 g/day; 95% CI: -3.5 to 0.4; 3 studies; n = 103). The preterm infants who were given non-nutritive sucking had a statistically significant shorter length of hospital stay, compared to those not provided with non-nutritive sucking (MD: -4.6 days; 95% CI: -8.1 to -1.1; 6 studies; n = 501). The authors of the review concluded that there do not appear to be any short-term negative effects and that no long-term data are presently available (82).

The review by Greene et al. (84) among preterm infants showed that infants with oral stimulation did not significantly differ from those without oral stimulation in absolute weight gain (MD: 0.73 g; 95% CI: -1.05 to 2.51; 2 studies; n = 81). The preterm infants who had oral stimulation, compared to those who had no oral stimulation, were significantly more likely to take fewer days to full oral feeding (MD:-5.2 days; 95% CI: -6.9 to -3.6; 8 studies; n = 376) and to have a shorter length of hospital stay (MD: -5.3 days; 95% CI: -7.3 to -3.2; 7 studies; n = 301).

No adverse events were reported by the review on the provision or avoidance of pacifiers or dummies among term infants (85).

#### Values and preferences

The review of literature on the values and preferences of mothers towards pacifier use identified five studies conducted in five countries (Australia, Brazil, Egypt, New Zealand and Sweden). Mothers valued the use of pacifiers or dummies. Mothers use pacifiers or dummies because they believe that these soothe or settle their infants, to teach them to suck, to rest between breastfeeds, and to help in the weaning of the baby. Pacifier use was seen as normal positive behaviour. Mothers of preterm and very preterm infants suggested including as a step: "Offer the infant a pacifier for relief of pain, stress and anxiety, and for stimulating the uptake of nutrients during tube feeding. Introduce bottle feeding when there is a reason!" (96). Only a minority of mothers would withhold the pacifier for fear that it would interfere with breastfeeding. Some avoided pacifier use for appearance, or concern for formation of a habit or said that it was not needed or said it was "unnatural" (and they would rather carry their baby as a better way to soothe them). There were also concerns about hygiene, problems with losing the pacifier, and the effect on teeth (moderate confidence in the evidence) (see Annex 4).

Among randomized controlled trials in term infants included in the review by Jaafar et al. (85), the rates of noncompliance among the groups advised to avoid pacifier use (that is, the percentages of mothers who introduced pacifiers despite having been told not to) were 24% (70/294) (91), 40% (188/471) (92) and 61% (78/127) (90). From the review by Foster et al. (92), the study that reported on breastfeeding outcomes in preterm infants noted that non-compliance among the group assigned to the no pacifier group was 31% (47/152) (97). The reasons for noncompliance given by the mothers were because the baby was unsettled and to teach the baby to suck.

#### Acceptability

The review of literature on the acceptability of pacifier avoidance among health-care personnel identified nine studies conducted in six countries (Australia, Canada, Germany, India, the United Kingdom and the United States). There were mixed findings on healthcare providers' perceptions of pacifier use. Studies varied on whether maternity staff found advising women on pacifier use easy or an obstacle. Some studies found an "almost universal ambivalence by staff towards the use of teats and dummies". Some felt that the practice of using or avoiding teats in the hospital was inconsistent but that this was not open for discussion. Some health-care personnel were reported as not being aware of the effect of pacifiers or dummies on breastfeeding, or having personal experiences that led them to advise women against banning pacifiers or dummies (moderate confidence in the evidence) (see Annex 5).

#### **Resource implications**

Possible resource issues in the implementation of avoidance of pacifier use include time spent by health workers on teaching and supporting mothers, and staff capacity and training (72-76).

#### Recommendations

- 8. Mothers should be supported to recognize their infants' cues for feeding, closeness and comfort, and enabled to respond accordingly to these cues with a variety of options, during their stay at the facility providing maternity and newborn services (recommended, high-quality evidence).
- For preterm infants who are unable to breastfeed directly, non-nutritive sucking and oral stimulation may be beneficial until breastfeeding is established (recommended, low-quality evidence).

#### Avoidance of feeding bottles and teats

#### Summary of evidence

The systematic review on the use of feeding bottles and teats as alternative methods of feeding healthy term infants whose mothers intend to exclusively breastfeed identified two trials with 1241 participants (83). Giving breast milk using bottles and teats when not on the breast, during the stay at the facilities providing maternity and newborn services, probably makes little or no difference to breastfeeding at discharge (RR: 1.01; 95% CI: 1.00 to 1.02; 1 study, n = 541; moderate quality of evidence) or any breastfeeding at 2 months (RR: 1.00; 95% CI: 0.94 to 1.07 1 study, n = 541; moderate quality or evidence). Giving breast milk using bottles and teats may make little or no difference to any breastfeeding at 6 months (RR: 1.07; 95% CI: 0.92 to 1.24; 1 study, n = 505; low quality of evidence) or to the duration of any

breastfeeding (hazards ratio [HR]: 1.06; 95% CI: 0.88 to 1.27; 1 study, n = 481; low quality of evidence) or the duration of exclusive breastfeeding (HR: 0.92; 95% CI: 0.76 to 1.12; 1 study, n = 481; low quality of evidence).

The systematic review on the use of cup feeding (instead of bottle feeding) among infants who were unable to breastfeed identified five studies with 971 participants (81). All the studies in the review were conducted on preterm infants. Feeding preterm infants who were unable to breastfeed by cup rather than bottle probably improved exclusive breastfeeding at discharge (RR: 0.61; 95% CI: 0.52 to 0.71; 4 studies, n = 893; moderate quality of evidence), may improve any breastfeeding at discharge (RR: 0.64; 95% CI: 0.49 to 0.85; 4 studies, n = 957; low quality of evidence), probably improves any breastfeeding at 3 months (RR: 0.83; 95% CI: 0.71 to 0.97; 3 studies, n = 883; moderate quality of evidence) and probably improves any breastfeeding at 6 months (RR: 0.83; 0.71 to 0.95; 2 studies, *n* = 803; moderate quality of evidence).

The systematic review on complete avoidance of bottles (instead using alternative feeding devices such as gavage tube, cup, spoon, dropper or finger feeding) during the transition to breast feeds among preterm infants identified seven studies with 1152 participants (80). Feeding preterm infants using alternative feeding devices rather than bottles and teats probably improves exclusive breastfeeding at discharge (RR: 1.47; 95% CI: 1.19 to 1.80; 6 studies, n = 1074; moderate quality of evidence), at 3 months (RR: 1.56; 95% CI: 1.37 to 1.78; 4 studies, n = 986; moderate quality of evidence) and at 6 months (RR: 1.64; 95% CI: 1.14 to 2.36; 3 studies, n = 887; moderate quality of evidence), compared to giving feeds by bottles and teats. Alternative feeding devices (compared to use of bottles and teats) also probably improves any breastfeeding at discharge, at 3 months and at 6 months (moderate quality of evidence).

#### **Quality of evidence**

The overall quality of evidence for avoidance of feeding bottles and teats on the critical outcomes is moderate for term and preterm infants. The PICO question and critical outcomes can be found in <u>Annex 1</u>. The details of the systematic reviews can be found in <u>Annex 2</u>. The summary of findings tables can be found in <u>Annex 3</u>.

#### **Balance of benefits and harms**

The review by Flint et al. (81) noted that none of the studies reported on the numbers experiencing choking, aspiration, infection or deaths. Collins et al. (97) reported no adverse events; Yilmaz et al. (98) and Rocha et al. (99) reported no cases of aspiration or apnoea, and no difference in mean oxygen saturations between cup-fed and bottle-fed infants during feeds.

The review by Collins et al. (70) showed no difference between preterm infants fed by bottle and those not fed by bottle, in terms of: days to reach full breastfeeding (MD: 2.56 days; 95% CI: -7.17 to 12.28; 3 studies; n = 429); length of hospital stay (MD: 2.25 days; 95% CI: -3.36 to 7.86; 4 studies; n = 1004); and episodes of infection (RR: 0.70; 95% CI: 0.35 to 1.42; 3 studies; n = 500). The number of incidents of infection noted were 12/250 (4.8%) among infants who were not bottle fed and 17/250 (6.8%) among infants who were bottle fed. The review also noted that three studies reported on milk aspiration assessed radiologically and that no episodes were identified.

#### Values and preferences

The review of literature on the values and preferences of mothers towards avoidance of feeding bottles and teats identified three studies conducted in three countries (Australia, Sweden and the United Kingdom). Two of these studies discussed mothers' values and preferences on the use of cup feeding (carried out in Australia and the United Kingdom).

Mothers found using a bottle easy and convenient. They felt that there was no need for training. Among mothers of very preterm and very low-birth-weight infants, mothers held the opinion that breastfeeding is the best choice, but bottle feeding can also be a good choice (low confidence in the evidence). The mothers also found using a cup difficult, messy and time-consuming, and that the infant would not seem satisfied (low confidence in the evidence) (see Annex 4).

Among the reviews, included studies had high non-compliance rates among the cup-feeding or bottle-avoidance groups. In the study by Collins et al. (97), 56% (85/151) of the infants in the cupfeeding group were fed using a bottle. According to the mothers, this was because the infants had problems with the cup feeding, such as not managing the cup feeds, spilling a lot, not being satisfied, or taking too long to feed. Among those assigned to bottle feeding, 0.7% (1/152) were given cup feeds. In the study by Yilmaz et al. (98), 10% (26/254) of the infants in the cup-feeding group and 8% (21/268) in the bottle-feeding group were excluded for non-compliance. In the study by Schubiger et al. (91), 11% (28/250) of the infants in the cup- or spoon-feeding group violated protocol: 19 mothers requested a bottle and 9 infants were reported to fail spoon or cup feeding.

#### Acceptability

The review of literature on the acceptability of avoidance of feeding bottles and teats among healthcare personnel identified 10 studies conducted in 5 countries (Canada, Germany, India, the United Kingdom and the United States). Health workers disliked cup feeding and were ambivalent about bottle feeding. In several of the studies, providers expressed the belief that it makes no difference how a baby is fed and sometimes it might be better if the baby has a bottle. Bottles were described by some health-care providers as being essential or even beneficial when a mother is struggling. In the neonatal intensive care unit, bottles were reported as being necessary, with the perception that this was due to prioritization of medical care over breastfeeding.

Many studies reported that bottles were preferred by health-care providers to other methods of feeding, such as cup feeding (moderate confidence in the evidence) (see Annex 5).

#### **Resource implications**

Possible resource issues in the implementation of avoidance of feeding bottles and teats include time spent by health workers on teaching and supporting mothers to use cups and other feeding methods, and staff capacity and training (72–76).

#### Recommendations

- 10. If expressed breast milk or other feeds are medically indicated for term infants, use of feeding methods such as cups, spoons or feeding bottles and teats may be used, during their stay at the facility (recommended, moderate-quality evidence).
- If expressed breast milk or other feeds are medically indicated for preterm infants, feeding methods such as cups or spoons are preferable to feeding bottles and teats (recommended, moderate-quality evidence).

#### Box 3. Summary of recommendations on feeding practices and additional needs of infants

- Mothers should be discouraged from giving any food or fluids other than breast milk, unless medically indicated (recommended, moderate-quality evidence).
- Mothers should be supported to recognize their infants' cues for feeding, closeness and comfort, and enabled to respond accordingly to these cues with a variety of options, during their stay at the facility providing maternity and newborn services (recommended, high-quality evidence).
- For preterm infants who are unable to breastfeed directly, non-nutritive sucking and oral stimulation may be beneficial until breastfeeding is established (recommended, low-quality evidence).
- 10. If expressed breast milk or other feeds are medically indicated for term infants, use of feeding methods such as cups, spoons or feeding bottles and teats may be used during their stay at the facility (recommended, moderate-quality evidence).
- If expressed breast milk or other feeds are medically indicated for preterm infants, feeding methods such as cups or spoons are preferable to feeding bottles and teats (recommended, moderate-quality evidence).
## Rationale for feeding practices and additional needs of infants

The following factors were taken into consideration during the deliberations.

- Early additional feeds other than breast milk have been shown to decrease rates of breastfeeding up to 20 weeks after birth.
- Avoidance of pacifiers or feeding bottles and teats during the stay in the facilities providing maternity and newborn services (in the first 5 days of life) make little or no difference to the rates of any breastfeeding among term infants at discharge, and any or exclusive breastfeeding outcomes at 3 or 6 months.
- Among preterm infants, use of non-nutritive sucking or oral stimulation did not have a significant effect on breastfeeding outcomes but was associated with a shorter length of hospital stay.
- When additional feeds are medically indicated, or when direct breastfeeding is not feasible, avoiding the use of feeding bottles and teats among preterm infants increases the likelihood of any or exclusive breastfeeding up to 6 months after discharge.
- Many mothers value pacifiers and a considerable number would introduce pacifiers even when discouraged to do so. Many also value the convenience of using feeding bottles and teats to provide breast milk when their infants are not on the breast. Mothers can be supported to make informed decisions regarding the use of pacifiers and bottles and teats during their stay at the facilities providing maternity and newborn services, by ensuring that they are aware of the slight risk of interfering with breastfeeding during these early days.

## Remarks

The remarks in this section are points to consider regarding implementation of the recommendations on feeding practices and additional needs of infants, based on the discussions of the guideline development group and the external experts.

- Additional foods and fluids apart from breast milk should only be given when medically acceptable reasons exist. Lack of resources, staff time or knowledge are not justifications for the use of early additional foods or fluids.
- Proper guidance and counselling of mothers and other family members enables them to make informed decisions on the use or avoidance of pacifiers and/or feeding bottles and teats until the succesful establishment of breastfeeding.

- Supporting mothers to respond in a variety of ways to behavioural cues for feeding, comfort or closeness enables them to build caring, nurturing relationships with their infants and increase their confidence in themselves, in breastfeeding and in their infants' growth and development. Ways to respond to infant cues include breastfeeding, skin-to-skin contact, cuddling, carrying, talking, singing and so forth.
- There should be no promotion of breast-milk substitutes, feeding bottles, teats, pacifiers or dummies in any part of facilities providing maternity and newborn services, or by any of the staff.
- Health facilities and their staff should not give feeding bottles, teats or other products within the scope of the International Code of Marketing of Breast-milk Substitutes and its subsequent related WHA resolutions (26, 28), to breastfeeding infants.

# Creating an enabling environment

The evidence that formed the recommendation on health promotion and fostering an enabling environment is based on six systematic reviews from the Cochrane Pregnancy and Childbirth Group, St Luke's International University (as part of the Cochrane Pregnancy and Childbirth Group in Tokyo, Japan) and independent authors (41-45, 100). The key question and outcomes guiding the evidence review and synthesis for the recommendations in this guideline are listed in <u>Annex 1</u>. The details of the systematic reviews can be found in <u>Annex 2</u>. The summary of findings tables can be found in <u>Annex 3</u>.

The WHO Secretariat further performed a qualitative evidence synthesis of published literature to identify and summarize qualitative research on the values and preferences of mothers (see <u>Annex 4</u> for the summary of qualitative findings tables) and factors that influence acceptability among health workers and stakeholders (see <u>Annex 5</u> for the summary of qualitative findings tables).

A search of the published literature was performed to inform on resource implications, feasibility and equity and human rights issues for each of the interventions. The information on feasibility and equity and human rights issues was common to all interventions and is presented earlier.

Though the issues around resource implications were similar for many of the interventions, some of the resource implications were more specific and are presented for each of the interventions.

## Breastfeeding policy at facilities providing maternity and newborn services

## Summary of evidence

The systematic review on the effect of having a written and regularly communicated policy on breastfeeding and other critical outcomes identified one study with 916 infants (41). It was uncertain whether infants born in facilities providing maternity and newborn services that have a written and regularly communicated policy on breastfeeding are more likely to be exclusively breastfeeding, as the quality of the evidence has been assessed as very low (RR: 1.05; 95% CI: 0.87 to 1.27; 1 study, n = 916; very low quality of evidence).

#### **Quality of evidence**

The overall quality of evidence for having a written breastfeeding policy that is routinely communicated to staff on the critical outcomes is very low. The PICO question and critical outcomes can be found in <u>Annex 1</u>. The details of the systematic review can be found in <u>Annex 2</u>. The summary of findings table can be found in <u>Annex 3</u>.

## **Balance of benefits and harms**

No adverse effects were noted from literature and the discussions of the guideline development group.

#### Values and preferences

No studies were found on the values and preferences of mothers towards a written breastfeeding policy of facilities providing maternity and newborn services.

#### Acceptability

The review of literature on the acceptability of having a policy on breastfeeding at facilities providing maternity and newborn services among health workers identified six studies from six countries (Australia, China, New Zealand, South Africa, the United Kingdom and the United States). There were two themes identified: one on the content of the policy and the other on the implementation of the policy. One study (101) showed that midwives of a district general hospital in the United Kingdom felt that the infant feeding policy should be neutral (and not emphasize one feeding method over another), or there should not be one. They felt that this would allow them to support mothers in whichever feeding method they chose (very low confidence in the evidence). Most health workers felt that implementing a policy on breastfeeding was a daunting task and would require frequent communication. They identified the need for resources to create and implement such a policy, particularly if the administration had little experience in this (low confidence in the evidence) (see Annex 5).

#### **Resource implications**

Resource implications identified for implementing a written breastfeeding policy that is routinely communicated include facility administrative support and, more generally, support from the national policy environment in order to sustain initiatives (89, 102).

#### Recommendation

 Facilities providing maternity and newborn services should have a clearly written breastfeeding policy that is routinely communicated to staff and parents (recommended, very low-quality evidence).

## **Training of health workers**

#### Summary of evidence

Two systematic reviews examined the effect of training of health workers on breastfeeding, implementation and other critical outcomes (42, 100). Both reviews noted heterogeneity in the measurement of the outcomes with the use of non-validated instruments. The reviews showed that training of health workers tends to improve knowledge and tends to show increased compliance to the implementation of the Baby-friendly Hospital Initiative but has an inconsistent effect on attitude, though the quality of evidence was assessed as very low. None of the studies reported on breastfeeding outcomes.

## **Quality of evidence**

The overall quality of evidence for training of healthfacility staff on breastfeeding on the critical outcomes is very low. The PICO question and critical outcomes can be found in <u>Annex 1</u>. The details of the systematic reviews can be found in <u>Annex 2</u>.

## **Balance of benefits and harms**

No adverse outcomes or events were reported by the reviews and in the discussions of the guideline development group.

#### Values and preferences

No studies were found on the values and preferences of mothers towards training of facility staff on breastfeeding.

#### Acceptability

The review of literature on the acceptability of training on breastfeeding by facility staff identified six studies from four countries (Canada, Ireland, New Zealand and the United States). Health workers felt that breastfeeding training would be helpful but that there was lack of time due to competing priorities. Many health workers noted that despite the interest, breastfeeding training would be given a lower priority by staff, compared to training on caring for mothers with complications (low confidence in the evidence) (see Annex 5).

#### **Resource implications**

Resource implications identified for the implementation of training facility staff on breastfeeding include the cost of training staff (73, 74, 89, 102, 103), time for staff training (72, 76, 103), staff retention (73, 102, 103), staff capacity (72, 74–76) and communication (74, 88, 103).

#### Recommendation

 Health-facility staff who provide infant feeding services, including breastfeeding support, should have sufficient knowledge, competence and skills to support women to breastfeed (*recommended*, *very low-quality evidence*).

## Antenatal breastfeeding education for mothers

#### Summary of evidence

The systematic review on the effect of formal antenatal breastfeeding education (or breastfeeding information being imparted during pregnancy) on the duration of breastfeeding identified 24 studies with 10 056 participants (43). Antenatal breastfeeding education probably makes little or no difference to initiation of breastfeeding (RR: 1.01; 95% CI: 0.94 to 1.90; 8 studies, n = 3503; moderate quality of evidence), makes little or no difference to exclusive breastfeeding at 3 months (RR: 1.06; 95% CI: 0.90 to 1.25; 3 studies, n = 822; high quality of evidence) and probably makes little or no difference to exclusive breastfeeding at 6 months (RR: 1.07; 95% CI: 0.87 to 1.30; 4 studies, n = 2161; moderate quality of evidence), compared to not having antenatal breastfeeding education. There are also probably no differences in rates of any breastfeeding at 3 and 6 months among mothers who have had antenatal breastfeeding education and those who have not (moderate quality of evidence).

The systematic review on interventions that promote initiation of breastfeeding given before the first feed included 28 studies with 107 362 women (44). Interventions that promote breastfeeding may improve initiation of breastfeeding when the support is provided by either health-care professionals (RR: 1.43; 95% CI: 1.07 to 1.93; 5 studies, n = 564; low quality of evidence) or non-health-care professionals (RR: 1.22; 95% CI: 1.06 to 1.40; 8 studies, n = 5188; low quality of evidence). It was uncertain whether antenatal promotion of breastfeeding has an effect on early initiation of breastfeeding, as the quality of the evidence has been assessed as very low (RR: 1.64; 95% CI: 0.86 to 3.13; 3 studies, n = 5560; very low quality of evidence).

### **Quality of evidence**

The overall quality of evidence for antenatal breastfeeding education on breastfeeding on the critical outcomes is moderate. The PICO question and critical outcomes can be found in <u>Annex 1</u>. The details

of the systematic reviews can be found in <u>Annex 2</u>. The summary of findings tables can be found in <u>Annex 3</u>.

## Balance of benefits and harms

The review by Lumbiganon et al. (43) noted that two studies reported on breastfeeding complications. Duffy et al. (104) reported less nipple pain and less nipple trauma, and more mothers still breastfeeding at 6 weeks among women who had been taught how to position and attach their baby at the breast by a lactation consultant. Kronborg et al. (105) reported no group differences as to whether women responded "yes" when asked about breastfeeding problems.

#### Values and preferences

The review of literature on the values and preferences of mothers towards antenatal education on breastfeeding identified 18 studies from 10 countries (Australia, Brazil, Canada, Ireland, Mexico, Russia, Sweden, Uganda, the United Kingdom and the United States). The synthesis of qualitative data identified two themes, the first on the content and the second on the delivery. Mothers felt that infant feeding was not discussed enough in the antenatal period and that antenatal education on feeding was insufficient or too infrequent. Some mothers commented that the contents of antenatal education were too breastfeeding biased with not enough discussion on other options. Some also said that there was not enough discussion on what to expect (for instance, how hard or painful breastfeeding could be) and thus there was a mismatch between women's expectations and experiences (moderate confidence in the evidence).

The synthesis of evidence also showed that mothers felt that the antenatal education on breastfeeding was not optimally done. Many mothers complained about the antenatal breastfeeding education in terms of negative attitude or miscommunication with the health-care worker. Some mothers cited experiences with providers who appeared to mention breastfeeding simply because it was required by the job, with little sincerity or positive feelings conveyed. Many mothers cited that female health workers with personal experience in breastfeeding were found to be the most sincere and effective counsellors (moderate confidence in the evidence) (see Annex 4).

## Acceptability

The review of literature on the acceptability of antenatal education on breastfeeding among health workers identified 17 studies conducted in 7 countries (Australia, Canada, Iraq, South Africa, Sweden, the United Kingdom and the United States). There were two themes identified among the studies: one on their perception of the role of the health workers in providing antenatal breastfeeding counselling, and the second on their confidence in providing this counselling. Health workers had differing views of their role in promoting breastfeeding in antenatal education. While many health-care providers viewed promoting and supporting breastfeeding as being a part of their role, many struggled with trying to promote breastfeeding without creating feelings of animosity with patients. Some studies found that health workers felt uncertain about addressing the issue of bottle feeding. In several studies, health-care providers felt apathetic towards breastfeeding counselling and many preferred a neutral approach to promotion of breastfeeding, in order to maintain better patient rapport (moderate confidence in the evidence).

Health workers had differing confidence and perceived effectiveness in antenatal breastfeeding counselling. While some studies reported that health workers felt confident in counselling women on breastfeeding and breastfeeding problems, others reported that health workers felt uncertain and ineffective in their counselling. Many felt that they lacked feedback and stated that they were unable to know whether they are adequately supporting mothers with breastfeeding (moderate confidence in the evidence) (see Annex 5).

## **Resource implications**

Resource implications identified for the implementation of antenatal education on breastfeeding include the resources needed to increase or augment heath-care staff knowledge, confidence and self-efficacy related to breastfeeding counselling (72, 74–76) and communications on expectations and barriers (74, 88, 103).

#### Recommendation

14. Where facilities provide antenatal care, pregnant women and their families should be counselled about the benefits and management of breastfeeding (*recommended*, *moderate-quality evidence*).

# Discharge planning and linkage to continuing support

## Summary of evidence

The systematic review that searched for evidence of the effects of discharge planning and linkage to continuing support found two randomized controlled trials (45). The first trial done in the Democratic Republic of the Congo included 965 mother–infant pairs (106). Both the control group (called "Steps 1–9") and the intervention group (called "Steps 1–10") had 2-day intensive training for antenatal care clinic staff, delivery-room staff and postpartum ward staff. The intervention group also included the well-baby clinic staff in the intensive training. In addition, flyers containing messages on breastfeeding were distributed by the postpartum ward and well-baby clinic staff in the intervention group. There was no referral for any breastfeeding support after discharge from the postpartum ward.

It was uncertain whether inclusion of the well-baby clinic staff in the intensive training and distribution of flyers on breastfeeding had an effect on exclusive breastfeeding at 14 weeks (RR: 0.64; 95% CI: 0.42 to 0.98; 1 study, n = 671; very low quality of evidence) or at 24 weeks (RR: 0.39; 95% CI: 0.20 to 0.79; 1 study, n = 617; very low quality of evidence), compared to intensive training for only the antenatal care clinic staff, delivery-room staff and postpartum ward staff, as the quality of the evidence has been assessed as very low. The quality of evidence was also assessed as very low for incidence of diarrhoea or fever.

The second included trial done in Australia included 4625 mother-infant pairs (107). Both the control group (called "HV") and the interventions group (called "HV+drop-in") had a hospital midwife home visit at 1-2 days after discharge, a nurse visit at 10-14 days after birth, a telephone call to assign a nurse visit earlier than the 10th day after birth if required, and access to the state-wide 24-hour maternal and child health service helpline. The intervention group also had written information about a local community breastfeeding drop-in centre. Having information and access to a drop-in centre for further support after discharge may make little or no difference to any breastfeeding at 4 months of age (RR: 0.87; 95% CI: 0.67 to 1.14; 1 study, n = 4625) (very low quality of evidence).

#### Quality of evidence

The overall quality of evidence for linkage to continuing support at discharge on the critical outcomes is very low. The PICO question and critical outcomes can be found in <u>Annex 1</u>. The details of the systematic review can be found in <u>Annex 2</u>. The summary of findings table can be found in <u>Annex 3</u>.

### **Balance of benefits and harms**

No adverse effects were noted from the literature and in the discussions of the guideline development group.

#### Values and preferences

The review of literature on the values and preferences of mothers towards linkage to continuing care at discharge identified 22 studies from 11 countries (Australia, Canada, Denmark, France, Ireland, Russia, Spain, Sweden, Switzerland, the United Kingdom and the United States). In general, most mothers valued linkage to breastfeeding support after discharge, regardless of the type of linkage, and this gave them a greater sense of security in caring for their infants (moderate confidence in the evidence) (see Annex 4).

#### Acceptability

The review of literature on the acceptability of linkage to continuing care after discharge among healthcare personnel identified six studies conducted in three countries (Canada, New Zealand and the United States). Health workers felt that linkage to continuing support for breastfeeding was challenging. The studies cited that health workers described gaps and lack of communication between health-care providers in the continuum of care after women leave the hospital (moderate confidence in the evidence) (see <u>Annex 5</u>).

### **Resource implications**

Resource implications identified for the implementation of linkage to continuing care after discharge include the resources required for communications between health-care providers (21, 57, 58).

## Recommendation

15. As part of protecting, promoting and supporting breastfeeding, discharge from facilities providing maternity and newborn services should be planned for and coordinated, so that parents and their infants have access to ongoing support and appropriate care (*recommended*, *low-quality evidence*).

## Box 4. Summary of recommendations on creating an enabling environment

- 12. Facilities providing maternity and newborn services should have a clearly written breastfeeding policy that is routinely communicated to staff and parents (recommended, very low-quality evidence).
- Health-facility staff who provide infant feeding services, including breastfeeding support, should have sufficient knowledge, competence and skills to support women to breastfeed (recommended, very low-quality evidence).
- 14. Where facilities provide antenatal care, pregnant women and their families should be counselled about the benefits and management of breastfeeding (recommended, moderatequality evidence).
- **15.** As part of protecting, promoting and supporting breastfeeding, discharge from facilities providing maternity and newborn services should be planned for and coordinated, so that parents and their infants have access to ongoing support and receive appropriate care (*recommended*, *low-quality evidence*).

## Rationale for creating an enabling environment

The following factors were taken into consideration during the deliberations.

- Few of the interventions on creating an enabling environment show a positive effect on short- or long-term breastfeeding outcomes.
- Providing antenatal education (without providing other forms of breastfeeding support) has not been shown to have a significant effect on breastfeeding rates, though there is evidence that support aimed specifically at promoting the initiation of breastfeeding given before the first feed may have positive results.
- Having a written policy, training of health workers and discharge planning with linkage to continuing support may not, by themselves, change breastfeeding practice. However, they help create an effective health-delivery system within the facilities providing maternity and newborn services that can respond to the needs of mothers and infants.

## Remarks

The remarks in this section are points to consider regarding implementation of the recommendations for creating an enabling environment, based on the discussions of the guideline development group and the external experts.

- Creating an enabling environment for breastfeeding includes having policies and guidelines that underpin the quality standards for promoting, protecting and supporting breastfeeding in facilities providing maternity and newborn services. These policies and guidelines include provisions of the International Code of Marketing of Breast-milk Substitutes and its subsequent related WHA resolutions (26, 28).
- Relevant training for health workers is essential to enable quality standards to be implemented effectively according to their roles.
- Parents should be offered antenatal breastfeeding education that is tailored to their individual needs and sensitively given and considers their social and cultural context. This will prepare them to address challenges they may face.

- Mothers should be prepared for discharge by ensuring that they can feed and care for their infants and have access to continuing breastfeeding support. The breastfeeding support in the succeeding days and weeks after discharge will be crucial in identifying and addressing early breastfeeding challenges that occur.
- Minimizing disruption to breastfeeding during the stay in the facilities providing maternity

and newborn services will require health-care practices that enable a mother to breastfeed for as much, as frequently and for as long as she wishes.

 Coordination of clinical systems in facilities providing maternity and newborn services, so that standards of care for breastfeeding support are coordinated across the obstetric, midwifery and paediatric services, helps develop services that improve the outcomes for those using them.

# Implementation of the guideline

An implementation guide that will encompass the recommendations included in this guideline, the International Code of Marketing of Breast-milk Substitutes (26) and the Baby-friendly Hospital Initiative (22) has been developed by WHO and UNICEF and will be published separately in Protecting, promoting and supporting breastfeeding in facilities providing maternity and newborn services: the revised Baby-friendly Hospital Initiative 2017.

The implementation of this guideline complements the interventions and guidance presented in the Essential newborn care course (29), Kangaroo mother care: a practical guide (30), Pregnancy, childbirth, postpartum and newborn care: a guide for essential practice (31) and the Standards for improving quality of maternal and newborn care in health facilities (32).

# Implementation considerations

As this is a global guideline, Member States are expected to adapt the recommendation according to their settings and contexts. Public health nutrition and child health programmes that include breastfeeding protection, promotion and support require supportive policies, and health-care services that enable the proper availability of and access to quality services, which should also be culturally acceptable. WHO regional and country offices assist Member States with these processes.

Scaling up breastfeeding programmes entails several components working synchronously. Evidencebased advocacy generates political will to enact legislation and policies to protect, promote and support breastfeeding. Policies and strategies help channel the resources towards development of human resources and programme delivery. Evaluation and monitoring, in turn, are needed to provide feedback and drive adaptation or improvement. Implementing the interventions to protect, promote and support breastfeeding in facilities providing maternity and newborn services will require endorsements of both local administrators and governmental policy-makers; effective leadership to transform processes; training of health-care workers; and alignment of hospitalwide health services related to breastfeeding, so that they are people centred, i.e. with the infants, mothers and their families at the centre of care (108, 109).

Guiding principles to expand implementation of the interventions that protect, promote and support breastfeeding to neonatal intensive care units and the care of vulnerable infants have also been described (96, 110, 111).

Engaging with multiple stakeholders and partners is critical for strengthening implementation and sustaining gains in breastfeeding. Working in collaboration with programmes involved in child and adolescent well-being (e.g. sexual and reproductive health; water, sanitation and hygiene; early childhood development and education; social marketing; and others) can help ensure a comprehensive, crosssectoral and more sustainable approach to protecting, promoting and supporting breastfeeding in facilities providing maternity and newborn services.

Implementation of this guideline should be a planned and monitored process, including collection of data on how the recommendations are accepted, contested or easily implemented. Adequate collection and recording of data, difficulties, decisions and results can inform implementation research questions that may arise during monitoring and evaluation, and hence provide robust evidence for scaling up and sustainability.

## **Regulatory considerations**

Implementing interventions that protect, promote and support breastfeeding in facilities providing maternity and newborn services entails improving the quality and standards of care for mothers and their infants during and immediately after the time of childbirth. WHO has produced a technical reference document with eight standards of care and 31 quality statements for improving maternal and newborn care in health facilities (32). Implementation of interventions to protect, promote and support breastfeeding in facilities providing maternity and newborn services should be aligned to the overall quality standards for the care of mothers and newborns.

# Ethical and equity considerations

Ethical principles lead to consideration of whether an intervention is producing benefits to individuals and communities; preventing harms at the individual and societal levels; and distributing health benefits across social groups, that is, how much an intervention is contributing to health equity; and respecting and promoting the exercise of human rights.

Breastfeeding is a complex social act that encompasses behaviours, values, beliefs and social roles and interplays with the implementation of policies, strategies and actions to protect, promote and support breastfeeding. Achieving equity in breastfeeding entails political leadership to create an enabling environment that supports the availability of and access to quality breastfeeding support. Policymakers need to have a holistic view of what is needed for breastfeeding and how to address the needs of diverse, vulnerable populations (*112*, *113*).

## Monitoring and evaluation of guideline implementation

Monitoring and evaluation should be built into the implementation process, in order to provide important lessons for uptake and further implementation. WHA Resolution 65.6 endorsed a *Comprehensive implementation plan on maternal, infant and young child* 

*nutrition* (15), which specified six global nutrition targets for 2025 (17). One of the targets is to increase the rate of exclusive breastfeeding in the first 6 months up to at least 50%.

For evaluation at the global level, the WHO Department of Nutrition for Health and Development has developed a centralized platform for sharing information on nutrition actions in public health practice implemented around the world. By sharing programmatic details, specific country adaptations and lessons learnt, this platform provides examples of how guidelines are being translated into actions. The Global database on the Implementation of Nutrition Action (GINA) (114) provides valuable information on the implementation of numerous nutrition policies and interventions.

# **Research gaps**

Discussions between the members of the WHO guideline development group and the external resource group highlighted the limited evidence available in some knowledge areas, meriting further research.

- More studies across different regions, countries and population groups (e.g. by income levels, educational levels, cultural and ethnic backgrounds) and contexts are required, in order to adequately and sensitively protect, promote and support breastfeeding.
- The available evidence about breastfeeding education and training of health workers in the knowledge, attitudes, skills and competence needed to work effectively with breastfeeding parents is limited and of poor quality. Further research is required to compare different durations, content (including clinical and practical skills) and modes of training delivery, in order to meet minimum competency to address common breastfeeding challenges.
- More research is needed on the advanced competencies required to address persistent or complex problems.
- The involvement of family in education, counselling and information efforts about the benefits and management of breastfeeding is also understudied.
- Research is needed on skin-to-skin contact among less healthy or unstable parent-infant pairs, taking into account the stability of the individuals and the pairs. More research is needed on the time of initiation of the intervention, the effects of the intervention on the microbiome and long-term neurodevelopmental and health outcomes.

- More research on methods of implementation for safe skin-to-skin contact and rooming-in practices would be valuable in operationalization, such as the timing and frequency of assessments and methods to decrease sentinel events (such as sudden infant collapse or falls).
- Implementation research on responsive feeding, cue-based, demand feeding or infant-led feeding would bring more clarity to the wider process of commencing breastfeeding, readiness to suckle, hunger and feeding cues and the adequacy of information given to parents. Additional outcomes besides breastfeeding rates include maternal outcomes (for instance, exhaustion, stress, sleep adequacy, trauma, anaesthesia, breastfeeding satisfaction. self-confidence), and infant outcomes (for instance, attachment, sudden infant death, infection and other elements of security and safety).
- Medical requirements for and effects of additional feeds on infants and mothers need further research. Analysis of these effects by maternal condition, infant condition, mode of delivery, prematurity or birth weight, timing, types of food and fluids and other factors may be useful.
- More robust studies on non-nutritive sucking and oral stimulation among preterm infants is needed.
- More high-quality research is needed on the practices and implementation of the recommendations in facilities providing maternity and newborn services, as the basis for experience and observational studies, especially for recommendations for which the available evidence is of low or very low quality.

# **Guideline development process**

This guideline was developed in accordance with the WHO evidence-informed guideline-development procedures, as outlined in the WHO handbook for guideline development (115).

## WHO steering group

A WHO steering group (see <u>Annex 6</u>), led by the WHO Department of Nutrition for Health and Development, was established with representatives of the WHO Departments of Gender, Equity and Human Rights; Maternal, Newborn, Child and Adolescent Health; Service Delivery and Safety and Reproductive Health and Research, and UNICEF. The steering group guided the overall guideline development process, as well as the retrieval, assessment and summary of the evidence.

The steering group drafted the scope of the guideline and key questions in PICO format; identified the systematic review teams and guideline methodologist; developed and finalized the planning proposal; helped with the selection of the guideline development group and the external resource persons; oversaw the evidence retrieval, assessment and synthesis; collected and assessed disclosures of interest; and managed conflicts in consultation with the WHO Office of Compliance, Risk Management and Ethics. The steering group drafted the recommendation, based on the decisions of the guideline development group; drafted the final guideline, including management of the peer-review process; and oversaw the dissemination of the guideline. Regional advisers from the WHO regions also participated in the meetings of the guideline development group.

# Guideline development

## group

The steering group identified candidates for the guideline development group from the roster of WHO advisers and experts, a call for expressions of interest issued in October 2015, recommendations from other WHO departments, and literature reviews. Twenty-two persons were informally asked whether they were interested in becoming part of the guideline development group – nutrition actions 2016–2018. Of those 22 persons, 15 gave a positive response. Those interested were then asked to submit their latest curriculum vitae and filled in declaration-of-interest forms.

A guideline development group – nutrition actions 2016–2018 was established with 15 members, in order to advise WHO in the areas of epidemiology, nutrition, infant and maternal health care, paediatrics, and systematic reviews. There were nine women and seven men, representing the six WHO regions.

The guideline development group scoped the guideline, drafted the key questions in PICO format and prioritized the outcomes during a meeting on 11–13 April 2016. In a second meeting of the guideline development group on 7-11 November 2016, they examined the evidence used to inform the recommendation and appraised them using the Grading of Recommendation Assessment, Development and Evaluation (GRADE) evidence profiles (38, 116, 117). They interpreted the evidence, taking into consideration the Developing and Evaluating Communication Strategies to support Informed Decisions and Practice based on Evidence (DECIDE) framework (118), an evidence-to-decision tool that includes intervention effects, values. resources, equity, acceptability and feasibility criteria, to guide the formulation of the recommendations (119, 120). The list of the guideline development group members and their areas of expertise appears in Annex 7.

## External resource persons

The external resource persons for this guideline were composed of three persons identified by the steering group who could provide valuable insights to the guideline development group on issues relevant to the topic. Their expertise included infant feeding, implementation of the Ten Steps to Successful Breastfeeding, and certification and monitoring of the Baby-friendly Hospital Initiative.

The external resource persons provided valuable insights during the open sessions of the group discussions. They were not present in closed-session deliberations of the guideline development group. That is, they participated in general discussions on the evidence and factors to consider for the crafting of the recommendations but did not contribute to the decision on the recommendation wording or direction. The external review persons are listed in Annex 8.

## Systematic review teams

The following groups were commissioned to conduct systematic reviews relevant to the key questions identified during the guideline development group scoping meeting:

- · Cochrane Pregnancy and Childbirth Group;
- St Luke's International University (as part of the Cochrane Pregnancy and Childbirth Group in Tokyo, Japan);

- Cochrane Neonatal Research Group;
- independent authors for specific systematic reviews.

The systematic review teams provided comprehensive, objective syntheses of the evidence for each of the key questions, to inform the recommendations. The responsible technical officer assessed the quality of the body of evidence and developed the GRADE evidence profiles. These systematic reviews were presented at the guideline development group meeting in Florence, Italy in November 2016. The list of systematic reviews and authors is provided in Annex 9.

# Management of conflicts of interests

The steering group, in compliance with the WHO Guidelines for declaration of interests for WHO experts (121) and in collaboration with the Office of Compliance and Risk Management and Ethics, managed the potential conflicts of interests. All potential guideline development group members were asked to fill in and sign the standard WHO declaration-of-interests and confidentiality undertaking forms. Updated curriculum vitae were also required from the prospective members of the guideline development group, as they engage in their individual capacity and not as institutional representatives.

The steering group reviewed the declarationof-interests statements in conjunction with the curriculum vitae for all guideline development group members. Information from the internet or media were gathered, in order to identify any public statements made or positions held by the prospective guideline development group members and experts on the issue of protecting, promoting and supporting breastfeeding in facilities providing maternity and newborn services. These were assessed for intellectual bias that may be perceived to, or actually, affect impartiality. All concerns or potential issues were discussed with the WHO Office of Compliance, Risk Management and Ethics. All potential conflicts of interest were managed on a case-by-case basis.

The following members of the guideline development group were assessed to have no perceived or real conflicts of interests on the topic. They were asked to verbally declare their research and programme experiences and sources of funding: Dr Paluku Bahwere, Dr Mary Christine R Castro, Dr Hoosen Coovadia, Dr Luz Maria De-Regil, Ms Solange Durão, Dr Shams El Arifeen,<sup>1</sup> Dr Jalila Hassani Ep El Ati, Ms Anne-Dominique Israel-de Monval, Dr Susan Jack, Dr Maria Elena del Socorro Jefferds, Dr Alexis Nzila, Dr Indi Trehan, Dr Tran Khanh Van, Ms Terrie Wefwafwa, Dr Maged Younes<sup>2</sup> and Dr Khalid Yunis.<sup>1</sup>

One member declared interests that were further discussed with the Office of Compliance, Risk Management and Ethics. She was assessed to merit conditional participation with involvement in the meeting after publicly disclosing her interests at the start of the meeting to all meeting participants, and in the guideline document. Dr Haider chaired the scoping meeting for these recommendations and participated in discussions during the final guideline meeting but was excluded from participating in the decision-making process. Aside from her research and programme experiences and sources of funding, she was asked to specifically declare the following:

Dr Rukhsana Haider declared that when the Babyfriendly Hospital Initiative was first launched, she was hired by WHO and UNICEF as a technical consultant, international trainer and assessor to work with national hospitals on breastfeeding promotion. Soon after, she was delegated to the UNICEF Bangladesh Country Office to set up the Baby-friendly Hospital Initiative in the country. In this capacity, and as an associate scientist at the International Centre for Diarrhoeal Disease Research, Bangladesh (ICCDR,B) conducting hospital-based research and training workshops to promote and support exclusive breastfeeding, her work was able to contribute substantially to the Baby-friendly Hospital Initiative modules. She is the chairperson and founder of the Training and Assistance for Health and Nutrition (TAHN) Foundation. The TAHN Foundation has no regular funders; their peer counselling programme is mostly funded by Dr Haider, her family and friends. However, the foundation does receive funds from local and international organizations for specific projects or trainings. These funding organizations include ICDDR,B, the World Alliance for Breastfeeding Action (WABA) and WABA board members, and "a steel company and an insurance company". A recent publication authored by Dr Haider discussed the effect of intensive antenatal and postpartum breastfeeding counselling on breastfeeding rates and growth outcomes.

Names and brief biographies of the guideline development group, along with a description of the objectives of the meeting, were published on the WHO website, for public notice and comment. No additional information on any interests or biases relating to the individuals being considered for membership of the guideline development group were brought to light from the public notice.

<sup>1</sup> Unable to attend the second meeting.

<sup>2</sup> Unable to attend the guideline development group meetings.

# Identification of priority questions and outcomes

An initial set of questions to be addressed in the guidelines was the starting point for formulating the recommendation. The questions were drafted by technical staff at the Evidence and Programme Guidance Unit of the Department of Nutrition for Health and Development, based on the policy and programme guidance needs of Member States and their partners. The questions were discussed and reviewed by the steering group.

A meeting of the guideline development group on 11–13 April 2016 in Geneva, Switzerland, was held to finalize the scope of the questions and to rank the outcomes and populations of interest for the recommendations on protecting, promoting and supporting breastfeeding in facilities providing maternity and newborn services. The guideline development group discussed the relevance of the questions and modified them as needed. The group scored the relative importance of each outcome from 1 to 9 (where 7–9 indicated that the outcome was critical for a decision, 4–6 indicated that it was important and 1–3 indicated that it was not important). The final key questions on this intervention, along with the outcomes that were identified as critical for decision–making, are listed in PICO format in Annex 1.

# Evidence identification and retrieval

A search for previous reviews that address each of the key questions was done in the Campbell Collaboration, Cochrane Library, EMBASE, Epistemonikos, Health Systems Evidence, MEDLINE and the WHO Global Index Medicus up to December 2015. Fifty-two (n = 52)systematic reviews were found and assessed for relevance, quality and timeliness. Of these reviews, nine were previous reviews from the Cochrane Pregnancy and Childbirth Group, seven were from the Cochrane Neonatal Review Group and two were from independent (non-Cochrane) publications. Updates of these systematic reviews were contracted to the original authors. There were four PICO questions that the steering group decided to commission to the St Luke's International University (as part of the Cochrane Pregnancy and Childbirth Group in Tokyo, Japan). In all, 22 systematic reviews were updated or developed to inform the recommendations. The details of the systematic reviews can be found in Annex 2.

The WHO Secretariat further performed a qualitative evidence synthesis of published literature, to identify and summarize qualitative research for the values and preferences of mothers and factors that influence acceptability among health workers and stakeholders. A search of the published literature was also performed, to inform on resource use, feasibility and equity and human rights issues for each of the interventions.

# Quality assessment and grading of evidence

Systematic reviews based on the PICO questions were used to summarize and appraise the evidence. These reviews followed the procedures of the Cochrane handbook for systematic reviews of interventions (122). Each study included in the systematic reviews was assessed for risk of bias. This was recorded and contributed towards the assessment of the overall quality of the evidence. During the discussion and deliberations, the steering group and the guideline development group carefully reviewed the quality, scope and study inclusion criteria for the systematic reviews. The relative weight given to the trials and non-randomized studies was taken into account when evaluating the quality assessment for each study. When possible, the findings were synthesized with a pooled estimate of effect. The results of the systematic reviews were presented to the guideline development group, along with an assessment of the confidence in the estimates of effect for the critical outcomes.

Evidence profiles were prepared according to the GRADE approach, to assess the overall quality of the evidence (38, 116, 117). The quality of evidence for each outcome was rated as "high", "moderate", "low" or "very low", based on a set of criteria including risk of bias, inconsistency, imprecision, indirectness and publication bias. The summary of findings tables can be found in Annex 3.

The findings of the qualitative reviews on maternal values and preferences and acceptability to health workers of interventions that promote, protect and support breastfeeding were appraised using the GRADE Confidence in the Evidence from Reviews of Qualitative Research (GRADE-CERQual) approach (123, 124). Overall confidence in the evidence from reviews of qualitative research was based on methodological limitations of the individual studies; adequacy of the data; coherence of the evidence; and relevance of the individual studies to the review findings. The summary of qualitative findings tables on maternal values and preferences can be found in Annex 4 and the summary of qualitative findings tables on the factors that influence acceptability among health workers and stakeholders can be found in Annex 5.

# Formulation of

## recommendations

The draft recommendations were discussed by the steering group, in consultation with the guideline development group, in a meeting held on 7–11 November 2016 in Florence, Italy.

Three options for types of recommendations were agreed, namely:

- recommended;
- recommended only in specific contexts;
- not recommended.

A recommendations that is "recommended" is one for which the guideline development group is confident that the desirable consequences clearly outweigh the undesirable consequences. Most mothers, patients or end-beneficiaries would want the recommended course of action; only a small proportion would not. The implication for health-care workers is that most individuals should receive the intervention. The implication for policy-makers is that the recommendation can be adopted as a policy, quality standard or performance indicator in most situations.

A recommendations that is "recommended only in specific contexts" is one in which the balance between the benefits and harms of implementing the recommendation may be different for certain situations. Recommendations in this category will specify the contexts in which these recommendations may be applied.

The systematic review and the GRADE evidence profiles for each of the critical outcomes were used for drafting recommendations. An evidence-to-decision framework (based on the *DECIDE* framework (118)) was used to lead discussion and decision-making (119, 120).

The domains listed next were prepared by the steering group and discussed during the guideline development group meeting for each of the key PICO questions.

## **Quality of evidence**

The overall degree of confidence in the estimates of effect as presented in the GRADE profile was considered in the drafting of the recommendation. The higher the quality of evidence across critical outcomes that are relevant to decision-making, the higher the likelihood is of a clear positive recommendation. A contextspecific recommendation is likely to be warranted when the overall quality is rated "low" or "very low".

## **Balance of benefits and harms**

The guideline development group evaluated the balance between desirable and undesirable consequences, including the magnitude of the effects and relative importance of these consequences. Where benefits clearly outweigh harms or vice versa, the greater the likelihood is of a recommendation in favour of or against the intervention, respectively. Uncertainty about the net benefits or harms often leads to a context-specific recommendation.

## **Values and preferences**

The relative importance of the outcome to the individuals or populations directly affected by the recommendation describes the values and preferences. The steering group performed a review of qualitative information on how end-users (mothers) perceived interventions to protect, promote and support breastfeeding in facilities providing maternity and newborn services. These were presented during the guideline development group meeting. When there is uncertainty or wide variability on the values and preferences of the target beneficiaries, a context-specific recommendation may be warranted.

## Acceptability

A review of qualitative information on how health-care workers and service providers perceive interventions to protect, promote and support breastfeeding and their effects was done and presented during the guideline development group meeting. The higher the acceptability of the intervention among stakeholders, the more likely it is that an intervention will be clearly recommended. When it was deemed necessary to recommend an intervention that is associated with low acceptability, strategies to address concerns about acceptability during implementation were discussed.

## **Resource implications**

This relates to evaluation of how resource intensive and cost effective the intervention is to service users and health systems in different settings. A recommendation in favour of or against the intervention is likely where the resource implications are clearly advantageous or disadvantageous, whereas a context-specific recommendation may be justified if the resource implications are uncertain.

## Feasibility

The steering group presented instances when interventions to protect, promote and support

breastfeeding in facilities providing maternity and newborn services were implemented in different settings, to highlight the feasibility of implementation and whether barriers exist. The greater the feasibility, the more likely it is that the intervention will be recommended.

## **Equity and human rights**

An intervention is likely to be recommended if it is more prone to reduce health inequities across different groups of infants, mothers and their families, especially those groups that are more vulnerable or worst-off.

Based on the discussions during the meeting, each recommendation was supported by a rationale, implementation considerations and research priorities.

## Consensus decision-making rules and procedures

The chairpersons, Dr Maria Elena del Socorro Jefferds and Dr Rukhsana Haider (April 2016) and Ms Solange Durão and Dr Susan Jack (November 2016), were nominated by the WHO Secretariat at the opening of the consultation. The nominations were approved by the guideline development group.

The procedures for consensus decision-making were established at the beginning of the meetings, including a minimal set of rules for agreement and documentation of decision-making. At least two thirds of the guideline development group was required to be present for an initial discussion of the evidence and proposed recommendation and remarks. By secret ballot, each member of the guideline development group noted the direction of each of the recommendations, using an online form specifically designed for this purpose. Abstentions were not allowed.

Once voting was complete, subsequent deliberations among the members of the guideline development group could take place. If there was no unanimous consensus (primary decision rule), more time was given for deliberations and a second round of online voting took place. If no unanimous agreement was reached, a two-thirds vote of the guideline development group was required for approval of the proposed recommendation (secondary decision rule). The results from voting forms will be kept on file by WHO for up to 5 years.

## Document preparation and peer-review

The responsible technical officer wrote the first draft of the guideline, with comments from the steering group. Technical editing and proofreading was done by a contracted party.

The final draft guideline was peer-reviewed by content experts, to provide technical feedback; identify errors of fact; ensure that there were no important omissions, contradictions or inconsistencies with scientific evidence or programmatic feasibility; and assist with clarifying the language, especially in relation to implementation, adaptation and contextual issues. The independent peer-reviewers were selected by the steering group. Twenty-one potential peer-reviewers were approached after assessment of the declarations of interests, and 16 agreed. The list of peer-reviewers appears in Annex 10.

The steering group reviewed all comments and revised the document, in order to ensure clarity of the recommendation while maintaining consistency with the original meaning.

# **Dissemination and plans for updating**

## Dissemination

The current guideline will be posted on the WHO website, including the WHO Nutrition website (125) and the WHO e-Library of Evidence for Nutrition Actions (*eLENA*) (126). In addition, it will be disseminated through a broad network of international partners, including WHO country and regional offices, ministries of health, WHO collaborating centres, universities, other United Nations agencies and nongovernmental organizations.

An implementation guide that will encompass the recommendations included in this guideline, the International Code of Marketing of Breast-milk Substitutes (26) and the Baby-friendly Hospital Initiative has been developed by WHO and UNICEF and will be published separately in Protecting, promoting, and supporting breastfeeding in facilities providing maternity and newborn services: the revised Baby-friendly Hospital Initiative 2017.

# Plans for updating the guideline

The WHO steering group will continue to follow research developments in protection, promotion and support of breastfeeding in facilities providing maternity and newborn services, particularly for questions in which the quality of evidence was found to be low or very low. If the guideline merits an update, or if there are concerns about the validity of the guideline, the Department of Nutrition for Health and Development will coordinate the guideline update, following the formal procedures of the WHO handbook for guideline development (115).

As the guideline nears the 10-year review period, the Department of Nutrition for Health and Development at the WHO headquarters in Geneva, Switzerland, along with its internal partners, will be responsible for conducting a search for new evidence.

# References

- 1. Rollins NC, Bhandari N, Hajeebhoy N, Horton S, Lutter CK, Martines JC et al., The Lancet Breastfeeding Series Group. Why invest, and what it will take to improve breastfeeding practices? Lancet. 2016;387:491– 504. doi:10.1016/S0140-6736(15)01044-2.
- Victora CG, Bahl R, Barros AJ, França GV, Horton S, Krasevec J et al. Breastfeeding in the 21st century: epidemiology, mechanisms, and lifelong effect. Lancet. 2016;387(10017):475–90. doi:10.1016/S0140-6736(15)01024-7.
- 3. Bowatte G, Tham R, Allen KJ, Tan DJ, Lau M, Dai X et al. Breastfeeding and childhood acute otitis media: a systematic review and meta-analysis. Acta Paediatr. 2015;104(467):85–95. doi:10.1111/apa.13151.
- 4. Chowdhury R, Sinha B, Sankar MJ, Taneja S, Bhandari N, Rollins N et al. Breastfeeding and maternal health outcomes: a systematic review and meta-analysis. Acta Paediatr. 2015;104(467):96–113. doi:10.1111/ apa.13102.
- Giugliani ER, Horta BL, Loret de Mola C, Lisboa BO, Victora CG. Effect of breastfeeding promotion interventions on child growth: a systematic review and meta-analysis. Acta Paediatr. 2015;104(467): 20–9. doi:10.1111/apa.13160.
- 6. Grummer-Strawn LM, Rollins N. Summarising the health effects of breastfeeding. Acta Paediatr. 2015;104(467):1-2. doi:10.1111/apa.13136.
- 7. Horta BL, Loret de Mola C, Victora CG. Breastfeeding and intelligence: a systematic review and metaanalysis. Acta Paediatr. 2015;104(467):14–19. doi:10.1111/apa.13139.
- Horta BL, Loret de Mola C, Victora CG. Long-term consequences of breastfeeding on cholesterol, obesity, systolic blood pressure and type 2 diabetes: a systematic review and meta-analysis. Acta Paediatr. 2015;104(467):30-7. doi:10.1111/apa.13133.
- 9. Lodge CJ, Tan DJ, Lau MX, Dai X, Tham R, Lowe AJ et al. Breastfeeding and asthma and allergies: a systematic review and meta-analysis. Acta Paediatr. 2015;104(467):38–53. doi:10.1111/apa.13132.
- 10. Peres KG, Cascaes AM, Nascimento GG, Victora CG. Effect of breastfeeding on malocclusions: a systematic review and meta-analysis. Acta Paediatr. 2015;104(467):54–61. doi:10.1111/apa.13103.
- 11. Sankar MJ, Sinha B, Chowdhury R, Bhandari N, Taneja S, Martines J et al. Optimal breastfeeding practices and infant and child mortality: a systematic review and meta-analysis. Acta Paediatr. 2015;104(467):3–13. doi:10.1111/apa.13147.
- 12. Sinha B, Chowdhury R, Sankar MJ, Martines J, Taneja S, Mazumder S et al. Interventions to improve breastfeeding outcomes: a systematic review and meta-analysis. Acta Paediatr. 2015;104(467):114–34. doi:10.1111/apa.13127.
- 13. Tham R, Bowatte G, Dharmage SC, Tan DJ, Lau MX, Dai X et al. Breastfeeding and the risk of dental caries: a systematic review and meta-analysis. Acta Paediatr. 2015;104(467):62–84. doi:10.1111/apa.13118.
- World Health Organization, United Nations Children's Fund. Global strategy for infant and young child feeding. Geneva: World Health organization; 2003
  (http://apps.who.int/iris/bitstream/10665/42590/1/9241562218.pdf, accessed 20 September 2017).
- Resolution WHA65.6. Comprehensive implementation plan on maternal, infant and young child nutrition. In: Sixty-fifth World Health Assembly, Geneva, 21–26 May 2012. Resolutions and decisions, annexes. Geneva: World Health Organization; 2012:12–13 (WHA65/2012/REC/1; http://www.who.int/nutrition/topics/WHA65.6\_resolution\_en.pdf, accessed 20 September 2017).
- The global strategy for women's children's and adolescents' health (2016–2030).
  Survive, thrive, transform. Geneva: Every Woman Every Child; 2015 (http://www.who.int/pmnch/media/events/2015/gs\_2016\_30.pdf, accessed 20 September 2017).

- 17. World Health Organization. Global targets 2025. To improve maternal, infant and young child nutrition (http://www.who.int/nutrition/global-target-2025/en/, accessed 20 September 2017).
- Protecting, promoting and supporting breast-feeding: the special role of maternity services: a joint WHO/UNICEF statement. Geneva: World Health Organization; 1989 (<u>http://apps.who.int/iris/</u>bitstream/10665/39679/1/9241561300.pdf, accessed 20 September 2017).
- 19. Innocenti Declaration on the protection, promotion and support of breastfeeding. New York: United Nations Children's Fund; 1991 (<u>http://www.who.int/about/agenda/health\_development/events/</u>innocenti\_declaration\_1990.pdf, accessed 20 September 2017).
- 20. Innocenti Declaration 2005 on infant and young child feeding, 22 November 2005, Florence, Italy. Geneva: United Nations Children's Fund; 2005 (http://www.unicef.org/nutrition/files/innocenti2005m\_ FINAL\_ARTWORK\_3\_MAR.pdf, accessed 20 September 2017).
- 21. World Health Organization, United Nations Children's Fund, Wellstart International. The Baby-friendly Hospital Initiative: monitoring and reassessment: tools to sustain progress. Geneva: World Health Organization; 1991 (WHO/NHD/99.2; <u>http://apps.who.int/iris/handle/10665/65380</u>, accessed 20 September 2017).
- 22. World Health Organization, United Nations Children's Fund. Baby-friendly Hospital Initiative: revised, updated and expanded for integrated care. Geneva: World Health Organization; 2009 (http://apps.who.int/iris/handle/10665/43593, accessed 21 September 2017).
- 23. Pérez-Escamilla R, Martinez JL, Segura-Pérez S. Impact of the Baby-friendly Hospital Initiative on breastfeeding and child health outcomes: a systematic review. Matern Child Nutr. 2016;12(3):402–17. doi:10.1111/mcn.12294.
- 24. Beake S, Pellowe C, Dykes F, Schmied V, Bick D. A systematic review of structured compared with non-structured breastfeeding programmes to support the initiation and duration of exclusive and any breastfeeding in acute and primary health care settings. Matern Child Nutr. 2012;8(2):141–61. doi:10.1111/j.1740-8709.2011.00381.x.
- 25. Passanha A, Benício MH, Venâncio SI, Reis MC. Influence of the support offered to breastfeeding by maternity hospitals. Rev Saude Publica. 2015;49:ii. doi:10.1590/S0034-8910.2015049005354.
- 26. International Code of Marketing of Breast-milk Substitutes. Geneva: World Health Organization; 1981 (http://www.who.int/nutrition/publications/code\_english.pdf, accessed 20 September 2017).
- 27. Sustainable Development Knowledge Platform. Sustainable Development Goals (https://sustainabledevelopment.un.org/sdgs, accessed 20 September 2017).
- 28. The International Code of Marketing of Breast-milk Substitutes 2017 update: frequently asked questions. Geneva: World Health Organization; 2017 (<u>http://apps.who.int/iris/bitstream/10665/254911/1/</u>WHO-NMH-NHD-17.1-eng.pdf?ua=1, accessed 20 September 2017).
- 29. Essential newborn care course. Geneva: World Health Organization; 2010 (<u>http://www.who.int/maternal\_child\_adolescent/documents/newborncare\_course/en/</u>, accessed 21 Septembber 2017).
- Kangaroo mother care: a practical guide. Geneva: World Health Organization; 2003 (http://apps.who.int/iris/bitstream/10665/42587/1/9241590351.pdf, accessed 21 September 2017).
- 31. World Health Organization, United Nations Population Fund, United Nations Children's Fund. Integrated management of pregnancy and childbirth. Pregnancy, childbirth, postpartum and newborn care: a guide for essential practice, 3rd ed. Geneva: World Health Organization; 2015 (<u>http://apps.who.int/iris/bitstre</u> am/10665/249580/1/9789241549356-eng.pdf?ua=1, accessed 21 September 2017).
- 32. Standards for improving quality of maternal and newborn care in health facilities. Geneva: World Health Organization; 2016 (http://apps.who.int/iris/bitstream/10665/249155/1/9789241511216-eng.pdf?ua=1, accessed 21 September 2017).

- 33. Guidelines on optimal feeding of low birth-weight infants in low- and middle-income countries. Geneva: World Health Organization; 2011 (<u>http://www.who.int/maternal\_child\_adolescent/</u> documents/9789241548366.pdf, accessed 20 September 2017).
- 34. World Health Organization, United Nations Children's Fund. Updates on HIV and infant feeding. The duration of breastfeeding and support from health services to improve feeding practices among mothers living with HIV. Geneva: World Health Organization; 2016 (<u>http://apps.who.int/iris/bitstre</u> am/10665/246260/1/9789241549707-eng.pdf?ua=1, accessed 20 September 2017).
- 35. HIV and infant feeding 2010: an updated framework for priority action. Geneva: World Health Organization; 2010 (FWC/MCA/12.1; http://apps.who.int/iris/bitstream/10665/75152/1/FWC\_MCA\_12.1\_ eng.pdf?ua=1&ua=1, accessed 20 September 2017).
- 36. Antiretroviral drugs for treating pregnant women and preventing HIV infection in infants. Recommendations for a public health approach. Geneva: World Health Organization; 2010 (<u>http://apps.who.int/iris/bitstream/10665/75236/1/9789241599818\_eng.pdf</u>, accessed 20 September 2017).
- 37. World Health Organization, United Nations Children's Fund. Acceptable medical reasons for use of breast-milk substitutes. Geneva: World Health Organization; 2009 (WHO/NMH/NHD/09.01; WHO/FCH/ ACH/09.01; <u>http://apps.who.int/iris/bitstream/10665/69938/1/WHO\_FCH\_CAH\_09.01\_eng.pdf</u>, accessed 20 September 2017).
- 38. GRADE (http://www.gradeworkinggroup.org/, accessed 21 September 2017).
- 39. How to write a plain language summary of a Cochrane intervention review. Plain language summary format. Oslo: Cochrane Norway; 2017 (http://www.cochrane.no/sites/cochrane.no/files/public/uploads/ how\_to\_write\_a\_cochrane\_pls\_27th\_march\_2017.pdf, accessed 20 September 2017).
- 40. Becker GE, Smith HA, Cooney F. Methods of milk expression for lactating women. Cochrane Database Syst Rev. 2016;(9):CD006170. doi:10.1002/14651858.CD006170.pub5.
- 41. Abe SK, Jung J, Rahman M, Haruyama R, Kita M, Koyama M et al. Hospitals with a written breastfeeding policy statement and implementation of the steps of breastfeeding: a systematic review [protocol]. PROSPERO. 2016:CRD42016038143 (<u>https://www.crd.york.ac.uk/PROSPERO/display\_record.</u> asp?ID=CRD42016038143, accessed 2 October 2017).
- 42. Balogun OO, Dagvadorj A, Yourkavitch J, da Silva Lopez K, Suto M, Takemoto Y, et al. Health facility staff training for improving breastfeeding outcome: a systematic review for step 2 of the Baby-friendly Hospital Initiative. Breastfeed Med. 2017;20 September [epub ahead of print] PubMed PMID: 28930480.
- Lumbiganon P, Martis R, Laopaiboon M, Festin MR, Ho JJ, Hakimi M. Antenatal breastfeeding education for increasing breastfeeding duration. Cochrane Database Syst Rev. 2016;(12):CD006425. doi:10.1002/14651858.CD006425.pub4.
- 44. Balogun OO, O'Sullivan EJ, McFadden A, Ota E, Gavine A, Garner CD et al. Interventions for promoting the initiation of breastfeeding. Cochrane Database Syst Rev. 2016;(11):CD001688. doi:10.1002/14651858. CD001688.pub3.
- 45. da Silva Lopez K, Ohde S, Suto M, Rayco-Solon P, Miyazaki C, Balogun OO et al. Providing linkage to breastfeeding support to mothers on discharge to improve breastfeeding outcomes: a systematic review [protocol]. PROSPERO. 2016:CRD42016041273 (<u>https://www.crd.york.ac.uk/PROSPERO/display\_record.</u> asp?ID=CRD42016041273, accessed 2 October 2017).
- 46. Labbok MH. Global baby-friendly hospital initiative monitoring data: update and discussion. Breastfeed Med. 2012;7:210–22. doi:10.1089/bfm.2012.0066.
- 47. National implementation of the Baby-friendly Hospital Initiative. Geneva: World Health Organization;
  2017 (http://apps.who.int/iris/bitstream/10665/255197/1/9789241512381-eng.pdf?ua=1, accessed 20 September 2017).

- 48. Saadeh RJ. The Baby-Friendly Hospital Initiative (BFHI) 20 years on: facts, progress and the way forward. J Hum Lact. 2012. doi:10.1177/0890334412446690.
- 49. Joint statement by the UN Special Rapporteurs on the Right to Food, Right to Health, the Working Group on Discrimination against Women in law and in practice, and the Committee on the Rights of the Child in support of increased efforts to promote, support and protect breast-feeding. Geneva: United Nations Human Rights Office of the High Commissioner; 2016 (<u>http://www.ohchr.org/EN/NewsEvents/Pages/</u> DisplayNews.aspx?NewsID=20871, accessed 20 September 2017).
- 50. Kent G. Child feeding and human rights. Int Breastfeed J. 2006;1:27.
- Akseer N, Bhatti Z, Rizvi A, Salehi AS, Mashal T, Bhutta ZA. Coverage and inequalities in maternal and child health interventions in Afghanistan. BMC Public Health. 2016;16 Suppl. 2:797. doi:10.1186/s12889-016-3406-1.
- 52. Barros AJ, Ronsmans C, Axelson H, Loaiza E, Bertoldi AD, Franca GV et al. Equity in maternal, newborn, and child health interventions in Countdown to 2015: a retrospective review of survey data from 54 countries. Lancet. 2012;379(9822):1225–33. doi:10.1016/S0140-6736(12)60113-5.
- 53. Eide KT, Fadnes LT, Engebretsen IM, Onarheim KH, Wamani H, Tumwine JK et al. Impact of a peercounseling intervention on breastfeeding practices in different socioeconomic strata: results from the equity analysis of the PROMISE-EBF trial in Uganda. Glob Health Action. 2016;9:30578. doi:10.3402/gha. v9.30578.
- 54. Lutter CK, Chaparro CM, Grummer-Strawn LM. Increases in breastfeeding in Latin America and the Caribbean: an analysis of equity. Health Policy Plan. 2011;26(3):257–65. doi: 10.1093/heapol/czq046.
- 55. Muhajarine N, Ng J, Bowen A, Cushon J, Johnson S. Understanding the impact of the Canada Prenatal Nutrition Program: a quantitative evaluation. Can J Public Health. 2012;103(7 Suppl. 1):eS26–31.
- 56. Wallwiener S, Muller M, Doster A, Plewniok K, Wallwiener CW, Fluhr H et al. Predictors of impaired breastfeeding initiation and maintenance in a diverse sample: what is important? Arch Gynecol Obstet. 2016;294(3):455-66. doi:10.1007/s00404-015-3994-5.
- 57. Conde-Agudelo A, Díaz-Rossello JL. Kangaroo mother care to reduce morbidity and mortality in low birthweight infants. Cochrane Database Syst Rev. 2016;(8):CD002771. doi:10.1002/14651858.CD002771.pub4.
- 58. Crowe L, Chang A, Wallace K. Instruments for assessing readiness to commence suck feeds in preterm infants: effects on time to establish full oral feeding and duration of hospitalisation. Cochrane Database Syst Rev. 2016;(8):CD005586. doi:10.1002/14651858.CD005586.pub3.
- 59. Fallon A, Van der Putten D, Dring C, Moylett EH, Fealy G, Devane D. Baby-led compared with scheduled (or mixed) breastfeeding for successful breastfeeding. Cochrane Database Syst Rev. 2016;(9):CD009067. doi:10.1002/14651858.CD009067.pub3.
- 60. Jaafar SH, Ho JJ, Lee KS. Rooming-in for new mother and infant versus separate care for increasing the duration of breastfeeding. Cochrane Database Syst Rev. 2016;(8):CD006641. doi:0.1002/14651858. CD006641.pub3.
- 61. McFadden A, Gavine A, Renfrew MJ, Wade A, Buchanan P, Taylor JL et al. Support for healthy breastfeeding mothers with healthy term babies. Cochrane Database Syst Rev. 2017;(2):CD001141. doi:10.1002/14651858.CD001141.pub5.
- 62. Moore ER, Bergman N, Anderson GC, Medley N. Early skin-to-skin contact for mothers and their healthy newborn infants. Cochrane Database Syst Rev. 2016;(11):CD003519. doi:10.1002/14651858.CD003519.pub4.
- 63. Smith E, Hurt L, Chowdhury R, Sihna B, Fawzi W, Edmond K. Delayed breastfeeding initiation and infant survival: a systematic review and meta-analysis. PLoS One. 2017 (<u>https://doi.org/10.1371/journal.</u> pone.0180722, accessed 2 October 2017).

- 64. Watson J, McGuire W. Responsive versus scheduled feeding for preterm infants. Cochrane Database Syst Rev. 2016;(8):CD005255. doi:10.1002/14651858.CD005255.pub5.
- 65. Becher JC, Bhushan SS, Lyon AJ. Unexpected collapse in apparently healthy newborns a prospective national study of a missing cohort of neonatal deaths and near-death events. Arch Dis Child Fetal Neonatal Ed. 2012;97(1):F30–4. doi:10.1136/adc.2010.208736.
- 66. Fleming PJ. Unexpected collapse of apparently healthy newborn infants: the benefits and potential risks of skin-to-skin contact. Arch Dis Child Fetal Neonatal Ed. 2012;97(1):F2-3. doi:10.1136/archdischild-2011-300786
- 67. Andres V, Garcia P, Rimet Y, Nicaise C, Simeoni U. Apparent life-threatening events in presumably healthy newborns during early skin-to-skin contact. Pediatrics. 2011;127(4):e1073-6. doi:10.1542/ peds.2009-3095.
- 68. Blair PS, Sidebotham P, Evason-Coombe C, Edmonds M, Heckstall-Smith EM, Fleming P. Hazardous cosleeping environments and risk factors amenable to change: case-control study of SIDS in south west England. BMJ. 2009;339:b3666. doi:10.1136/bmj.b3666.
- 69. Dageville C, Pignol J, De Smet S. Very early neonatal apparent life-threatening events and sudden unexpected deaths: incidence and risk factors. Acta Paediatr. 2008;97(7):866–9. doi:10.1111/j.1651-2227.2008.00863.x.
- Espagne S, Hamon I, Thiébaugeorges O, Hascoet JM. [Sudden death of neonates in the delivery room.] Arch Pediatr. 2004;11(5):436–9.
- 71. Peters C, Becher JC, Lyon AJ, Midgley PC. Who is blaming the baby? Arch Dis Child Fetal Neonatal Ed. 2009;94(5):F377-8. doi:10.1136/adc.2008.143628.
- 72. Benoit B, Semenic S. Barriers and facilitators to implementing the Baby–Friendly hospital initiative in neonatal intensive care units. J Obstet Gynecol Neonatal Nurs. 2014;43(5):614–24. doi:10.1111/1552-6909.12479.
- 73. Gokcay G, Uzel N, Kayaturk F, Neyzi O. Ten steps for successful breast-feeding: assessment of hospital performance, its determinants and planning for improvement. Child Care Health Dev. 1997;23(2):187–200.
- 74. Labbok MH, Taylor EC, Nickel NC. Implementing the ten steps to successful breastfeeding in multiple hospitals serving low-wealth patients in the US: innovative research design and baseline findings. Int Breastfeed J. 2013;8(1):5. doi:10.1186/1746-4358-8-5.
- 75. Nikodem C, Schelke L, Enraght-Moony L, Hofmeyr GJ. Breastfeeding in crisis: survey results of the Baby-Friendly Hospital Initiative. Curationis. 1995;18(3):39–42.
- 76. Pound C, Ward N, Freuchet M, Akiki S, Chan J, Nicholls S. Hospital staff's perceptions with regards to the Baby-Friendly Initiative: experience from a Canadian tertiary care centre. J Hum Lact. 2016. doi:10.1177/0890334416662630
- 77. Elander G, Lindberg T. Hospital routines in infants with hyperbilirubinemia influence the duration of breast feeding. Acta Paediatr Scand. 1986;75(5):708–12.
- Lindenberg CS, Cabrera Artola R, Jimenez V. The effect of early post-partum mother-infant contact and breast-feeding promotion on the incidence and continuation of breast-feeding. Int J Nurs Stud. 1990;27(3):179–86.
- 79. Perez-Escamilla R, Segura-Millán S, Pollitt E, Dewey KG. Effect of the maternity ward system on the lactation success of low-income urban Mexican women. Early Hum Dev. 1992;31(1):25–40.
- Collins CT, Gillis J, McPhee AJ, Suganuma H, Makrides M. Avoidance of bottles during the establishment of breast feeds in preterm infants. Cochrane Database Syst Rev. 2016;(10):CD005252. doi:10.1002/14651858.CD005252.pub4.

- Flint A, New K, Davies MW. Cup feeding versus other forms of supplemental enteral feeding for newborn infants unable to fully breastfeed. Cochrane Database Syst Rev. 2016;(8):CD005092. doi:10.1002/14651858. CD005092.pub3.
- 82. Foster JP, Psaila K, Patterson T. Non-nutritive sucking for increasing physiologic stability and nutrition in preterm infants. Cochrane Database Syst Rev. 2016;(10):CD001071. doi:10.1002/14651858.CD001071.pub3.
- 83. Ganchimeg T, Sugimoto K, Fukazawa KR, Rayco-Solon P, Ota E. Avoidance of bottles and artificial teats during the establishment of breastfeeds in healthy term infants: a systematic review of randomized controlled trials [protocol]. PROSPERO. 2016:CRD42016041370 (<u>http://www.crd.york.ac.uk/PROSPERO/</u>display\_record.asp?ID=CRD42016041370, accessed 2 October 2017).
- 84. Greene Z, O'Donnell CP, Walshe M. Oral stimulation for promoting oral feeding in preterm infants. Cochrane Database Syst Rev. 2016;(9):CD009720. doi:10.1002/14651858.CD009720.pub2.
- Jaafar SH, Ho JJ, Jahanfar S, Angolkar M. Effect of restricted pacifier use in breastfeeding term infants for increasing duration of breastfeeding. Cochrane Database Syst Rev. 2016(8):CD007202. doi:10.1002/14651858.CD007202.pub4.
- 86. Smith HA, Becker GE. Early additional food and fluids for healthy breastfed full-term infants. Cochrane Database Syst Rev. 2016;(8):CD006462. doi:10.1002/14651858.CD006462.pub4.
- 87. Lindfors A, Enocksson E. Development of atopic disease after early administration of cow milk formula. Allergy. 1988;43(1):11-6.
- 88. Mosalli R, Abd El-Azim AA, Qutub MA, Zagoot E, Janish M, Paes BA. Perceived barriers to the implementation of a baby friendly initiative in Jeddah, Saudi Arabia. Saudi Med J. 2012;33(8):895–900.
- 89. Terry M, Barnes C, Beal K, Enciso AJ, Love-Zaranka A. A tale of two Baby-Friendly Hospitals: comparison of a military and a civilian experience. Breastfeed Med. 2016;11:409–10. doi:10.1089/bfm.2016.0111.
- 90. Kramer MS, Barr RG, Dagenais S, Yang H, Jones P, Ciofani L et al. Pacifier use, early weaning, and cry/ fuss behavior: a randomized controlled trial. JAMA. 2001;286(3):322-6.
- Schubiger G, Schwarz U, Tönz O. UNICEF/WHO baby-friendly hospital initiative: does the use of bottles and pacifiers in the neonatal nursery prevent successful breastfeeding? Neonatal Study Group. Eur J Pediatr. 1997;156(11):874–7.
- 92. Jenik AG, Vain NE, Gorestein AN, Jacobi NE, Group P, Trial B. Does the recommendation to use a pacifier influence the prevalence of breastfeeding? J Pediatr. 2009;155(3):350-4.e1. doi:10.1016/j. jpeds.2009.03.038.
- 93. Mikiel-Kostyra K, Mazur J, Wojdan-Godek E. Factors affecting exclusive breastfeeding in Poland: cross-sectional survey of population-based samples. Soz Praventivmed. 2005;50(1):52–9.
- 94. Merten S, Ackermann-Liebrich U. Exclusive breastfeeding rates and associated factors in Swiss baby-friendly hospitals. J Hum Lact. 2004;20(1):9–17.
- 95. Victora CG, Behague DP, Barros FC, Olinto MT, Weiderpass E. Pacifier use and short breastfeeding duration: cause, consequence, or coincidence? Pediatrics. 1997;99(3):445-53.
- 96. Nyqvist KH, Kylberg E. Application of the baby friendly hospital initiative to neonatal care: suggestions by Swedish mothers of very preterm infants. J Hum Lact. 2008;24(3):252–62. doi:10.1177/0890334408319156.
- 97. Collins CT, Ryan P, Crowther CA, McPhee AJ, Paterson S, Hiller JE. Effect of bottles, cups, and dummies on breast feeding in preterm infants: a randomised controlled trial. BMJ. 2004;329(7459):193–8.
- 98. Yilmaz G, Caylan N, Karacan CD, Bodur İ, Gokcay G. Effect of cup feeding and bottle feeding on breastfeeding in late preterm infants: a randomized controlled study. J Hum Lact. 2014;30(2):174–9. doi:10.1177/0890334413517940.

- 99. Rocha NM, Martinez FE, Jorge SM. Cup or bottle for preterm infants: effects on oxygen saturation, weight gain, and breastfeeding. J Hum Lact. 2002;18(2):132–8.
- 100. Gavine A, MacGillivray S, Renfrew MJ, Siebelt L, Haggi H, McFadden A. Education and training of healthcare staff in the knowledge, attitudes and skills needed to work effectively with breastfeeding women: a systematic review. Int Breastfeed J. 2016;12:6. doi:10.1186/s13006-016-0097-2.
- 101. Bruce NG, Khan Z, Olsen NDL. Hospital and other influences on the uptake and maintenance of breast feeding: the development of infant feeding policy in a district. Public Health. 1991;105(5):357–68.
- 102. Moura de Araujo Mde F, Soares Schmitz Bde A. Reassessment of Baby-friendly Hospitals in Brazil. J Hum Lact. 2007;23(3):246–52.
- 103. Moore T, Gauld R, Williams S. Implementing Baby Friendly Hospital Initiative policy: the case of New Zealand public hospitals. Int Breastfeed J. 2007;2:8.
- 104. Duffy EP, Percival P, Kershaw E. Positive effects of an antenatal group teaching session on postnatal nipple pain, nipple trauma and breast feeding rates. Midwifery. 1997;13(4):189–96.
- 105. Kronborg H, Maimburg RD, Væth M. Antenatal training to improve breast feeding: a randomised trial. Midwifery. 2012;28(6):784–90. doi:10.1016/j.midw.2011.08.016.
- 106. Yotebieng M, Labbok M, Soeters HM, Chalachala JL, Lapika B, Vitta BS et al. Ten Steps to Successful Breastfeeding programme to promote early initiation and exclusive breastfeeding in DR Congo: a clusterrandomised controlled trial. Lancet Glob Health. 2015;3(9):e546–55. doi:10.1016/S2214-109X(15)00012-1.
- 107. McLachlan HL, Forster DA, Amir LH, Cullinane M, Shafiei T, Watson LF et al. Supporting breastfeeding In Local Communities (SILC) in Victoria, Australia: a cluster randomised controlled trial. BMJ open. 2016;6(2):e008292. doi:10.1136/bmjopen-2015-008292.
- 108. Pérez-Escamilla R, Hall Moran V. Scaling up breastfeeding programmes in a complex adaptive world. Matern Child Nutr. 2016;12(3):375–80. doi:10.1111/mcn.12335.
- 109. Semenic S, Childerhose JE, Lauziere J, Groleau D. Barriers, facilitators, and recommendations related to implementing the Baby-Friendly Initiative (BFI): an integrative review. J Hum Lact. 2012;28(3):317–34. doi:10.1177/0890334412445195.
- 110. Nyqvist KH, Maastrup R, Hansen MN, Haggkvist AP, Hannula L, Ezeonodo A et al. Neo-BFHI: the Babyfriendly Hospital Initiative for neonatal wards. Three guiding principles to protect, promote and support breastfeeding. Core document with recommended standards and criteria. Nordic and Quebec Working Group; 2015 (http://epilegothilasmo.gr/wp-content/uploads/2017/04/Neo\_BFHI\_Core\_document\_2015\_ Edition.pdf, accessed 20 September 2017).
- 111. Nyqvist KH, Haggkvist AP, Hansen MN, Kylberg E, Frandsen AL, Maastrup R et al. Expansion of the ten steps to successful breastfeeding into neonatal intensive care: expert group recommendations for three guiding principles. J Hum Lact. 2012;28(3):289–96. doi:10.1177/0890334412441862.
- 112. Pérez-Escamilla R, Sellen D. Equity in breastfeeding: where do we go from here? J Hum Lact. 2015;31(1):12–14. doi:10.1177/0890334414561062.
- 113. Zamora G, Lutter CK, Peña-Rosas JP. Using an equity lens in the implementation of interventions to protect, promote, and support optimal breastfeeding practices. J Hum Lact. 2015;31(1):21–5. doi:10.1177/0890334414561477.
- 114. World Health Organization. Global database on the Implementation of Nutrition Action (GINA) (http://www.who.int/nutrition/gina/en/, accessed 21 September 2017).
- WHO handbook for guideline development, second edition. Geneva: World Health Organization; 2014 (http://apps.who.int/medicinedocs/documents/s22083en/s22083en.pdf, accessed 20 September 2017).

- 116. Guyatt G, Oxman AD, Akl EA, Kunz R, Vist G, Brozek J et al. GRADE guidelines: 1. Introduction GRADE evidence profiles and summary of findings tables. J Clin Epidemiol. 2011;64(4):383–94. doi:10.1016/j. jclinepi.2010.04.026.
- Guyatt GH, Oxman AD, Vist GE, Kunz R, Falck-Ytter Y, Alonso-Coello P et al. GRADE: an emerging consensus on rating quality of evidence and strength of recommendations. BMJ. 2008;336(7650):924–6. doi:10.1136/bmj.39489.470347.AD.
- 118. DECIDE 2011–2015. Evidence to Decision (EtD) framework (<u>http://www.decide-collaboration.eu/evidence-</u> decision-etd-framework, accessed 22 September 2017).
- 119. Alonso-Coello P, Oxman AD, Moberg J, Brignardello-Petersen R, Akl EA, Davoli M et al., GRADE Working Group. GRADE Evidence to Decision (EtD) frameworks: a systematic and transparent approach to making well informed healthcare choices. 2: clinical practice guidelines. BMJ. 2016;353:i2089. doi:10.1136/bmj. i2089.
- 120. Schunemann HJ, Mustafa R, Brozek J, Santesso N, Alonso-Coello P, Guyatt G et al., GRADE Working Group. GRADE Guidelines: 16. GRADE evidence to decision frameworks for tests in clinical practice and public health. J Clin Epidemiol. 2016;76:89–98. doi:10.1016/j.jclinepi.2016.01.032.
- Declaration of interests for WHO experts. Geneva: World Health Organization; 2010 (http://www.who.int/occupational\_health/declaration\_of\_interest.pdf, accessed 21 September 2017).
- 122. Higgins J, Green S, editors. Cochrane handbook for systematic reviews of interventions. Version 5.10. York: The Cochrane Collaboration; 2011 (http://handbook-5-1.cochrane.org/, accessed 21 September 2017).
- 123. Critical Appraisals Skills Programme (CASP). CASP tools and checklists (<u>http://www.casp-uk.net/casp-tools-checklists</u>, accessed 29 September 2017).
- 124. GRADE-CERQual. Confidence in the evidence from reviews of qualitative research (<u>http://www.cerqual.org/</u>, accessed 27 September 2017).
- 125. World Health Organization. Nutrition (http://www.who.int/nutrition/en/, accessed 21 September 2017).
- 126. World Health Organization. e-Library of Evidence for Nutrition Actions (eLENA) (<u>http://www.who.int/</u>elena/about/guidelines\_process/en/, accessed 21 September 2017).
- 127. Kronborg H, Vaeth M, Olsen J, Harder I. Health visitors and breastfeeding support: influence of knowledge and self-efficacy. Eur J Public Health. 2008;18(3):283–8.
- 128. Rea MF, Venancio MI, Martines JC, Savage F. Counselling on breastfeeding: assessing knowledge and skills. Bull World Health Organ. 1999;77:492–8.
- 129. Ekström A, Widström A-M, Nissen E. Process-oriented training in breastfeeding alters attitudes to breastfeeding in health professionals. Scand J Public Health. 2005;33:424–31 doi:10.1080/14034940510005923.
- 130. Westphal MF, Taddei JA, Venancio SI, Bogus CM. Breastfeeding training for health professionals and resultant institutional changes. Bull World Health Organ. 1995;73):461–8.
- Weddig J, Baker SS, Auld G. Perspectives of hospital-based nurses on breastfeeding initiation best practices. J Obstet Gynecol Neonatal Nurs. 2011;40(2):166–78. doi: 10.1111/j.1552-6909.2011.01232.x.
- 132. Downie J, Rakic V, Juliff D. Enhancing the ability of nurses and midwives to promote breastfeeding: a longitudinal study. Birth Issues. 2002;11(2-3):53-9.
- 133. Martens PJ. Does breastfeeding education affect nursing staff beliefs, exclusive breastfeeding rates, and Baby-Friendly Hospital Initiative compliance? The experience of a small, rural Canadian hospital. J Hum Lact. 2000;16(4):309–18.

- 134. Lewin S, Glenton C, Munthe-Kaas H, Carlsen B, Colvin CJ, Gülmezoglu M et al. Using qualitative evidence in decision making for health and social interventions: an approach to assess confidence in findings from qualitative evidence syntheses (GRADE-CERQual). PLoS Med. 2015;12(10):e1001895. doi:10.1371/journal. pmed.1001895.
- 135. Abolyan LV. The breastfeeding support and promotion in Baby-Friendly Maternity Hospitals and Not-as-Yet Baby-Friendly Hospitals in Russia. Breastfeed Med. 2006;1:71–8.
- 136. Abul-Fadl AM, Shawky M, El-Taweel A, Cadwell K, Turner-Maffei C. Evaluation of mothers' knowledge, attitudes, and practice towards the ten steps to successful breastfeeding in Egypt. Breastfeed Med. 2012;7:173–8. doi:10.1089/bfm.2011.0028.
- 137. Aguilar Cordero MJ, Batran Ahmed SM, Padilla Lopez CA, Guisado Barrilao R, Gomez Garcia C. [Breast feeding in premature babies: development-centered care in Palestine.] Nutr Hosp. 2012;27:1940–4. doi:10.3305/nh.2012.27.6.5995.
- 138. Carfoot S, Williamson P, Dickson R. A randomised controlled trial in the north of England examining the effects of skin-to-skin care on breast feeding. Midwifery. 2005;21(1):71–9.
- 139. Finigan V, Long T. Skin-to-skin contact: multicultural perspectives on birth fluids and birth 'dirt'. Int Nurs Rev. 2014;61(2):270–7. doi:10.1111/inr.12100.
- Gomez Papi A, Baiges Nogues MT, Batiste Fernandez MT, Marca Gutierrez MM, Nieto Jurado A, Closa Monasterolo R. [Kangaroo method in delivery room for full-term babies.] An Esp Paediatr. 1998;48(6):631–3.
- 141. Gouchon S, Gregori D, Picotto A, Patrucco G, Nangeroni M, Di Giulio P. Skin-to-skin contact after cesarean delivery: an experimental study. Nurs Res. 2010;59(2):78–84. doi:10.1097/ NNR.ob013e3181d1a8bc.
- 142. Moran-Peters JA, Zauderer CR, Goldman S, Baierlein J, Smith AE. A quality improvement project focused on women's perceptions of skin-to-skin contact after cesarean birth. Nurs Womens Health. 2014;18:294– 303. doi:10.1111/1751-486X.12135.
- 143. Nolan A, Lawrence C. A pilot study of a nursing intervention protocol to minimize maternal-infant separation after Cesarean birth. J Obstet Gynaecol Neonat Nurs. 2009;38(4):430–42. doi:10.1111/j.1552– 6909.2009.01039.x.
- 144. Nyqvist KH, Kylberg E. Application of the baby friendly hospital initiative to neonatal care: suggestions by Swedish mothers of very preterm infants. J Hum Lact. 2008;24:252–62. doi:10.1177/0890334408319156.
- 145. Redshaw M, Hennegan J, Kruske S. Holding the baby: early mother-infant contact after childbirth and outcomes. Midwifery. 2014;30(5):e177-87. doi:10.1016/j.midw.2014.02.003.
- 146. Walters MW, Boggs KM, Ludington-Hoe S, Price KM, Morrison B. Kangaroo care at birth for full term infants: a pilot study. MCN Am J Matern Child Nurs. 2007;32:375–81.
- 147. Wiberg B, Humble K, de Chateau P. Long-term effect on mother-infant behaviour of extra contact during the first hour post partum. V. Follow-up at three years. Scand J Soc Med. 1989;17:181–91.
- 148. Byrne B, Hull D. Breast milk for preterm infants. Prof Care Mother Child. 1996;6:39, 42–5.
- 149. Cottrell BH, Detman LA. Breastfeeding concerns and experiences of African American mothers. MCN Am J Matern Child Nurs. 2013;38:297–304. doi:10.1097/NMC.0b013e31829a5606.
- 150. Labiner-Wolfe J, Fein SB, Shealy KR, Wang C. Prevalence of breast milk expression and associated factors. Pediatrics. 2008;122 Suppl. 2:S63–8. doi:10.1542/peds.2008-1315h.

- 151. Flaherman VJ, Gay B, Scott C, Avins A, Lee KA, Newman TB. Randomised trial comparing hand expression with breast pumping for mothers of term newborns feeding poorly. Arch Dis Child Fetal Neonatal Ed. 2012;97:F18-23. doi:10.1136/adc.2010.209213.
- 152. Heon M, Goulet C, Garofalo C, Nuyt AM, Levy E. Acceptability and feasibility of a breast milk expression education and support intervention in mothers of preterm infants. Adv Neonatal Care. 2014;14:E9–E19. doi:10.1097/ANC.000000000000113.
- 153. Hurst N, Engebretson J, Mahoney JS. Providing mother's own milk in the context of the NICU: a paradoxical experience. J Hum Lact. 2013;29:366–73. doi:10.1177/0890334413485640.
- 154. Potera C. NICUs lack privacy for pumping breast milk: and even when mothers have privacy, they prefer pumping at home. Am J Nurs. 2013;113:14. doi:10.1097/01.NAJ.0000428726.39018.26.
- 155. Rossman B, Kratovil AL, Greene MM, Engstrom JL, Meier PP. "I have faith in my milk": the meaning of milk for mothers of very low birth weight infants hospitalized in the neonatal intensive care unit. J Hum Lact. 2013;29:359-65. doi:10.1177/0890334413484552.
- 156. Ball HL, Ward-Platt MP, Heslop E, Leech SJ, Brown KA. Randomised trial of infant sleep location on the postnatal ward. Arch Dis Child. 2006;91(12):1005–10.
- 157. Dharamraj C, Sia CG, Kierney CM, Parekh A, Harper RG, Weissman B. Observations on maternal preference for rooming-in facilities. Pediatrics. 1981;67(5):638–40.
- 158. Hull V, Thapa S, Pratomo H. Breast-feeding in the modern health sector in Indonesia: the mother's perspective. Soc Sci Med. 1990;30(5):625–33.
- 159. Nysaether H, Baerug A, Nylander G, Klepp KI. [Rooming-in in the maternity ward are mothers satisfied?] Tidsskr Nor Laegeforen. 2002;122(12):1206–9.
- 160. Reid B, Taylor J. A feminist exploration of Traveller women's experiences of maternity care in the Republic of Ireland. Midwifery. 2007;23:248–59.
- 161. Svensson K, Matthiesen AS, Widstrom AM. Night rooming-in: who decides? An example of staff influence on mother's attitude. Birth. 2005;32(2):99–106.
- 162. Dykes F. 'Supply' and 'demand': breastfeeding as labour. Soc Sci Med. 2005;60:2283-93.
- 163. Hongo H, Nanishi K, Shibanuma A, Jimba M. Is baby-friendly breastfeeding support in maternity hospitals associated with breastfeeding satisfaction among Japanese mothers? Matern Child Health J. 2015;19:1252–62. doi:10.1007/s10995-014-1631-8.
- 164. Adejuyigbe EA, Odebiyi AI, Aina O, Bamiwuye S. Feeding and care of low-birthweight babies in two rural communities in south-western Nigeria. Matern Child Nutr. 2008;4(1):55–64. doi:10.1111/j.1740-8709.2007.00101.x.
- 165. Degefie T, Amare Y, Mulligan B. Local understandings of care during delivery and postnatal period to inform home based package of newborn care interventions in rural Ethiopia: a qualitative study. BMC Int Health Hum Rights. 2014;14:17. doi:10.1186/1472-698X-14-17.
- 166. Khan GN, Memon ZA, Bhutta ZA. A cross sectional study of newborn care practices in Gilgit, Pakistan. J Neonatal Perinatal Med. 2013;6:69–76. doi:10.3233/NPM-1364712.
- 167. Abul-Fadl AM, Shawky M, El-Taweel A, Cadwell K, Turner-Maffei C. Evaluation of mothers' knowledge, attitudes, and practice towards the ten steps to successful breastfeeding in Egypt. Breastfeed Med. 2012;7(3):173–8. doi:10.1089/bfm.2011.0028.
- 168. Vogel AM, Hutchison BL, Mitchell EA. The impact of pacifier use on breastfeeding: a prospective cohort study. J Paediatr Child Health. 2001;37(1):58–63.

- 169. Cloherty M, Alexander J, Holloway I, Galvin K, Inch S. The cup-versus-bottle debate: a theme from an ethnographic study of the supplementation of breastfed infants in hospital in the United Kingdom. J Hum Lact. 2005;21(2):151–62; quiz 63–6.
- 170. Arora S, McJunkin C, Wehrer J, Kuhn P. Major factors influencing breastfeeding rates: mother's perception of father's attitude and milk supply. Pediatrics. 2000;106(5):E67.
- 171. Ayiasi MR, Van Royen K, Verstraeten R, Atuyambe L, Criel B, Garimoi CO et al. Exploring the focus of prenatal information offered to pregnant mothers regarding newborn care in rural Uganda. BMC Pregnancy Childbirth. 2013;13:176. doi:10.1186/1471-2393-13-176.
- 172. Barona-Vilar C, Escriba-Aguir V, Ferrero-Gandia R. A qualitative approach to social support and breast-feeding decisions. Midwifery. 2009;25(2):187–94.
- 173. Bergman V, Larsson S, Lomberg H, Moller A, Marild S. A survey of Swedish mothers' view on breastfeeding and experiences of social and professional support. Scand J Caring Sci. 1993;7(1):47-52.
- Bueno-Gutierrez D, Chantry C. Using the socio-ecological framework to determine breastfeeding obstacles in a low-income population in Tijuana, Mexico: healthcare services. Breastfeed Med. 2015;10(2):124–31. doi:10.1089/bfm.2014.0109.
- 175. Coreil J, Bryant CA, Westover BJ, Bailey D. Health professionals and breastfeeding counseling: client and provider views. J Hum Lact. 1995;11(4):265-71.
- 176. Cricco-Lizza R. Black non-Hispanic mothers' perceptions about the promotion of infant-feeding methods by nurses and physicians. J Obstet Gynaecol Neonat Nurs. 2006;35:173-80.
- 177. de Oliveira MI, Camacho LA, Souza IE. [Breastfeeding promotion, protection, and support in primary health care in the State of Rio de Janeiro, Brazil: a case of evidence-based public health policy.] Cad Saude Publica. 2005;21(6):1901–10.
- 178. Ekström A, Widström AM, Nissen E. Does continuity of care by well-trained breastfeeding counselors improve a mother's perception of support? Birth. 2006;33(2):123–30.
- 179. Engstrom BL, Fridlund B. Women's views of counselling received in connection with breast-feeding after reduction mammoplasty. J Adv Nurs. 2000;32:1143-51.
- 180. Hailes JF, Wellard SJ. Support for breastfeeding in the first postpartum month: perceptions of breastfeeding women. Breastfeed Rev. 2000;8(3):5–9.
- 181. Hall WA, Hauck Y. Getting it right: Australian primiparas' views about breastfeeding: a quasi-experimental study. Int J Nurs Stud. 2007;44(5):786–95.
- 182. Helsing E, Chalmers BE, Dinekina TJ, Kondakova NI. Breastfeeding, baby friendliness and birth in transition in North Western Russia: a study of women's perceptions of the care they receive when giving birth in six maternity homes in the cities of Archangelsk and Murmansk, 1999. Acta Paediatr. 2002;91(5):578–83.
- 183. Loiselle CG, Semenic SE, Cote B, Lapointe M, Gendron R. Impressions of breastfeeding information and support among first-time mothers within a multiethnic community. Can J Nurs Res. 2001;33(3):31–46.
- Raisler J. Against the odds: breastfeeding experiences of low income mothers. J Midwifery Womens Health. 2000;45(3):253-63.
- 185. Redshaw M, Henderson J. Learning the hard way: expectations and experiences of infant feeding support. Birth. 2012;39(1):21-9. doi:10.1111/j.1523-536X.2011.00509.x
- 186. Shortt E, McGorrian C, Kelleher C. A qualitative study of infant feeding decisions among low-income women in the Republic of Ireland. Midwifery. 2013;29(5):453–60. doi:10.1016/j.midw.2012.03.001.

- Spear HJ. Breastfeeding behaviors and experiences of adolescent mothers. MCN Am J Matern Child Nurs. 2006;31:106–13.
- 188. Andaya E, Bonuck K, Barnett J, Lischewski-Goel J. Perceptions of primary care-based breastfeeding promotion interventions: qualitative analysis of randomized controlled trial participant interviews. Breastfeed Med. 2012;7(6):417–22. doi:10.1089/bfm.2011.0151.
- 189. Askelsdottir B, Lam-de Jonge W, Edman G, Wiklund I. Home care after early discharge: impact on healthy mothers and newborns. Midwifery. 2013;29(8):927–34. doi:10.1016/j.midw.2012.11.001.
- 190. Bailey S. Postnatal care: exploring the views of first-time mothers. Community Pract. 2010;83(12):26-9.
- 191. Barimani M, Oxelmark L, Johansson SE, Langius-Eklof A, Hylander I. Professional support and emergency visits during the first 2 weeks postpartum. Scand J Caring Sci. 2014;28(1):57–65. doi:10.1111/scs.12036.
- 192. Bonuck K, Stuebe A, Barnett J, Labbok MH, Fletcher J, Bernstein PS. Effect of primary care intervention on breastfeeding duration and intensity. Am J Public Health. 2014;104 Suppl. 1:S119–27. doi:10.2105/ AJPH.2013.301360.
- 193. Boulvain M, Perneger TV, Othenin-Girard V, Petrou S, Berner M, Irion O. Home-based versus hospital-based postnatal care: a randomised trial. BJOG. 2004;111(8):807–13.
- 194. Escobar GJ, Braveman PA, Ackerson L, Odouli R, Coleman-Phox K, Capra AM et al. A randomized comparison of home visits and hospital-based group follow-up visits after early postpartum discharge. Pediatrics. 2001;108(3):719–27.
- 195. Fallon AB, Hegney D, O'Brien M, Brodribb W, Crepinsek M, Doolan J. An evaluation of a telephone-based postnatal support intervention for infant feeding in a regional Australian city. Birth. 2005;32(4):291–8.
- 196. Fox R, McMullen S, Newburn M. UK women's experiences of breastfeeding and additional breastfeeding support: a qualitative study of Baby Café services. BMC Pregnancy Childbirth. 2015;15:147. doi:10.1186/ s12884-015-0581-5.
- 197. Graffy J, Taylor J, Williams A, Eldridge S. Randomised controlled trial of support from volunteer counsellors for mothers considering breast feeding. BMJ. 2004;328(7430):26.
- 198. Kronborg H, Vaeth M, Olsen J, Iversen L, Harder I. Effect of early postnatal breastfeeding support: a cluster-randomized community based trial. Acta Paediatr. 2007;96(7):1064–70.
- 199. Labarere J, Gelbert-Baudino N, Laborde L, Arragain D, Schelstraete C, Francois P. CD-ROM-based program for breastfeeding mothers. Matern Child Nutr. 2011;7(3):263–72. doi:10.1111/j.1740-8709.2009.00235.x.
- 200. Mantha S, Davies B, Moyer A, Crowe K. Providing responsive nursing care to new mothers with high and low confidence. MCN Am J Matern Child Nurs. 2008;33(5):307–14. doi:10.1097/01. NMC.0000334899.14592.32.
- 201. McKeever P, Stevens B, Miller KL, MacDonell JW, Gibbins S, Guerriere D et al. Home versus hospital breastfeeding support for newborns: a randomized controlled trial. Birth. 2002;29(4):258–65.
- 202. Murray D, Ryan F, Keane E. Who's holding the baby? women's experience of their postnatal care. Ir Med J. 2000;93(5):148–50.
- 203. Paul IM, Beiler JS, Schaefer EW, Hollenbeak CS, Alleman N, Sturgis SA et al. A randomized trial of single home nursing visits vs office-based care after nursery/maternity discharge: the Nurses for Infants Through Teaching and Assessment After the Nursery (NITTANY) Study. Arch Pediatr Adolesc Med. 2012;166(3):263–70. doi:10.1001/archpediatrics.2011.198.
- 204. Rojjanasrirat W, Nelson EL, Wambach KA. A pilot study of home-based videoconferencing for breastfeeding support. J Hum Lact. 2012;28(4):464-7. doi:10.1177/0890334412449071.

- 205. Seguranyes G, Costa D, Fuentelsaz-Gallego C, Beneit JV, Carabantes D, Gomez-Moreno C et al. Efficacy of a videoconferencing intervention compared with standard postnatal care at primary care health centres in Catalonia. Midwifery. 2014;30(6):764–71. doi:10.1016/j.midw.2013.08.004.
- 206. Sword WA, Krueger PD, Watt MS. Predictors of acceptance of a postpartum public health nurse home visit: findings from an Ontario survey. Can J Public Health. 2006;97(3):191–6.
- 207. Foster T, Winham DM. Nurse knowledge and attitudes towards breastfeeding in Arizona. FASEB J. 2012;26. doi:10.13140/2.1.4404.4803
- 208. Gepilano D. Barriers to implementation of skin-to-skin care. Poster presentation. J Obstet Gynecol Neonatal Nurs. 2014;43(Suppl. 1):S74. doi:10.1111/1552-6909.12452.
- 209. Schmied V, Gribble K, Sheehan A, Taylor C, Dykes FC. Ten steps or climbing a mountain: a study of Australian health professionals' perceptions of implementing the baby friendly health initiative to protect, promote and support breastfeeding. BMC Health Serv Res. 2011;11(1):1–10. doi:10.1186/1472-6963-11-208.
- 210. Henderson AM, Pincombe J, Stamp GE. Assisting women to establish breastfeeding: exploring midwives' practices. Breastfeed Rev. 2000;8:11–7.
- 211. Nadkarni J, Parekh P. The attitude of nurses towards breastfeeding a cross-sectional survey. Indian Pediatr. 2000;37(5):572–3.
- 212. Sharma P, Dutta AK, Narayanan I, Mullick DN. Attitudes of medical and nursing personnel to breast feeding practices. Indian Pediatr. 1987;24(10):911–5.
- 213. Huang C-M, Hung W-S, Lai J-N, Kao Y-H, Wang C-L, Guo J-L. Maternity staff perspectives regarding resource demands of breastfeeding supportive practices in accordance with the Baby-Friendly Hospital Initiative accreditation: a Q methodology approach. J Adv Nurs. 2016;72(6):1301–12. doi:10.1111/jan.12928.
- 214. Mallet I, Bomy H, Govaert N, Goudal I, Brasme C, Dubois A et al. [Skin to skin contact in neonatal care: knowledge and expectations of health professionals in 2 neonatal intensive care units.] Arch Pediatr. 2007;14(7):881–6.
- 215. Reddin E, Pincombe J, Darbyshire P. Passive resistance: early experiences of midwifery students/ graduates and the Baby Friendly Health Initiative 10 steps to successful breastfeeding. Women Birth. 2007;20(2):71–6.
- 216. Spear HJ. Policies and practices for maternal support options during childbirth and breastfeeding initiation after cesarean in southeastern hospitals. J Obstet Gynecol Neonatal Nurs. 2006;35(5):634–43.
- 217. Vogel AM, Mitchell EA. The establishment and duration of breastfeeding. Part 1: Hospital influences. Breastfeed Rev. 1998;6(1):5–9.
- Walsh AD, Pincombe J, Henderson A. An examination of maternity staff attitudes towards implementing Baby Friendly Health Initiative (BFHI) accreditation in Australia. Matern Child Health J. 2011;15(5):597– 609. doi:10.1007/s10995-010-0628-1.
- 219. Taylor C, Gribble K, Sheehan A, Schmied V, Dykes F. Staff perceptions and experiences of implementing the Baby Friendly Initiative in neonatal intensive care units in Australia. J Obstet Gynecol Neonatal Nurs. 2011;40(1):25–34. doi:10.1111/j.1552-6909.2010.01204.x.
- 220. Daniels L, Jackson D. Knowledge, attitudes and practices of nursing staff regarding the Baby-friendly Hospital Initiative in non-accredited obstetric units in Cape Town. South Afr J Clin Nutr. 2011;24:32–8. doi:10.1080/16070658.2011.11734347.
- 221. Furber CM, Thomson AM. The power of language: a secondary analysis of a qualitative study exploring English midwives' support of mother's baby-feeding practice. Midwifery. 2010;26:232–40. doi:10.1016/j. midw.2008.05.003.

- 222. Gilmour C, Hall H, McIntyre M, Gillies L, Harrison B. Factors associated with early breastfeeding cessation in Frankston, Victoria: a descriptive study. Breastfeed Rev. 2009;17:13–9.
- 223. Huntingford PJ. Attitude of doctors and midwives to breast-feeding. Dev Med Child Neurol. 1962;4:588-94.
- 224. Patton CB, Beaman M, Csar N, Lewinski C. Nurses' attitudes and behaviors that promote breastfeeding. J Hum Lact. 1996;12(2):111-5.
- 225. Rasheed S, Siddiqui I, Baig LA. Decline in breast feeding, who is to be blamed?!! A study of knowledge, attitude and practice of breast feeding amongst nurses. J Pak Med Assoc. 2000;50(1):8–11.
- 226. Shaw R, Wallace LM, Cook M, Phillips A. Perceptions of the Breastfeeding Best Start project. Pract Midwif. 2004;7:20-4.
- 227. Al-Nassaj HH, Al-Ward NJA, Al-Awqati NA. Knowledge, attitudes and sources of information on breastfeeding among medical professionals in Baghdad. East Mediterr Health J. 2004;10(6):871–8.
- 228. Brodribb W, Jackson C, Fallon AB, Hegney D. Breastfeeding and the responsibilities of GPs: a qualitative study of general practice registrars. Aust Fam Physician. 2007;36:283–5.
- 229. Burglehaus MJ, Smith LA, Sheps SB, Green LW. Physicians and breastfeeding: beliefs, knowledge, self-efficacy and counselling practices. Can J Public Health. 1997;88:383–7.
- 230. Finneran B, Murphy L. Breast is best for GPs Or is it? Breastfeeding attitudes and practice of general practitioners in the Mid-West of Ireland. Ir Med J. 2004;97:268–70.
- 231. Flood JL, Dodgson JE. Health care and social service providers' descriptions of pacific islander mothers' breastfeeding patterns. J Midwifery Womens Health. 2010;55(2):162–70. doi:10.1016/j.jmwh.2009.04.009.
- 232. Bergh AM. Obstacles to and motivation for successful breast-feeding. Curationis. 1993;16(2):24-9.
- 233. Furber CM, Thomson AM. The emotions of integrating breastfeeding knowledge into practice for English midwives: a qualitative study. Int J Nurs Stud. 2008;45:286–97.
- Nelson AM. Maternal-newborn nurses' experiences of inconsistent professional breastfeeding support. J Adv Nurs. 2007;60(1):29–38.
- 235. Becker GE. Breastfeeding knowledge of hospital staff in rural maternity units in Ireland. J Hum Lact. 1992;8:137-42.
- 236. Karnawat BS, Singh RN, Gupta BD, Chaudhury SP. Knowledge and attitudes of hospital employees regarding infant feeding practices. Indian Pediatr. 1987;24:939–48.
- 237. Ouyang YQ, Xu YX, Zhang Q. Survey on breastfeeding among Chinese female physicians and nurses. Nurs Health Sci. 2012;14:298-303. doi:10.1111/j.1442-2018.2012.00699.x.
- 238. Lazzaro E, Anderson J, Auld G. Medical professionals' attitudes toward breastfeeding. J Hum Lact. 1995;11(2):97-101.
- 239. Freed GL, Clark SJ, Lohr JA, Sorenson JR. Pediatrician involvement in breast-feeding promotion: a national study of residents and practitioners. Pediatrics. 1995;96(3 Pt 1):490–4.
- 240. Freed GL, Jones TM, Fraley JK. Attitudes and education of pediatric house staff concerning breast-feeding. South Med J. 1992;85:483–5.

- 241. Lawrence RA. Practices and attitudes toward breast-feeding among medical professionals. Pediatrics. 1982;70(6):912–20.
- 242. Haager-Bürkert H, Niebuhr D, Kroke A. Perceived difficulties for clinics with maternity units in Germany in obtaining the certification "Baby Friendly Hospital". Geburtshilfe Frauenheilkd. 2010;70(9):726–31.
- 243. Szucs KA, Miracle DJ, Rosenman MB. Breastfeeding knowledge, attitudes, and practices among providers in a medical home. Breastfeed Med. 2009;4:31–42. doi:10.1089/bfm.2008.0108.
- 244. Ward KN, Byrne JP. A critical review of the impact of continuing breastfeeding education provided to nurses and midwives. J Hum Lact. 2011;27(4):381–93. doi:10.1177/0890334411411052.
- 245. Furber CM, Thomson AM. 'Breaking the rules' in baby-feeding practice in the UK: deviance and good practice? Midwifery. 2006;22:365–76.
- 246. Moore T, Gauld R, Williams S. Implementing Baby Friendly Hospital Initiative policy: the case of New Zealand public hospitals. Int Breastfeed J. 2007;2:8.
- 247. Cantrill RM, Creedy DK, Cooke M. An Australian study of midwives' breast-feeding knowledge. Midwifery. 2003;19:310-7.
- 248. Ekström A, Matthiesen AS, Widström AM, Nissen E. Breastfeeding attitudes among counselling health professionals. Scand J Public Health. 2005;33:353–9.
- 249. Ellis DJ, Hewat RJ. Do nurses help or hinder mothers who breastfeed? J Adv Nurs. 1983;8:281-8.
- 250. Hellings P, Howe C. Assessment of breastfeeding knowledge of nurse practitioners and nurse-midwives. J Midwifery Womens Health. 2000;45:264–70.
- 251. Krogstrand KS, Parr K. Physicians ask for more problem-solving information to promote and support breastfeeding. J Am Diet Assoc. 2005;105:1943-7.
- 252. Goldstein, AO and Freed GL. Breast-feeding counseling practices of family practice residents. Fam Med. 1992;25:524-9.
- 253. Minnie CS, Greeff M. The choice of baby feeding mode within the reality of the HIV/AIDS epidemic: health education implications. Curationis. 2006;29(4):19–27.
- 254. Tennant R, Wallace LM, Law S. Barriers to breastfeeding: a qualitative study of the views of health professionals and lay counsellors. Community Pract. 2006;79(5):152–6.
- 255. Garner CD, Ratcliff SL, Thornburg LL, Wethington E, Howard CR, Rasmussen KM. Discontinuity of breastfeeding care: "There's no captain of the ship". Breastfeed Med. 2016;11(1):32–9. doi:10.1089/ bfm.2015.0142. E
- 256. Anchondo I, Berkeley L, Mulla ZD, Byrd T, Nuwayhid B, Handal G et al. Commentary on "pediatricians', obstetricians', gynecologists', and family medicine physicians' experiences with and attitudes about breast-feeding". South Med J. 2012;105(5):243–8. doi:10.1097/SMJ.0b013e318252294a.
- 257. Taveras EM, Li R, Grummer-Strawn L, Richardson M, Marshall R, Rêgo VH et al. Opinions and practices of clinicians associated with continuation of exclusive breastfeeding. Pediatrics. 2004;113:e283–90.
- Wallace LM, Kosmala-anderson J. A training needs survey of doctors' breastfeeding support skills in England. Matern Child Nutr. 2006;2:217–31.

# Annex 1. Question in population, intervention, comparator, outcomes (PICO) format

## A. Immediate support to initiate and establish breastfeeding

## Early skin-to-skin contact

Should mothers giving birth (P) practise early skin-to-skin contact (I), compared to not practising early skin-to-skin contact (C), in order to increase rates of early initiation of breastfeeding within 1 hour after birth (O)?

Population		
Any mother giving birth		
Intervention	Comparator	
Early skin-to-skin contact (immediate and continued direct contact between the mother and infant)	No early skin-to-skin contact (standard skin contact or use of infant wrap)	
Subgroups: By timing: within <5 minutes, 5–60 minutes, 1–4 hours, >4 hours		
Outcomes		
Infant outcomes		
Early skin-to-skin contact		
Early initiation of breastfeeding within 1 hour after birth		
Early initiation of breastfeeding within 1 day after birth		
Exclusive breastfeeding during the stay at the facility		
Exclusive breastfeeding at 1 month		
Exclusive breastfeeding at 6 months		
Duration of exclusive breastfeeding (in months)		

## **Early initiation of breastfeeding**

Should mothers giving birth (P) practise early initiation of breastfeeding (I), compared to not practising early initiation of breastfeeding (C), in order to increase rates of exclusive breastfeeding during the stay at the facility (O)?

Population		
Any mother giving birth		
Intervention	Comparator	
Early initiation of breastfeeding (latching and suckling)	No early initiation of breastfeeding (late latching and suckling)	
Outcomes		
Exclusive breastfeeding during the stay at the facility		
Exclusive breastfeeding at 1 month		
Exclusive breastfeeding at 6 months		
Duration of exclusive breastfeeding (in months)		
Neonatal, infant or child mortality (all-cause)		
Onset of lactation		

## Showing mothers how to breastfeed

Should mothers giving birth (P) be assisted with correct positioning and attachment, so that their infants achieve effective suckling (I), compared to not assisting mothers to position and attach (C), in order to increase rates of exclusive breastfeeding during the stay at the facility (O)?

Population		
Any mother giving birth		
Intervention	Comparator	
Assisting mothers in correct positioning and attachment, so that their infant achieves effective suckling	Not assisting mothers in positioning, attachment and suckling of their infants	
<b>Subgroups:</b> By type of support: face-to-face counselling, distribution of printed or video material (no direct contact), group sessions		
By frequency: 1×, 2×, at least 3×		
Outcomes		
Exclusive breastfeeding during the stay at the facility		
Exclusive breastfeeding at 1 month		
Exclusive breastfeeding at 3 months		
Exclusive breastfeeding at 6 months		
Duration of exclusive breastfeeding (in months)		
Duration of any breastfeeding (in months)		
Neonatal, infant or child mortality (all-cause)		
Breast conditions (sore or cracked nipples, engorgement, mastitis etc.)		

Should mothers giving birth (P) be shown how to practise expression of breast milk (I), compared to not being shown expression of breast milk (C), in order to increase rates of exclusive breastfeeding during the stay at the facility (O)?

Population		
Any mother giving birth		
Intervention	Comparator	
Showing mothers how to, and helping them to practise expression of breast milk Subgroups: By method: hand expression, manual pump expression, electric pump expression	Not showing or teaching hand expression of breast milk; not showing or teaching other methods of breast-milk expression	
Outcomes		
Exclusive breastfeeding during the stay at the facility		
Exclusive breastfeeding at 1 month		
Exclusive breastfeeding at 3 months		
Exclusive breastfeeding at 6 months		
Duration of exclusive breastfeeding in (months)		
Effectiveness of breast-milk expression (volume of breast milk expressed)		

## **Rooming-in**

Should mothers giving birth in hospitals or facilities providing maternity and newborn services and their infants (P) remain together or practise rooming-in (I), compared to not rooming-in (C), in order to increase rates of exclusive breastfeeding during the stay at the facility (O)?

Population	
Any mother giving birth in a hospital or facility providing maternity and newborn services and their newborn infant	
Intervention	Comparator
Rooming-in of infants with mothers	No rooming-in of infants with mothers (separate care for mothers and infants)
Outcomes	
Exclusive breastfeeding during the stay at the facility	
Exclusive breastfeeding at 1 month	
Exclusive breastfeeding at 6 months	
Duration of exclusive breastfeeding (in months)	
Neonatal, infant or child mortality (all-cause)	
Onset of lactation	

## **Demand feeding**

Should mothers giving birth (P) practise feeding on demand or infant-led breastfeeding (I), compared to not practising feeding on demand or feeding by schedule (C), in order to increase rates of exclusive breastfeeding during the stay at the facility (O)?

Population		
Any mother giving birth		
Intervention	Comparator	
Feeding on demand throughout the hospital stay	Not feeding on demand (scheduled breastfeeding) throughout the hospital stay	
Outcomes		
Exclusive breastfeeding during the stay at the facility		
Exclusive breastfeeding at 3 months		
Exclusive breastfeeding at 6 months		
Duration of exclusive breastfeeding (in months)		
Duration of any breastfeeding (in months)		
Neonatal, infant or child mortality (all-cause)		

## B. Feeding practices and additional needs of infants

## Early additional foods or fluids

Should newborn infants (P) be given no foods or fluids other than breast milk unless medically indicated (I), compared to giving early additional food or fluids (C), in order to increase rates of exclusive breastfeeding during the stay at the facility (O)?

Population		
Any newborn infant born with no medical indication for not breastfeeding		
Intervention	Comparator	
No foods or fluids other than breast milk given to infants	Giving early additional foods or fluids <b>Subgroups:</b> By timing of additional food/fluid: before first milk feed, within 1 day after birth, within 3 days after birth, throughout the stay in the facility	
Outcomes		
Early initiation of breastfeeding within 1 hour after birth		
Early initiation of breastfeeding within 1 day after birth		
Exclusive breastfeeding during the stay at the facility		
Exclusive breastfeeding at 1 month		
Exclusive breastfeeding at 6 months		
Duration of exclusive breastfeeding (in months)		
Morbidity (respiratory infections, diarrhoea, others)		
Onset of lactation		

## Avoidance of pacifiers or dummies

Should infants (P) not be allowed to use pacifiers or dummies (I), compared to allowing use of pacifiers or dummies (C), in order to increase rates of exclusive breastfeeding during the stay at the facility (O)?

Population		
Any infant		
Intervention	Comparator	
Not allowing pacifier use	Allowing pacifier use	
Outcomes	-	
Exclusive breastfeeding during the stay at the facility		
Exclusive breastfeeding at 1 month		
Exclusive breastfeeding at 6 months		
Duration of exclusive breastfeeding (in months)		
Duration of any breastfeeding (in months)		
Morbidity (respiratory infections, diarrhoea, others)		

## Avoidance of feeding bottles and teats

Should infants who are or will be breastfed (P) not be fed supplements with bottles and teats but only by cup, dropper, gavage, finger, spoon or other methods not involving artificial teats (I), compared to using feeding bottles and teats (C), in order to increase rates of exclusive breastfeeding during the stay at the facility (O)?

Population		
Any infant born who is or will be breastfed or given breast milk other than from the breast		
Intervention	Comparator	
Artificial teats are not used (instead use a cup, dropper, gavage, finger, spoon, other methods not involving artificial teats) when not on the breast	Use of artificial teats (bottle feeding) when not on the breast	
Outcomes		
Exclusive breastfeeding during the stay at the facility		
Exclusive breastfeeding at 1 month		
Exclusive breastfeeding at 6 months		
Duration of exclusive breastfeeding (in months)		
Neonatal, infant or child mortality (all-cause)		
Onset of lactation		

## C. Creating an enabling environment

## Breastfeeding policy of facilities providing maternity and newborn services

Should hospitals and facilities providing maternity and newborn services (P) have a written breastfeeding policy that is routinely communicated to staff (I), compared to those without a written breastfeeding policy (C), in order to increase rates of early initiation of breastfeeding (O)?

Population	
Hospitals or facilities providing maternity and newborn services	
Subgroups	
By type of hospital or facilities providing maternity and newborn services: tertiary hospital, referral hospital, primary care hospital, teaching hospital	
Intervention	Comparator
Having a written infant feeding policy	Having no written infant feeding policy
<b>Subgroups:</b> By content of the policy: with all the nine other steps of the Ten Steps to Successful Breastfeeding specified, with some (not all) of the nine other steps specified, with none of the nine other steps specified	
By inclusion of the International Code of Marketing of Breast-milk Substitutes (26): yes/no	
By frequency of communication to old and new staff: annual, every 2 years, less often	
Outcomes	
Early initiation of breastfeeding	
Exclusive breastfeeding during the stay in the facility	
Duration of exclusive breastfeeding (in months)	
Awareness of staff of the infant feeding policy of the hospital	
Implementation of the provisions of the International Code of Marketing of Breast-milk Substitutes (26)	
## Training of health workers

Should health-facility staff (P) be trained on breastfeeding and supportive feeding practices (I), compared to not being trained (C), in order to increase rates of early initiation of breastfeeding (O)?

Population		
Health-facility staff		
Subgroups		
By kind of staff: clinical role, come in contact with mother and infant but have limited role in infant feeding support, specialist role in infant feeding support		
Intervention Comparator		
Training of health workers on breastfeeding and supportive feeding practices	No training of health workers on breastfeeding and supportive feeding practices	
<b>Subgroups:</b> By frequency of training: 1×, 2×, at least 3×		
Outcomes		
Early initiation of breastfeeding		
Exclusive breastfeeding during the stay in the facility		
Duration of exclusive breastfeeding (in months)		
Knowledge of health-care workers on infant feeding		
Quality of skills of health-facility staff in improving practices of mothers in optimal infant feeding		
Attitudes on infant feeding		
Adherence to the provisions of the International Code of Marketing of Breast-milk Substitutes (26)		

## Antenatal breastfeeding education for mothers

Should mothers giving birth (P) be given antenatal breastfeeding education (I), compared to not having antenatal breastfeeding education (C), in order to increase rates of exclusive breastfeeding during the stay at the facility (O)?

Population		
Any mother giving birth with antenatal care		
Intervention	Comparator	
Antenatal breastfeeding education to mothers	No antenatal breastfeeding education to mothers	
<b>Subgroups:</b> By type of promotion: face-to-face counselling, distribution of printed material, group sessions		
By frequency: 1×, 2×, 3×, at least 4×		
Outcomes		
Exclusive breastfeeding during the stay at the facility		
Early initiation of breastfeeding within 1 hour after birth		
Exclusive breastfeeding at 1 month		
Exclusive breastfeeding at 3 months		
Exclusive breastfeeding at 6 months		
Duration of exclusive breastfeeding (in months)		
Onset of lactation		

## Discharge planning and linkage to continuing support

Should mothers giving birth in hospitals or facilities providing maternity and newborn services (P) be given linkage to continuing breastfeeding support after discharge from the facilities providing maternity and newborn services (I), compared to not providing an linkage to continuing breastfeeding support after facility discharge (C), in order to increase rates of exclusive breastfeeding at 1 month (O)?

Population		
Any mother giving birth in a hospital or facility providing maternity and newborn services		
Intervention	Comparator	
Provision of linkage to breastfeeding support after discharge from facility	No linkage to breastfeeding support after discharge from facility	
Subgroups: By type of support: active reaching out to mothers (e.g. home visits or phone calls), passive (e.g. scheduling of visits, referral to peer support, sharing of information, providing a phone number) By quality of support based on background or training of support provider: no training, with lactation support training		
Outcomes		
Exclusive breastfeeding at 1 month		
Exclusive breastfeeding at 6 months		
Exclusive breastfeeding at 3 months		
Duration of exclusive breastfeeding (in months)		
Duration of any breastfeeding (in months)		
Morbidity (respiratory infections, diarrhoea, others)		

# Annex 2. Systematic review details

## A. Immediate support to initiate and establish breastfeeding

## Early skin-to-skin contact

Moore ER, Bergman N, Anderson GC, Medley N. Early skin-to-skin contact for mothers and their healthy newborn infants. Cochrane Database Syst Rev. 2016;(11):CD003519. doi:10.1002/14651858.CD003519.pub4. (62)

Study details	
Author and year	Moore et al., 2016
Focus of the review	To assess the effects of immediate or early skin-to-skin contact for healthy newborn infants, compared to standard contact, on establishment and maintenance of breastfeeding and infant physiology
Study selection criteria	Randomized controlled trials that compared immediate or early skin-to-skin contact with usual hospital care
Search sources	Cochrane Pregnancy and Childbirth Group's Trials Register
Number of studies and participants	46 trials with 3850 women and their healthy newborn term infants
Countries of origin	Canada, Chile, China, Germany, Guatemala, India, Italy, Japan, Nepal, Poland, South Africa, Spain, Sweden, the United Kingdom of Great Britain and Northern Ireland (United Kingdom), the United States of America (United States), Viet Nam

Conde-Agudelo A, Díaz-Rossello JL. Kangaroo mother care to reduce morbidity and mortality in low birth weight infants. Cochrane Database Syst Rev. 2016;(8):CD002771. doi:10.1002/14651858.CD002771.pub4. (57)

Study details	
Author and year	Conde-Agudelo et al., 2016
Focus of the review	To determine whether evidence is available to support the use of kangaroo mother care in low-birth-weight infants as an alternative to conventional neonatal care before or after the initial period of stabilization with conventional care, and to assess beneficial and adverse effects
Study selection criteria	Randomized controlled trials comparing kangaroo mother care versus conventional neonatal care, or early-onset kangaroo mother care versus late- onset kangaroo mother care, in low-birth-weight infants
Search sources	Cochrane Central Register of Controlled Trials (CENTRAL), MEDLINE, Embase, Cumulative Index to Nursing and Allied Health Literature (CINAHL), Latin American and Caribbean Health Science Information database (LILACS), Population Information Online (POPLINE), the WHO (World Health Organization) Trial Registration Data Set
Number of studies and participants	21 studies with 3042 infants
Countries of origin	Australia, Colombia, Ecuador, Ethiopia, India, Indonesia, Madagascar, Malaysia, Mexico, Nepal, the United Kingdom, the United States

## Early initiation of breastfeeding

Smith E, Hurt L, Chowdhury R, Sihna B, Fawzi W, Edmond K. Delayed breastfeeding initiation and infant survival: a systematic review and meta-analysis. PLoS One. 2017 (https://doi.org/10.1371/journal.pone.0180722). (63)

Study details	
Author and year	Smith et al., 2017 [submitted]
Focus of the review	To assess the relationship between very early initiation of breastfeeding (<1 hour after birth), compared to delayed initiation (2–23 hours and ≥24 hours after birth) of breastfeeding, on infant morbidity and mortality
Study selection criteria	Observational studies (e.g. cross-sectional studies, cohort studies and case- control studies) and randomized control trials that examined the association between breastfeeding initiation time and mortality, morbidity, or nutrition outcomes from birth to 12 months of age, in a population of infants who all initiated breastfeeding
Search sources	PubMed, Embase, Web of Science, CINAHL, POPLINE, LILACS, Abridged Index Medicus (AIM), Index Medicus for the Eastern Mediterranean Region.
Number of studies and participants	5 studies with 136 047 infants
Countries of origin	Ghana, India, United Republic of Tanzania

## Showing mothers how to breastfeed

McFadden A, Gavine A, Renfrew MJ, Wade A, Buchanan P, Taylor JL, Veitch E, Rennie AM, Crowther SA, Neiman S, MacGillivray S. Support for healthy breastfeeding mothers with healthy term babies. Cochrane Database Syst Rev. 2017;(2):CD001141. doi:10.1002/14651858.CD001141.pub5. (61)

Study details	
Author and year	McFadden et al., 2017
Focus of the review	To describe forms of breastfeeding support that have been evaluated in controlled studies, the timing of the interventions and the settings in which they have been used
Study selection criteria	Randomized or quasi-randomized controlled trials comparing extra support for healthy breastfeeding mothers of healthy term babies with usual maternity care
Search sources	Cochrane Pregnancy and Childbirth's Trials Register
Number of studies and participants	100 trials with 83 246 mother-infant pairs
Countries of origin	Australia, Bangladesh, Belarus, Brazil, Burkina Faso, Canada, China, Croatia, Democratic Republic of the Congo, Denmark, France, India, Iran, Italy, Kenya, Malaysia, Mexico, Netherlands, Pakistan, Singapore, South Africa, Sweden, Syria, Turkey, Uganda, the United Kingdom, the United States

Crowe L, Chang A, Wallace K. Instruments for assessing readiness to commence suck feeds in preterm infants: effects on time to establish full oral feeding and duration of hospitalisation. Cochrane Database Syst Rev. 2016;(8):CD005586. doi:10.1002/14651858.CD005586.pub3. (58)

Study details	
Author and year	Crowe et al., 2016
Focus of the review	To determine the effects of using a feeding-readiness instrument, compared to no instrument or another instrument, on the outcomes of time to establish full oral feeding and duration of hospitalizations among preterm infants
Study selection criteria	Randomized and quasi-randomized trials comparing a formal instrument to assess a preterm infant's readiness to commence suck feeds with either no instrument (usual practice) or another feeding-readiness instrument
Search sources	CENTRAL, MEDLINE via PubMed, CINAHL
Number of studies and participants	No studies met the inclusion criteria
Countries of origin	_

Becker GE, Smith HA, Cooney F. Methods of milk expression for lactating women. Cochrane Database Syst Rev. 2016;(9):CD006170. doi:10.1002/14651858.CD006170.pub5. (40)

Study details	
Author and year	Becker et al., 2016
Focus of the review	To assess the acceptability, effectiveness, safety, effect on milk composition, contamination and costs of methods of milk expression
Study selection criteria	Randomized and quasi-randomized trials comparing methods at any time after birth
Search sources	Cochrane Pregnancy and Childbirth Group's Trials Register
Number of studies and participants	41 trials with 2293 participants
Countries of origin	Australia, Brazil, Canada, Ecuador, Egypt, India, Israel, Kenya, Malaysia, Mexico, Nigeria, Turkey, the United Kingdom, the United States

## **Rooming-in**

Jaafar SH, Ho JJ, Lee KS. Rooming-in for new mother and infant versus separate care for increasing the duration of breastfeeding. Cochrane Database Syst Rev. 2016;(8):CD006641. doi:10.1002/14651858.CD006641.pub3. (60)

Study details	
Author and year	Jaafar et al., 2016
Focus of the review	To assess the effect of mother-infant rooming-in versus separation, on the duration of breastfeeding (exclusive and total duration of breastfeeding)
Study selection criteria	Randomized or quasi-randomized controlled trials investigating the effect of mother-infant rooming-in versus separate care after hospital birth or at home, on the duration of breastfeeding, proportion of breastfeeding at 6 months and adverse neonatal and maternal outcomes
	Search sources
Number of studies and participants	1 trial with 176 women
Countries of origin	Russia

## **Demand feeding**

Fallon A, Van der Putten D, Dring C, Moylett EH, Fealy G, Devane D. Baby-led compared with scheduled (or mixed) breastfeeding for successful breastfeeding. Cochrane Database Syst Rev. 2016;(9):CD009067. doi:10.1002/14651858. CD009067.pub3. (59)

Study details	
Author and year	Fallon et al., 2016
Focus of the review	To evaluate the effects of baby-led compared with scheduled (or mixed) breastfeeding, for successful breastfeeding, for healthy newborns
Study selection criteria	Randomized and quasi-randomized trials
Search sources	Cochrane Pregnancy and Childbirth Group's Trials Register, EThOS (E-Theses Online Service), Index to Theses, ProQuest database, World Health Organization's 1998 evidence to support the Ten Steps to Successful Breastfeeding
Number of studies and participants	No studies met the inclusion criteria
Countries of origin	_

Watson J, McGuire W. Responsive versus scheduled feeding for preterm infants. Cochrane Database Syst Rev. 2016;(8):CD005255. doi:10.1002/14651858.CD005255.pub5. (64)

Study details	
Author and year	Watson and McGuire, 2016
Focus of the review	To assess the effect of a policy of feeding preterm infants on a responsive basis, versus feeding prescribed volumes at scheduled intervals, on growth rates, levels of parent satisfaction and time to hospital discharge
Study selection criteria	Randomized and quasi-randomized controlled trials that compared a policy of feeding preterm infants on a responsive basis, versus feeding at scheduled intervals
Search sources	CENTRAL, MEDLINE via PubMed, Embase, CINAHL
Number of studies and participants	Nine randomized control trials with 593 infants (none of the studies reported on any of the critical outcomes)
Countries of origin	Canada, the United States

## B. Feeding practices and additional needs of infants

## Early additional foods or fluids

Smith HA, Becker GE. Early additional food and fluids for healthy breastfed full-term infants. Cochrane Database Syst Rev. 2016;(8);CD006462. doi:10.1002/14651858.CD006462.pub4. (86)

Study details	
Author and year	Smith and Becker, 2016
Focus of the review	To assess the benefits and harms of additional food or fluid for full-term healthy breastfeeding infants and to examine the timing and type of additional food or fluid
Study selection criteria	Randomized or quasi-randomized controlled trials in infants under 6 months of age, comparing exclusive breastfeeding versus breastfeeding with any additional food or fluids
Search sources	Cochrane Pregnancy and Childbirth Group's Trials Register
Number of studies and participants	11 trials with 2542 randomized mother-infant pairs
Countries of origin	Czech Republic, Sweden, the United States

## Avoidance of pacifiers or dummies

Jaafar SH, Ho JJ, Jahanfar S, Angolkar M. Effect of restricted pacifier use in breastfeeding term infants for increasing duration of breastfeeding. Cochrane Database Syst Rev. 2016;(8):CD007202. doi:10.1002/14651858. CD007202.pub4. (85)

Study details	
Author and year	Jaafar et al., 2016
Focus of the review	To assess the effect of restricted versus unrestricted pacifier use in healthy full-term newborns whose mothers have initiated breastfeeding and intend to exclusively breastfeed, on the duration of breastfeeding, other breastfeeding outcomes and infant health
Study selection criteria	Randomized and quasi-randomized controlled trials comparing restricted versus unrestricted pacifier use in healthy full-term newborns who have initiated breastfeeding
Search sources	Cochrane Pregnancy and Childbirth Group's Trials Register
Number of studies and participants	3 trials involving 1915 babies
Countries of origin	Argentina, Canada, Switzerland

Foster JP, Psaila K, Patterson T. Non-nutritive sucking for increasing physiologic stability and nutrition in preterm infants. Cochrane Database Syst Rev. 2016;(10):CD001071. doi:10.1002/14651858.CD001071.pub3. (82)

Study details	
Author and year	Foster et al., 2016
Focus of the review	To assess the effects of non-nutritive sucking on physiological stability and nutrition in preterm infants
Study selection criteria	Randomized and quasi-randomized controlled trials that compared non- nutritive sucking versus no provision of non-nutritive sucking in preterm infants
Search sources	CENTRAL, MEDLINE via PubMed, Embase, CINAHL
Number of studies and participants	12 trials with 746 preterm infants
Countries of origin	Australia, Brazil, China, the United Kingdom, the United States

Greene Z, O'Donnell CPF, Walshe M. Oral stimulation for promoting oral feeding in preterm infants. Cochrane Database Syst Rev. 2016;(9):CD009720. doi:10.1002/14651858.CD009720.pub2. (84)

Study details	
Author and year	Greene et al., 2016
Focus of the review	To determine the effectiveness of oral stimulation interventions for attainment of oral feeding in preterm infants born before 37 weeks' postmenstrual age
Study selection criteria	Randomized and quasi-randomized controlled trials comparing a defined oral stimulation intervention with no intervention, standard care, sham treatment or non-oral intervention in preterm infants, and reporting at least one of the specified outcomes
Search sources	CENTRAL, MEDLINE via PubMed, Embase, CINAHL
Number of studies and participants	19 trials with 823 participants
Countries of origin	Brazil, China, France, India, Iran, the United Kingdom, the United States

## Avoidance of feeding bottles and teats

Ganchimeg T, Sugimoto K, Fukazawa KR, Rayco-Solon P, Ota E. Avoidance of bottles and artificial teats during the establishment of breastfeeds in healthy term infants: a systematic review of randomized controlled trials [protocol]. PROSPERO. 2016:CRD42016041370 (http://www.crd.york.ac.uk/PROSPERO/display\_record. asp?ID=CRD42016041370). (83)

Study details	
Author and year	Ganchimeg et al., 2016 [protocol]
Focus of the review	To identify the effects of avoidance of bottle feeds during establishment of breastfeeding, on successful breastfeeding healthy term newborn infants
Study selection criteria	Randomized and quasi-randomized controlled trials
Search sources	CENTRAL, Embase and MEDLINE via Ovid SP, CINAHL via EBSCO, British Nursing Index via HDAS (Healthcare Databases Advanced Search) and Web of Science
Number of studies and participants	2 trials with 1241 participants
Countries of origin	Switzerland, the United States

Flint A, New K, Davies MW. Cup feeding versus other forms of supplemental enteral feeding for newborn infants unable to fully breastfeed. Cochrane Database Syst Rev. 2016;(8):CD005092. Doi:10.1002/14651858.CD005092. pub3. (81)

Study details	
Author and year	Flint et al., 2016
Focus of the review	To determine the effects of cup feeding versus other forms of enteral feeding on weight gain and achievement of successful breastfeeding, in term and preterm infants who are unable to fully breastfeed
Study selection criteria	Randomized or quasi-randomized controlled trials comparing cup feeding to other forms of enteral feeding for the supplementation of term and preterm infants
Search sources	CENTRAL, MEDLINE via PubMed, Embase, CINAHL
Number of studies and participants	5 trials with 971 participants
Countries of origin	Australia, Brazil, Turkey, the United Kingdom

Collins CT, Gillis J, McPhee AJ, Suganuma H, Makrides M. Avoidance of bottles during the establishment of breast feeds in preterm infants. Cochrane Database Syst Rev. 2016;(10):CD005252. doi:10.1002/14651858.CD005252.pub4. (80)

Study details	
Author and year	Collins et al., 2016
Focus of the review	To identify the effects of avoidance of bottle feeds during establishment of breast feeding, on the likelihood of successful breast feeding, and to assess the safety of alternatives to bottle feeds
Study selection criteria	Randomized and quasi-randomized controlled trials comparing avoidance of bottles with use of bottles in women who have chosen to breastfeed their preterm infant
Search sources	CENTRAL, MEDLINE via PubMed, Embase, CINAHL
Number of studies and participants	7 trials with 1152 participants
Countries of origin	Australia, Brazil, Turkey, the United Kingdom, the United States

## C. Creating an enabling environment

## Breastfeeding policy of facilities providing maternity and newborn services

Abe SK, Jung J, Rahman M, Haruyama R, Kita M, Koyama M et al. Hospitals with a written breastfeeding policy statement and implementation of the steps of breastfeeding: a systematic review [protocol]. PROSPERO. 2016:CRD42016038143 (https://www.crd.york.ac.uk/PROSPERO/display\_record.asp?ID=CRD42016038143). (41)

Study details	
Author and year	Abe et al., 2016 [protocol]
Focus of the review	To assess whether hospitals and facilities providing maternity and newborn services with a written breastfeeding policy that is routinely communicated are more likely to implement one or all of the other nine Steps to Successful Breastfeeding and improve breastfeeding rates and duration, compared to facilities without a written policy
Study selection criteria	Randomized and quasi-randomized controlled trials, non-randomized trials (controlled clinical trials, interrupted time series, controlled before-and-after studies), observational studies (cross-sectional, case-control and cohort study)
Search sources	CENTRAL, Embase and MEDLINE via Ovid SP, CINAHL via EBSCO, British Nursing Index via HDAS, Web of Science
Number of studies and participants	1 study with 916 infants
Countries of origin	Brazil

## **Training of health workers**

Gavine A, MacGillivray S, Renfrew MJ, Siebelt L, Haggi H, McFadden A. Education and training of healthcare staff in the knowledge, attitudes and skills needed to work effectively with breastfeeding women: a systematic review. Int Breastfeed J. 2016;12:6. doi 10.1186/s13006-016-0097-2. (100)

Study details	
Author and year	Gavine et al., 2017
Focus of the review	To determine whether education and training programmes for health-care staff have an effect on their knowledge and attitudes about supporting breastfeeding women
Study selection criteria	Randomized controlled trials comparing breastfeeding education and training for health workers with no or usual training and education
Search sources	Cochrane Pregnancy and Childbirth Group's Trials Register
Number of studies and participants	3 trials with 250 participants
Countries of origin	Brazil, Denmark, Sweden

Balogun OO, Dagvadorj A, Yourkavitch J, da Silva Lopez K, Suto M, Takemoto Y, *et al.* Health facility staff training for improving breastfeeding outcome: a systematic review for step 2 of the Baby–friendly Hospital Initiative. Breastfeed Med. 2017;20 September [epub ahead of print] PubMed PMID: 28930480. (42)

Study details	
Author and year	Balogun et al., 2017
Focus of the review	To assess the effect of training facility-based health workers on breastfeeding outcomes
Study selection criteria	Randomized and quasi-randomized controlled trials and controlled before-and- after studies
Search sources	CENTRAL, PubMed, Embase, CINAHL, Web of Science and the British Nursing Index
Number of studies and participants	6 studies with 390 health workers
Countries of origin	Australia, Brazil, Canada, Sweden, the United States

## Antenatal breastfeeding education for mothers

Lumbiganon P, Martis R, Laopaiboon M, Festin MR, Ho JJ, Hakimi M. Antenatal breastfeeding education for increasing breastfeeding duration. Cochrane Database Syst Rev. 2016;(12):CD006425. DOI: 10.1002/14651858. CD006425.pub4. (43)

Study details	
Author and year	Lumbiganon et al., 2016
Focus of the review	To assess the effectiveness of antenatal breastfeeding education for increasing the initiation and duration of breastfeeding
Study selection criteria	Randomized controlled trials assessing the effect of formal antenatal breastfeeding education or comparing two different methods of formal antenatal breastfeeding education, on the duration of breastfeeding
Search sources	Cochrane Pregnancy and Childbirth's Trials Register, CENTRAL, MEDLINE
Number of studies and participants	24 trials with 10 056 women
Countries of origin	Australia, Canada, China, Denmark, Singapore, the United Kingdom, the United States

Balogun OO, O'Sullivan EJ, McFadden A, Ota E, Gavine A, Garner CD, Renfrew MJ, MacGillivray S. Interventions for promoting the initiation of breastfeeding. Cochrane Database Syst Rev. 2016;(11):CD001688. doi:10.1002/14651858. CD001688.pub3. (44)

Study details	
Author and year	Balogun et al., 2016
Focus of the review	To evaluate the effectiveness of different types of breastfeeding-promotion activities, in terms of changing the number of women who initiate breastfeeding
Study selection criteria	Randomized controlled trials of any breastfeeding-promotion intervention in any population group
Search sources	Cochrane Pregnancy and Childbirth's Trials Register
Number of studies and participants	28 trials with 107 362 women
Countries of origin	Ghana, Malawi, Nicaragua, Nigeria, the United Kingdom, the United States

## Discharge planning and linkage to continuing support

da Silva Lopez K, Ohde S, Suto M, Rayco-Solon P, Miyazaki C, Balogun OO et al. Providing linkage to breastfeeding support to mothers on discharge to improve breastfeeding outcomes: a systematic review [protocol]. PROSPERO. 2016:CRD42016041273 https://www.crd.york.ac.uk/PROSPERO/display\_record.asp?ID=CRD42016041273). (45)

Study details	
Author and year	da Silva Lopez et al., 2016 [protocol]
Focus of the review	To examine the evidence on the importance of providing linkage to breastfeeding support groups after discharge, to improve breastfeeding outcomes
Study selection criteria	Randomized and quasi-randomized controlled trials that reported on providing information on linkage to breastfeeding support for women at discharge, compared with no linkage to breastfeeding support after discharge from the facility
Search sources	CENTRAL, MEDLINE, CINAHL, Embase, the British Nursing Index, the Web of Science
Number of studies and participants	2 cluster randomized controlled trial with 5590 mother-infant pairs
Countries of origin	Australia, Democratic Republic of Congo

# Annex 3. GRADE summary of findings tables

## A. Immediate support to initiate and establish breastfeeding

## Early skin-to-skin contact

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Immediate or early skin-to-skin contact compared to standard contact in protecting, promoting and supporting breastfeeding

Patient or population: mothers and their healthy full-term infants or late-preterm newborn infants (34 to less than 37 completed weeks' gestation) Setting: hospital births

Intervention: immediate (within 10 minutes post birth) or early (between 10 minutes and 24 hours after birth) skin-to-skin contact for healthy infants **Comparison:** standard contact for healthy infants held swaddled or dressed, placed in open cribs or under radiant warmers)

Outcomes	Anticipated absolu	ite effects* (95% CI)	Relative effect	Nº of participants (studies)	Quality of the	Comments
	Risk with standard contact	Risk with immediate or early skin-to-skin contact				
Exclusive breastfeeding at hospital discharge to 1 month after birth	642 per 1000	<b>835 per 1000</b> (719 to 957 per 1000)	RR 1.30 (1.12 to 1.49)	711 (6 studies)	$ \bigoplus \bigoplus \bigoplus \bigcirc^{1} $ Moderate	9
Exclusive breastfeeding at 6 weeks to 6 months after birth	519 per 1000	778 per 1000 (612 to 985 per 1000)	RR 1.50 (1.18 to 1.90)	640 (7 studies)	$\bigoplus_{Low} \bigcirc^2$	
Suckled during first 2 hours after birth	727 per 1000	771 per 1000 (604 to 982 per 1000)	RR 1.06 (0.83 to 1.35)	88 (1 study)	$\bigoplus_{Low} \bigcirc \bigcirc^3$	
Breastfeeding at 1 month to 4 months after birth	541 per 1000	670 per 1000 (579 to 773 per 1000)	RR 1.24 (1.07 to 1.43)	887 (14 studies)	$ \bigoplus \bigoplus \bigoplus \bigoplus^4 $ Moderate	
By time of initiation:						Test for subgroup difference $\chi^2$ = 1.13; $P$ = 0.29
Immediate (within 10 minutes after birth)	564 per 1000	677 per 1000 (603 to 755 per 1000)	RR 1.20 (1.07 to 1.34)	597 (6 studies)		
Early (between 10 minutes and 24 hours after birth)	545 per 1000	763 per 1000 (589 to 997 per 1000)	RR 1.40 (1.08 to 1.83)	425 (9 studies)		
Early (within 1 day after birth)						This outcome was not reported.
Duration of exclusive breastfeeding						This outcome was not reported.

\*The risk in the intervention group (and its 95% CI) is based on the assumed risk in the comparison group and the relative effect of the intervention (and its 95% CI). CI: confidence interval; RR: rate ratio.

#### **GRADE Working Group grades of evidence**

High quality: We were very confident that the true effect lies close to that of the estimate of the effect.

Moderate quality: We were moderately confident in the effect estimate: The true effect is likely to be close to the estimate of the effect, but there is a possibility that it is substantially different. Low quality: Our confidence in the effect estimate is limited: The true effect may be substantially different from the estimate of the effect.

Very low quality: We have very little confidence in the effect estimate: The true effect is likely to be substantially different from the estimate of effect.

- 1 Several trials had unclear risk of bias for sequence generation and allocation concealment (downgraded: -1). P = 44% with random-effects model (not downgraded).
- 2 Several trials had unclear risk of bias for sequence generation and allocation concealment (downgraded: -1). I<sup>2</sup> = 62% with random-effects model (downgraded: -1).

3 Results are based on one trial with very small sample size and wide confidence interval (downgraded: -2 for imprecision).

4 Most trials contributing data had unclear risk of bias for allocation concealment. Half had unclear sequence generation. In one trial, the authors were unclear of the time point of data collection (downgraded: -1). I<sup>2</sup> = 41% with random-effects model (not downgraded). Two very small trials had the most dramatic effects, and could not rule out publication bias. Removal of these trials did not change the overall effect or conclusion (not downgraded).

## Kangaroo mother care (skin-to-skin contact) compared to conventional neonatal care in protecting, promoting and supporting breastfeeding

Patient or population: low-birth-weight infants (birth weight <2500 g), regardless of gestational age

Setting: hospital births

Intervention: kangaroo mother care (skin-to skin contact in which infants are placed vertically between the mother's breasts firmly attached to the chest and below her clothes)

Comparison: conventional neonatal care

Outcomes	Anticipated absolut	e effects* (95% CI)	Relative effect	Nº of participants (studies)	Quality of the	Comments
	Risk with conventional neonatal care	Risk with kangaroo mother care				
Exclusive breastfeeding						
At discharge or at 40 to 41 weeks' postmenstrual age	563 per 1000	653 per 1000 (602 to 704 per 1000)	RR 1.16 (1.07 to 1.25)	1453 (6 studies)	$ \bigoplus \bigoplus \bigoplus \bigcirc^{1} \\ Moderate $	
At 1 to 3 months' follow-up	765 per 1000	918 per 1000 (773 to 1000 per 1000)	RR 1.20 (1.01 to 1.43)	600 (5 studies)	$\bigoplus_{Low} \bigcirc^2$	
At 6 to 12 months' follow-up	114 per 1000	147 per 1000 (108 to 201 per 1000)	RR 1.29 (0.95 to 1.76)	810 (3 studies)	$\bigoplus_{Low} \bigcirc \bigcirc^3$	
Any breastfeeding						
At discharge or at 40 to 41 weeks' postmenstrual age	762 per 1000	914 per 1000 (815 to 1000 per 1000)	RR 1.20 (1.07 to 1.34)	1696 (10 studies)	$\bigoplus \bigoplus \bigoplus \bigcirc^4$ Moderate	
At 1 to 3 months' follow-up	711 per 1000	<b>832 per 1000</b> (747 to 932 per 1000)	RR 1.17 (1.05 to 1.31)	1394 (9 studies)	$\bigoplus_{Low} \bigcirc \bigcirc^{5}$	
At 6 months' follow-up	402 per 1000	<b>450 per 1000</b> (394 to 518 per 1000)	RR 1.12 (0.98 to 1.29)	952 (5 studies)	$ \bigoplus \bigoplus \bigoplus \bigoplus^{6}_{Moderate} $	
At 12 months' follow-up	222 per 1000	<b>198 per 1000</b> (144 to 269 per 1000)	RR 0.89 (0.65 to 1.21)	589 (1 study)	$\bigoplus_{\text{Low}} \Theta^7$	
Onset of breastfeeding (days)			MD 0.03 (-1.64 to 1.70)	295 (2 studies)	$\bigoplus_{Low} \Theta^{8}$	
Exclusive breastfeeding	Risk with late (starting after 24 hours) kangaroo mother care	Risk with early (within 24 hours) kangaroo mother care				
At 24 hours of age	528 per 1000	538 per 1000 (354 to 829 per 1000)	RR 1.02 (0.67 to 1.57)	73 (1 study)	$\bigoplus_{\text{Low}} \Theta^9$	
At 2 weeks of age	944 per 1000	944 per 1000 (841 to 1000 per 1000)	RR 1.00 (0.89 to 1.12)	71 (1 study)	$ \bigoplus_{\text{Moderate}} \bigoplus^{10} \Theta^{10} $	
At 4 weeks of age	1000 per 1000	940 per 1000 (895 to 1000 per 1000)	RR 0.94 (0.85 to 1.04)	67 (1 study)	$ \bigoplus \bigoplus \bigoplus \bigoplus^{11} $ Moderate	
At 6 months of age	154 per 1000	<b>414 per 1000</b> (152 to 1000 per 1000)	RR 2.69 (0.99 to 7.31)	55 (1 study)	$\bigoplus_{Low} \bigcirc^{12}$	
Duration of exclusive breastfeeding						This outcome was not reported.

### Guideline: protecting, promoting and supporting breastfeeding in facilities providing maternity and newborn services

\*The risk in the intervention group (and its 95% CI) is based on the assumed risk in the comparison group and the relative effect of the intervention (and its 95% CI). CI: confidence interval; RR: rate ratio.

#### GRADE Working Group grades of evidence

High quality: We were very confident that the true effect lies close to that of the estimate of the effect. Moderate quality: We were moderately confident in the effect estimate: The true effect is likely to be close to the estimate of the effect, but there is a possibility that it is substantially different. Low quality: Our confidence in the effect estimate is limited: The true effect may be substantially different from the estimate of the effect. Very low quality: We have very little confidence in the effect estimate: The true effect is likely to be substantially different from the estimate of effect.

For details of studies included in the review, see reference (57).

- 1 Several trials with unclear risk of bias for allocation concealment and attrition bias (downgraded: -1).
- 2 Several trials with unclear risk of bias for allocation concealment and attrition bias (downgraded: -1). Heterogeneity; *I*<sup>2</sup> = 76% with random-effects model (downgraded: -1).
- 3 Several trials with unclear risk of bias for allocation concealment and attrition bias (downgraded: -1). Imprecision; CI (downgraded: -1).
- 4 Substantial heterogeneity;  $l^2 = 80\%$  with random-effects model (downgraded: -1).
- 5 Several trials with unclear risk of bias for allocation concealment and attrition bias (downgraded: -1). I<sup>2</sup> = 62% with random-effects model (downgraded: -1).
- 6 Several trials with unclear risk of bias for allocation concealment and reporting bias (downgraded: -1).
- 7 Effect provided by one study with moderate risk of bias (downgraded: -1). Imprecision; wide CI (downgraded: -1).
- 8 Substantial heterogeneity; I<sup>2</sup> = 68% (downgraded: -1). Imprecision; wide CI (downgraded: -1).
- 9 Imprecision; wide confidence interval and small sample size (downgraded: -2).
- 10 Imprecision; small sample size (downgraded: -1).
- 11 Imprecision; small sample size (downgraded: -1).
- 12 Imprecision; wide CI and few events (downgraded: -2).

## Early initiation of breastfeeding

Very early (within 1 hour after birth) breastfeeding initiation time compared to delayed (2-23 hours and 24 hours or more after birth) breastfeeding initiation in mortality

Patient or population: infants who ever initiated breastfeeding and surviving for 2–4 days Setting: Hospital and community

**Intervention:** very early breastfeeding initiation (within 1 hour after birth)

Comparison: delayed breastfeeding initiation (2-23 hours and 24 hours or more after birth)

Outcomes	Anticipated absolu	te effects* (95% CI)	Relative effect	Nº of participants	Quality of the	Comments
	Risk with very early initiation of breastfeeding	Risk with delayed initiation of breastfeeding	(95% CI)	(studies)	(GRADE)	
Namatal mortality (228 days)	5 2 per 1000	Initiation at 2-23 hours 6.9 per 1000 (5.8 to 8.1 per 1000)	RR 1.33 (1.13 to 1.56)	126 0/7 (5 studios)	$\oplus \oplus \oplus \oplus^1$	
Neonatal mortality (<20 days)	5.2 per 1000	Initiation at ≥24 hours 11.4 per 1000 (9.0 to 14.4 per 1000)	RR 2.19 (1.73 to 2.77)	150 047 (5 studies)	High	
		Initiation at 2-23 hours 8 per 1000 (7 to 9 per 1000)	RR 1.34 (1.13 to 1.59)	07 707 (1 study)	$\oplus \oplus \ominus \ominus^2$	
maint mortanty from 1 to <3 months (29 to 90 days)	0 per 1000	Initiation at ≥24 hours 9 per 1000 (6 to 12 per 1000)	RR 1.48 (1.07 to 2.06)	- 97 707 (1 study)	Low	
Infant mortality from 2 to 26 months (01 to 180 days)	5 par 1000	Initiation at 2-23 hours 7 per 1000 (6 to 9 per 1000)	RR 1.42 (1.18 to 1.72)	- 96 606 (1 study)	$\bigoplus_{Low} \bigoplus_{O} \bigoplus_{i=1}^{3}$	
Infant mortality from 3 to <6 months (91 to 180 days)	5 per 1000	Initiation at 2-23 hours 7 per 1000 (5 to 10 per 1000)	RR 1.35 (0.93 to 1.97)			
Non-avaluative broastfooding at a month	284 par 1000	Initiation at 2-23 hours 327 per 1000 (321 to 333 per 1000)	RR 1.15 (1.13 to 1.17)	97 576 (1 study)	$\oplus \oplus \oplus \ominus^4$	
Non-exclusive breastreeding at 1 month	264 per 1000	Initiation at ≥24 hours 361 per 1000 (353 to 372 per 1000)	RR 1.27 (1.24 to 1.31)	67 570 (I study)	Moderate	
Not breastfeeding at 1 month	11 par 1000	Initiation at 2-23 hours 13 per 1000 (11 to 16 per 1000)	RR 1.26 (1.07 to 1.48)	97 576 (1 study)	⊕⊕⊕⊝⁵	
Not breastfeeding at 1 month	11 per 1000	Initiation at ≥24 hours 26 per 1000 (20 to 32 per 1000)	RR 2.48 (1.92 to 3.21)	6/ 5/0 (I study)	Moderate	
Non-exclusive breastfeeding at 3 months		Initiation at 2-23 hours 530 per 1000 (525 to 536 per 1000)	RR 1.05 (1.04 to 1.06)	– 86 692 (1 study)	$\Phi \Phi \ominus \ominus^{6}$	
	202 her 1000	Initiation at ≥24 hours 536 per 1000 (525 to 546 per 1000)	RR 1.06 (1.04 to 1.08)		Low	

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Very early (within 1 hour after birth) breastfeeding initiation time compared to delayed (2-23 hours and 24 hours or more after birth) breastfeeding initiation in mortality (continued)

Outcomes	Anticipated absolute effects* (95% CI)		Relative effect	№ of participants (studies)	Quality of the	Comments
	Risk with very early initiation of breastfeeding	Risk with delayed initiation of breastfeeding	(95% CI)	(studies)	(GRADE)	
	1	Initiation at 2-23 hours 17 per 1000 (15 to 19 per 1000)	RR 1.20 (1.07 to 1.35)	86 692 (1 study)	⊕⊕⊕⊝″	
Not breastfeeding at 3 months	14 per 1000	Initiation at ≥24 hours 27 per 1000 (22 to 32 per 1000)	RR 1.88 (1.56 to 2.26)		Moderate	
Exclusive breastfeeding during stay at the facility						This outcome was not reported.
Onset of lactation						This outcome was not reported.
Duration of exclusive breastfeeding (in months)						This outcome was not reported.

\*The risk in the intervention group (and its 95% CI) is based on the assumed risk in the comparison group and the relative effect of the intervention (and its 95% CI). CI: confidence interval; RR: rate ratio.

#### GRADE Working Group grades of evidence

High quality: We were very confident that the true effect lies close to that of the estimate of the effect.

Moderate quality: We were moderately confident in the effect estimate: The true effect is likely to be close to the estimate of the effect, but there is a possibility that it is substantially different.

Low quality: Our confidence in the effect estimate is limited: The true effect may be substantially different from the estimate of the effect.

Very low quality: We have very little confidence in the effect estimate: The true effect is likely to be substantially different from the estimate of effect.

#### For details of studies included in the review, see reference (63).

1 All five studies are categorized as having moderate risk of bias, but the overall quality of the evidence is upgraded to "high" because the studies are consistent, there is a large effect size (RR>2), and there is evidence of a dose-response effect.

- 2 Results are based on one observational study.
- 3 Results are based on one observational study.
- 4 Results are based on one observational study; upgraded for dose-response effect.
- 5 Results are based on one observational study; upgraded for dose-response effect.
- 6 Results are based on one observational study.
- 7 Results are based on one observational study; upgraded for dose-response effect.

## Showing mothers how to breastfeed

Any form of support compared to no support in protecting, promoting and supporting breastfeeding

Patient or population: breastfeeding mothers with healthy term infants Setting: outpatient setting Intervention: all forms of support Comparison: usual care

Outcomes	Anticipated absolut	e effects* (95% CI)	Relative effect	№ of participants	Quality of the	Comments
	Risk with usual care	Risk with any form of support	(95% CI)	(studies)	evidence (GRADE)	
Stopping any breastfeeding before last study assessment up to 6 months	573 per 1000	<b>510 per 1000</b> (487 to 532 per 1000)	RR 0.89 (0.85 to 0.93)	21 708 (51 studies)	$ \bigoplus \bigoplus \bigoplus \bigcirc^{1} \\ Moderate $	
Stopping exclusive breastfeeding before last study assessment up to 6 months	823 per 1000	732 per 1000 (707 to 765 per 1000)	RR 0.89 (0.86 to 0.93)	18 303 (46 studies)	$\bigoplus_{\text{Low}} \Theta^2$	
Stopping any breastfeeding at up to 4 to 6 weeks	353 per 1000	<b>304 per 1000</b> (279 to 329 per 1000)	RR 0.86 (0.79 to 0.93)	10 776 (33 studies)	$\bigoplus_{\substack{ \text{High} }} \bigoplus_{j=1}^{3}	
Stopping exclusive breastfeeding at up to 4 to 6 weeks 642 per 1000		<b>507 per 1000</b> (443 to 571 per 1000)	RR 0.79 (0.69 to 0.89)	10 271 (32 studies)	$\bigoplus_{\text{Low}} \Theta^4$	
Postnatal support alone (no antenatal support provided) <sup>5</sup>						
Stopping any breastfeeding before last study assessment up to 6 months	542 per 1000	<b>471 per 1000</b> (439 to 509 per 1000)	RR 0.87 (0.81 to 0.94)	15 860 (35 studies)	$ \bigoplus \bigoplus \bigoplus \bigcirc^6 $ Moderate	
Stopping exclusive breastfeeding before last study assessment up to 6 months	802 per 1000	<b>714 per 1000</b> (681 to 754 per 1000)	RR 0.89 (0.85 to 0.94)	11 438 (29 studies)	$\bigoplus_{\text{Low}} \Theta^7$	
Stopping any breastfeeding at up to 4 to 6 weeks	288 per 1000	<b>239 per 1000</b> (213 to 268 per 1000)	RR 0.83 (0.74 to 0.93)	7389 (22 studies)	$\bigoplus_{\substack{ \text{High} }} \bigoplus_{\beta \in \mathcal{B}}	
Stopping exclusive breastfeeding at up to 4 to 6 weeks	588 per 1000	<b>435 per 1000</b> (335 to 558 per 1000)	RR 0.74 (0.57 to 0.95)	7075 (23 studies)	$\bigoplus_{Low} \Theta^9$	
Exclusive breastfeeding during stay at the facility						This outcome was not reported.
Exclusive breastfeeding at 1 and 3 months						This outcome was not reported.
Breast conditions						This outcome was not reported.
Neonatal, infant or child mortality rates						This outcome was not reported.

\*The risk in the intervention group (and its 95% CI) is based on the assumed risk in the comparison group and the relative effect of the intervention (and its 95% CI). CI: confidence interval; RR: rate ratio.

### Guideline: protecting, promoting and supporting breastfeeding in facilities providing maternity and newborn services

#### Any form of support compared to no support in protecting, promoting and supporting breastfeeding (continued)

#### GRADE Working Group grades of evidence

High quality: We were very confident that the true effect lies close to that of the estimate of the effect. Moderate quality: We were moderately confident in the effect estimate: The true effect is likely to be close to the estimate of the effect, but there is a possibility that it is substantially different. Low quality: Our confidence in the effect estimate is limited: The true effect may be substantially different from the estimate of the effect. Very low quality: We have very little confidence in the effect estimate: The true effect is likely to be substantially different from the estimate of effect.

#### For details of studies included in the review, see reference (61).

- 1 None of the studies had adequate blinding for the mother and staff (not downgraded). Heterogeneity (*I*<sup>2</sup> = 76%; downgraded: -1).
- 2 None of the studies had adequate blinding for the mother and staff (not downgraded). Heterogeneity (*I*<sup>2</sup> = 95%; downgraded: -1). Possible publication bias (funnel plot asymmetry due to small studies with large effect sizes; downgraded: -1).
- 3 None of the studies had adequate blinding for the mother and staff (not downgraded).
- 4 None of the studies had adequate blinding for the mother and staff (not downgraded). Heterogeneity (I<sup>2</sup> = 97%; downgraded: -1). Possible publication bias (funnel plot asymmetry due to small studies with large effect sizes; downgraded: -1).
- 5 Subgroup analysis by timing of support (postnatal only or including antenatal component) showed no statistically significant subgroup differences in the four subgroups comparisons. Only the postnatal subgroup is shown in the subsequent rows.
- 6 None of the studies had adequate blinding for the mother and staff (not downgraded). Heterogeneity (*I*<sup>2</sup> = 81%; downgraded: -1).
- 7 None of the studies had adequate blinding for the mother and staff (not downgraded). Heterogeneity (*I*<sup>2</sup> = 93%; downgraded: -1). Possible publication bias (funnel plot asymmetry due to small studies with large effect sizes; downgraded: -1)
- 8 None of the studies had adequate blinding for the mother and staff (not downgraded). Heterogeneity (*I*<sup>2</sup> = 51%; not downgraded).
- 9 None of the studies had adequate blinding for the mother and staff (not downgraded). Heterogeneity (I<sup>2</sup> = 99%; downgraded: -1). Possible publication bias (funnel plot asymmetry due to small studies with large effect sizes; downgraded: -1)

## Use of a formalized instrument to assess a preterm infant's readiness to feed by breast or bottle compared to not using a formalized instrument for readiness to feed in protecting, promoting and supporting breastfeeding

Patient or population: preterm infants (<37 weeks' gestation) Setting: hospital deliveries Intervention: assessment for readiness to feed using an instrument Comparison: assessment for readiness to feed not using a formal instrument

No studies met the inclusion criteria. Some instruments or methods to assess feeding readiness include:

Dynamic-Early Feeding Scale (D-EFS)

- Early Feeding Skills (EFS)
- Neonatal Oral Motor Assessment Scale (NOMAS)
- Non-Nutritive Sucking (NNS) scoring system
- Preterm Oral Feeding Readiness Scale
- Infant-driven feeding scales.

None of these instruments were tested in experimental studies. According to the authors, the lack of randomized or quasi-randomized trials may "be a reflection of the practical difficulties in ensuring that the comparison group is not exposed to the intervention, particularly in the situation where the use of an instrument is compared to normal clinical practice with direct caregivers collecting data".

For details of studies included in the review, see reference (58).

## Provision of instructions, support protocols or equipment for breast-milk expression or pumping compared to no instructions, support protocols or equipment in quantity of milk expressed

Patient or population: women expressing or pumping milk (for any reason and by any method) with infants up to 28 days after birth Setting: hospitalized or non-hospitalized mother-infant pairs Intervention: provision of instructions, support protocols or equipment for breast-milk expression or pumping

Comparison: no instructions, support protocols or equipment for breast-milk expression or pumping provided

Outcomes	Anticipated absolut	e effects* (95% CI)	Relative effect	Nº of participants	Quality of the	Comments		
	Risk with no instructions, support protocols or equipment provided	Risk with provision of instructions, support protocols or equipment	(95% CI)	(studies)	evidence (GRADE)			
Manual pump versus hand expression	Hand expression	Any manual pump						
Volume of milk expressed (mL) on day 4–5		MD 74 mL more (6 mL4 less to 212 mL more)		28 (1 study)	$\underset{\text{Very low}}{\ominus \ominus} \ominus^1$			
Volume over 6 days of pumping (mL)		MD 212 mL more (9 mL to 414 mL more)		$\begin{array}{c} 48 \ (1 \ study) \\ \end{array} \qquad \begin{array}{c} \Theta \Theta \Theta \Theta^2 \\ Very \ low \end{array}$				
Electric pump versus hand expression	Hand expression	Any large electric pump						
Volume over 6 days of pumping (mL)		MD 373 mL more (161 mL to 585 mL more)		43 (1 study)	$\begin{array}{c} \bigotimes \bigotimes \bigotimes \bigotimes^3 \\ \text{Very low} \end{array}$			
Volume for one expression at 6 to 12 hours after birth		MD 2 mL more (1 mL less to 5 mL more)		68 (1 study)	$\bigoplus_{Low} \bigcirc \bigcirc^4$			
Volume of milk on day 1 (mL)		MD 14 mL more (2 mL less to 30 mL more)		26 (1 study)	$\bigoplus_{\text{Low}} \ominus^{5}$			
Electric pump versus manual pump	Manual pump	Any large electric pump						
Volume over 6 days of pumping (mL)		MD 161 mL more (67 mL less to 389 mL more)		53 (1 study)	$\underset{Very \ low}{\ominus \ominus \ominus^6}$			
Mean volume per day pumped (mL)		MD 5 mL more (57 mL less to 67 mL more)		145 (1 study)	$\underset{\text{Very low}}{\bigcirc \bigcirc \bigcirc^7}$			
Volume of milk on day 5 (mL)		MD 151 mL more (138 mL less to 439 mL more)		27 (1 study)	$\underset{Very \ low}{\ominus \ominus \ominus^8}$			
Relaxation technique	No relaxation technique	Relaxation technique						
Volume at one expression (mL)		MD 35 mL more (6 mL to 63 mL more)		55 (1 study)	$\underset{Very \ low}{\ominus \ominus \ominus}^{9}$			
Volume on day 1 (mL)		MD 17 mL more (9 to 25 more)		160 (1 study)	$\bigoplus_{Low} \Theta \Theta^{10}$			
Volume on day 5 (mL)		MD 85 mL more (63 mL to 107 mL more)	-	160 (1 study)	$\bigoplus_{\text{Low}} \Theta \Theta^{11}$			
Breast massage	No breast massage	Breast massage						

Provision of instructions, support protocols or equipment for breast-milk expression or pumping compared to no instructions, support protocols or equipment in quantity of milk expressed (continued)

Outcomes	Anticipated absolut	e effects* (95% CI)	Relative effect	№ of participants	Quality of the	Comments
	Risk with no instructions, support protocols or equipment provided	Risk with provision of instructions, support protocols or equipment	(95% CI)	(studies)	(GRADE)	
Volume of milk from two expressions (mL)		MD 5 mL more (1 mL to 8 mL more)		72 (1 study)	$\underset{\text{Very low}}{\bigcirc \ominus \ominus} \overset{12}{\overset{12}}{\overset{12}$	
Warming of the breasts	Control breast	Warmed breast				
Volume of milk on expression 1 of 6 expressions over 3 days (mL)		MD 10 mL more (0.5 mL less to 20 mL more)		78 (1 study)	$\underset{Low}{\oplus \ominus \ominus}^{13}$	
Volume of milk on expression 2 of 6 expressions over 3 days (mL)		MD 12 mL more (3 mL to 20 mL more)		78 (1 study)	$\bigoplus_{\text{Low}} \Theta \Theta^{14}$	
Volume of milk on expression 3 of 6 expressions over 3 days (mL)		MD 11 mL more (2 mL less to 25 mL more)		78 (1 study)	$\bigoplus_{Low} \ominus \ominus^{15}$	
Volume of milk on expression 4 of 6 expressions over 3 days (mL		MD 12 mL more (2 mL to 23 mL more)		78 (1 study)	$\bigoplus_{Low} \ominus \ominus^{16}$	
Volume of milk on expression 5 of 6 expressions over 3 days (mL)		MD 14 mL more (4 mL to 23 mL more)		78 (1 study)	$\bigoplus_{\text{Low}} \Theta^{17}$	
Volume of milk on expression 6 of 6 expressions over 3 days (mL)		MD 13 mL more (4 mL to 22 mL more)		78 (1 study)	$\bigoplus_{\text{Low}} \Theta^{18}$	
Exclusive breastfeeding during stay at the facility						This outcome was not reported.
Exclusive breastfeeding at 1, 3 or 6 months						This outcome was not reported.
Duration of exclusive breastfeeding (in months)						This outcome was not reported.

\*The risk in the intervention group (and its 95% CI) is based on the assumed risk in the comparison group and the relative effect of the intervention (and its 95% CI). CI: confidence interval; RR: rate ratio.

#### GRADE Working Group grades of evidence

High quality: We were very confident that the true effect lies close to that of the estimate of the effect. Moderate quality: We were moderately confident in the effect estimate: The true effect is likely to be close to the estimate of the effect, but there is a possibility that it is substantially different. Low quality: Our confidence in the effect estimate is limited: The true effect may be substantially different from the estimate of the effect. Very low quality: We have very little confidence in the effect estimate: The true effect is likely to be substantially different from the estimate of effect.

#### For details of studies included in the review, see reference (40).

- 1 Results are based on one randomized controlled trial among infants with birth weight <1250 g with moderate risk of bias (unclear random sequence generation, selective reporting and attrition bias) and imprecision (wide CI and small sample size) (downgraded: -4).
- 2 Results are based on one randomized controlled trial among mothers whose infants were unable to breastfeed directly due to prematurity or illness with moderate risk of bias (unclear allocation concealment and detection bias) and imprecision (wide CI and small sample size) (downgraded: -4).
- 3 Results are based on one randomized controlled trial among mothers whose infants were unable to breastfeed directly due to prematurity or illness with moderate risk of bias (unclear allocation concealment and detection bias) and imprecision (wide CI and small sample size) (downgraded: -4).
- 4 Results are based on one randomized controlled trial among mothers with healthy newborns (term with >2000 g birth weight) with moderate risk of bias (unclear detection bias) and imprecision (wide CI and small sample size) (downgraded: -3).
- 5 Results are based on one randomized controlled trial among mothers with infants with gestational age <32 weeks and birth weight <1500 g with moderate risk of bias (unclear attrition bias and detection bias) and imprecision (wide CI and small sample size) (downgraded: -3).

## Provision of instructions, support protocols or equipment for breast-milk expression or pumping compared to no instructions, support protocols or equipment in quantity of milk expressed (continued)

- 6 Results are based on one randomized controlled trial among mothers whose infants were unable to breastfeed directly due to prematurity or illness with moderate risk of bias (unclear allocation concealment and detection bias) and imprecision (wide CI and small sample size) (downgraded: -4).
- 7 Results are based on one randomized controlled trial among I mothers of term infants at approximately 6 weeks of age with moderate risk of bias (unclear reporting bias and detection bias), imprecision (wide CI and small sample size) and indirectness (downgraded: -4).
- 8 Results are based on one randomized controlled trial among infants with birth weight <1250 g with moderate risk of bias (unclear random sequence generation, selective reporting and attrition bias) and imprecision (wide CI and small sample size) (downgraded: -4).</p>
- 9 Results are based on one randomized controlled trial among mothers with preterm infants with moderate risk of bias (unclear random sequence generation, allocation concealment, and detection bias) and imprecision (wide CI and small sample size) (downgraded: -4).
- 10 Results are based on one randomized controlled trial among mothers with preterm or critically ill infants with moderate risk of bias (unclear allocation concealment) and imprecision (wide CI and small sample size) (downgraded: -3).
- 11 Results are based on one randomized controlled trial among mothers with preterm or critically ill infants with moderate risk of bias (unclear allocation concealment) and imprecision (wide CI and small sample size) (downgraded: -3).
- 12 Results are based on one randomized controlled trial among lactating women who routinely nursed their infants (mean age of 2 months) on both breasts with moderate risk of bias (unclear allocation concealment), imprecision (wide CI and small sample size) and indirectness (downgraded: -4).
- 13 Results are based on one randomized controlled trial among mothers with infants less than 21 days old in the neonatal intensive care unit with moderate risk of bias (unclear allocation concealment and detection bias) and imprecision (wide CI and small sample size) (downgraded: -3).
- 14 Results are based on one randomized controlled trial among mothers with infants less than 21 days old in the neonatal intensive care unit with moderate risk of bias (unclear allocation concealment and detection bias) and imprecision (wide CI and small sample size) (downgraded: -3).
- 15 Results are based on one randomized controlled trial among mothers with infants less than 21 days old in the neonatal intensive care unit with moderate risk of bias (unclear allocation concealment and detection bias) and imprecision (wide CI and small sample size) (downgraded: -3).
- 16 Results are based on one randomized controlled trial among mothers with infants less than 21 days old in the neonatal intensive care unit with moderate risk of bias (unclear allocation concealment and detection bias) and imprecision (wide CI and small sample size) (downgraded: -3).
- 17 Results are based on one randomized controlled trial among mothers with infants less than 21 days old in the neonatal intensive care unit with moderate risk of bias (unclear allocation concealment and detection bias) and imprecision (wide CI and small sample size) (downgraded: -3).
- 18 Results are based on one randomized controlled trial among mothers with infants less than 21 days old in the neonatal intensive care unit with moderate risk of bias (unclear allocation concealment and detection bias) and imprecision (wide CI and small sample size) (downgraded: -3).

## **Rooming-in**

### Rooming-in compared to separate care in protecting, promoting and supporting breastfeeding

Patient or population: mothers who have given birth and are able to care for their normal newborn infants Setting: hospital or community

Intervention: rooming-in (mother and infant are placed in the same room immediately after birth) Comparison: separate care (mother and infant are places separately, e.g. in the hospital nursery or in a separate room)

Outcomes	Anticipated absol	Anticipated absolute effects* (95% CI)		Nº of participants	Quality of the	Comments
	Risk with separate care	Risk with rooming-in	(95% CI)	(studies)	(GRADE)	
Exclusive breastfeeding at 4 days postpartum	447 per 1000	859 per 1000 (599 to 1000 per 1000)	RR 1.92 (1.34 to 2.76)	153 (1 study)	$ \bigoplus \bigoplus \bigoplus \bigcirc^{1} \\ Moderate $	
Any breastfeeding at 6 months	406 per 1000	<b>341 per 1000</b> (207 to 565 per 1000)	RR 0.84 (0.51 to 1.39)	153 (1 study)	$ \bigoplus \bigoplus \bigoplus \bigcirc^2 $ Moderate	
Onset of lactation						This outcome was not reported.
Exclusive breastfeeding at 1 month						This outcome was not reported.
Duration of exclusive breastfeeding (in months)						This outcome was not reported.
Neonatal, infant and child mortality						This outcome was not reported.

\*The risk in the intervention group (and its 95% CI) is based on the assumed risk in the comparison group and the relative effect of the intervention (and its 95% CI). CI: confidence interval; RR: rate ratio.

#### **GRADE Working Group grades of evidence**

High quality: We were very confident that the true effect lies close to that of the estimate of the effect.

Moderate quality: We were moderately confident in the effect estimate: The true effect is likely to be close to the estimate of the effect, but there is a possibility that it is substantially different.

Low quality: Our confidence in the effect estimate is limited: The true effect may be substantially different from the estimate of the effect.

Very low quality: We have very little confidence in the effect estimate: The true effect is likely to be substantially different from the estimate of effect.

For details of studies included in the review, see reference (60)

Results are based on one randomized controlled trial with a 2×2 factorial design (three of the four groups were combined to form the rooming-in group and the fourth group comprised the separate care group) with moderate risk of bias 1 (unclear blinding and high risk of attrition bias). The rooming-in group were told to breastfeed their infant on demand while the separate care group were fed on a fixed 7×/day schedule (downgraded: -1).

Results are based on one randomized controlled trial with a 2×2 factorial design (three of the four groups were combined to form the rooming-in group and the fourth group comprised the separate care group) with moderate risk of bias 2 (unclear blinding and high risk of attrition bias). The rooming-in group were told to breastfeed their infant on demand while the separate care group were fed on a fixed 7×/day schedule (downgraded: -1)

## **Demand feeding**

### Breastfeeding on demand (baby-led) compared to not breastfeeding on demand (scheduled, restricted or timed) in protecting, promoting and supporting breastfeeding

Patient or population: breastfeeding mothers with healthy term newborn infants

Setting: hospital deliveries

Intervention: breastfeeding on demand (baby-led breastfeeding)

Comparison: scheduled, timed or restricted frequency and duration of breastfeeds; or a mixed pattern of breastfeeding with a combination or of alternates between baby-led and scheduled breastfeeding

No studies were eligible for inclusion into the review. There is no evidence from randomized trials of inform decisions about optimum feeding patterns.

For details of studies included in the review, see reference (59)

#### Guideline: protecting, promoting and supporting breastfeeding in facilities providing maternity and newborn services

### Responsive feeding compared to not responsive feeding in protecting, promoting and supporting breastfeeding

Patient or population: preterm infants (less than 37 weeks' gestation) at least partially enterally fed Setting: hospital deliveries Intervention: feeding preterm infants in response to their hunger and satiation cues (responsive, cue-based, infant-led or demand feeding) Comparison: feeding preterm infants based on scheduled intervals

Duration of breastfeeding, breastfeeding prevalence (any and exclusive) and mortality rates were not reported in any of the included trials.

For details of studies included in the review, see references (64).

## B. Feeding practices and additional needs of infants

## Early additional foods or fluids

Exclusive breastfeeding compared to early additional foods or fluids in protecting, promoting and supporting breastfeeding Patient or population: breastfeeding full term (37 to 42 completed weeks' gestation) Setting: hospital

Intervention: exclusive breastfeeding in the first few days of life

Comparison: additional foods (artificial milk) or fluids (water or glucose water)

Outcomes	Anticipated absolut	e effects* (95% CI)	Relative effect	Nº of participants	Quality of the	Comments
	Risk with exclusive breastfeeding	Risk with early additional foods or fluids	(95% CI)	(studies)	(GRADE)	
Additional artificial milk versus exclusive breastfeeding in the first few days of life						
Any breastfeeding at discharge	980 per 1000	1000 per 1000 (951 to 1000 per 1000)	RR 1.02 (0.97 to 1.08)	100 (1 study)	$ \bigoplus \bigoplus \bigoplus \bigcirc^{1} \\ Moderate $	
Any breastfeeding at 3 months	765 per 1000	925 per 1000 (803 to 1000 per 1000)	RR 1.21 (1.05 to 1.41)	137 (2 studies)	$ \bigoplus_{Very low} \bigcirc^2 $	
Exclusive breastfeeding (in the previous 24 hours) at 3 months	609 per 1000	870 per 1000 (700 to 1000 per 1000)	RR 1.43 (1.15 to 1.77)	138 (2 studies)	$ \bigoplus_{\text{Very low}} \Theta^3 $	
Additional water versus exclusive breastfeeding in the first few days of life						
Any breastfeeding at 4 weeks	931 per 1000	<b>773 per 1000</b> (680 to 875 per 1000)	RR 0.83 (0.73 to 0.94)	170 (1 study)	$ \bigoplus \bigoplus \bigoplus \bigcirc^4 $ Moderate	
Any breastfeeding at 12 weeks	805 per 1000	547 per 1000 (426 to 700 per 1000)	RR 0.68 (0.53 to 0.87)	170 (1 study)	$ \bigoplus \bigoplus \bigoplus \bigcirc^5 $ Moderate	
Any breastfeeding at 20 weeks	575 per 1000	<b>397 per 1000</b> (287 to 546 per 1000)	RR 0.69 (0.50 to 0.95)	170 (1 study)	$ \bigoplus \bigoplus \bigoplus \bigcirc^6 $ Moderate	
Onset of lactation						This outcome was not reported.
Early initiation within one hour or one day after birth						This outcome was not reported.
Duration of exclusive breastfeeding						This outcome was not reported.

\*The risk in the intervention group (and its 95% CI) is based on the assumed risk in the comparison group and the relative effect of the intervention (and its 95% CI). CI: confidence interval; RR: rate ratio.

### Guideline: protecting, promoting and supporting breastfeeding in facilities providing maternity and newborn services

### Exclusive breastfeeding compared to early additional foods or fluids in protecting, promoting and supporting breastfeeding (continued)

#### GRADE Working Group grades of evidence

High quality: We were very confident that the true effect lies close to that of the estimate of the effect. Moderate quality: We were moderately confident in the effect estimate: The true effect is likely to be close to the estimate of the effect, but there is a possibility that it is substantially different. Low quality: Our confidence in the effect estimate is limited: The true effect may be substantially different from the estimate of the effect. Very low quality: We have very little confidence in the effect estimate: The true effect is likely to be substantially different from the estimate of effect.

For details of studies included in the review, see reference (86).

- 1 Results are based on one randomized controlled trial of healthy singleton term infants whose mothers were planning to breastfeed with uncertain selection, attrition and reporting bias (downgraded: -1).
- 2 Results are based on two randomized controlled trials of healthy term infants. Both had unclear selection, attrition and reporting bias. One of the studies had unclear other bias (possible conflict of interests with one of the triallists having served as a paid consultant to the formula company used in the intervention (downgraded: -3).
- 3 Results are based on two randomized controlled trials of healthy term infants. Both had unclear selection, attrition and reporting bias. One of the studies had unclear other bias (possible conflict of interests with one of the triallists having served as a paid consultant to the formula company used in the intervention (downgraded: -3).
- 4 Results are based on one randomized controlled trial of healthy term infants with no risk factors for hypo- or hyperglycaemia with uncertain random sequence generation, allocation concealment and reporting bias (downgraded: -1).
- 5 Results are based on one randomized controlled trial of healthy term infants with no risk factors for hypo- or hyperglycaemia with uncertain random sequence generation, allocation concealment and reporting bias (downgraded: -1).
- 6 Results are based on one randomized controlled trial of healthy term infants with no risk factors for hypo- or hyperglycaemia with uncertain random sequence generation, allocation concealment and reporting bias (downgraded: -1).

## Avoidance of pacifiers or dummies

### Restricted pacifier use compared to unrestricted pacifier use in protecting, promoting and supporting breastfeeding

Patient or population: healthy full term newborns whose mothers have initiated breastfeeding and intend to exclusively breastfeed

Setting: hospital or home deliveries

Intervention: advice against pacifier use (restricted)

Comparison: unrestricted or actively encouraged use of a pacifier

Outcomes	Anticipated absolu	ite effects* (95% CI)	Relative effect	№ of participants	Quality of the	Comments
	Risk with unrestricted pacifier use	Risk with restricted pacifier use	(95% CI)	(studies)	evidence (GRADE)	
Any breastfeeding at discharge	986 per 1000	<b>996 per 1000</b> (986 to 1000 per 1000)	RR 1.01 (1.00 to 1.03)	541 (1 study)	$\underset{High}{\oplus \oplus \oplus}$	
Exclusive breastfeeding at 3-4 months	336 per 1000	<b>363 per 1000</b> (259 to 507 per 1000)	RR 1.08 (0.77 to 1.51)	258 (1 study)	$\bigoplus \bigoplus \bigoplus \bigcirc^1$ Moderate	
Any breastfeeding at 3-4 months	739 per 1000	754 per 1000 (702 to 821 per 1000)	RR 1.02 (0.95 to 1.11)	799 (2 studies)	$\underset{High}{\oplus \oplus \oplus}$	
Any breastfeeding at 6 months	553 per 1000	<b>586 per 1000</b> (509 to 681 per 1000)	RR 1.06 (0.92 to 1.23)	541 (1 study)	⊕⊕⊕⊕ <sub>High</sub>	
Exclusive breastfeeding during stay at the facility						This outcome was not reported.
Exclusive breastfeeding at 1 or 6 months						This outcome was not reported.
Duration of exclusive breastfeeding						This outcome was not reported.
Duration of any breastfeeding						This outcome was not reported.
Morbidity (respiratory infections, diarrhoea, others)						This outcome was not reported.

\*The risk in the intervention group (and its 95% CI) is based on the assumed risk in the comparison group and the relative effect of the intervention (and its 95% CI). CI: confidence interval; RR: rate ratio.

#### GRADE Working Group grades of evidence

High quality: We were very confident that the true effect lies close to that of the estimate of the effect. Moderate guality: We were moderately confident in the effect estimate: The true effect is likely to be close to the estimate of the effect, but there is a possibility that it is substantially different.

Low quality: Our confidence in the effect estimate is limited: The true effect may be substantially different from the estimate of the effect. Very low quality: We have very little confidence in the effect estimate: The true effect is likely to be substantially different from the estimate of effect.

For details of studies included in the review, see reference (85).

Results are based on one randomized controlled trial with low risk of bias (no blinding of participants but blinded assessors) (not downgraded). Imprecision with wide CI (downgraded: -1). 1

### No provision of non-nutritive sucking compared to non-nutritive sucking in protecting, promoting and supporting breastfeeding

Patient or population: infants born less than 37 weeks' postconceptual age Setting: hospital births Intervention: no provision of non-nutritive sucking Comparison: non-nutritive sucking involving the use of a pacifier or other method (e.g. gloved finger)

Outcomes Anticipated absolute effects\* (95% CI) **Relative effect** Nº of participants Quality of the Comments evidence (95% CI) (studies) Risk with non-Risk with no (GRADE) nutritive sucking provision of nonnutritive sucking  $\oplus \oplus \Theta \Theta^1$ 608 per 1000 **RR 1.08** Full breastfeeding at discharge 303 (1 study) 563 per 1000 (495 to 749 per 1000) (0.88 to 1.33) Low RR 1.16  $\oplus \oplus \oplus \Theta^2$ 830 per 1000 Any breastfeeding at discharge 715 per 1000 303 (1 study) This outcome was not reported. (629 to 951 per 1000) (0.88 to 1.17) Moderate  $\oplus \Theta \Theta \Theta^3$ 346 per 1000 RR 0.92 Any breastfeeding at 3 months after discharge 376 per 1000 283 (1 study) This outcome was not reported. (259 to 462 per 1000) (0.69 to 1.23) Very low 194 per 1000  $\Theta \Theta \Theta \Theta^4$ RR 0.80 Any breastfeeding at 6 months after discharge 243 per 1000 281 (1 study) This outcome was not reported. (131 to 284 per 1000) (0.54 to 1.17) Very low Exclusive breastfeeding at 1 or 6 months This outcome was not reported. Duration of exclusive breastfeeding This outcome was not reported. Duration of any breastfeeding This outcome was not reported. Morbidity (respiratory infections, diarrhoea, others) This outcome was not reported.

\*The risk in the intervention group (and its 95% CI) is based on the assumed risk in the comparison group and the relative effect of the intervention (and its 95% CI). CI: confidence interval; RR: rate ratio.

#### GRADE Working Group grades of evidence

High quality: We were very confident that the true effect lies close to that of the estimate of the effect.

Moderate quality: We were moderately confident in the effect estimate: The true effect is likely to be close to the estimate of the effect, but there is a possibility that it is substantially different. Low quality: Our confidence in the effect estimate is limited: The true effect may be substantially different from the estimate of the effect. Very low quality: We have very little confidence in the effect estimate: The true effect is likely to be substantially different from the estimate of effect.

For details of studies included in the review, see reference (82).

1 Results are based on one randomized controlled trial with risk of bias (no blinding of participants and outcome assessors) and imprecision (wide CI) (downgraded: -2).

2 Results are based on one randomized controlled trial with risk of bias (no blinding of participants and outcome assessors) (downgraded: -1).

3 Results are based on one randomized controlled trial with risk of bias (no blinding of participants and outcome assessors; unclear attrition bias) and imprecision (wide CI) (downgraded: -3).

4 Results are based on one randomized controlled trial with risk of bias (no blinding of participants and outcome assessors; unclear attrition bias) and imprecision (wide CI) (downgraded: -3).

### No oral stimulation compared to oral stimulation in protecting, promoting and supporting breastfeeding

Patient or population: healthy preterm infants (with no comorbid conditions that would preclude the introduction of oral feeds) Setting: hospital Intervention: no intervention or standard care Comparison: oral stimulation intervention

Outcomes	Anticipated absolu	te effects* (95% CI)	Relative effect	№ of participants	Quality of the	Comments
	Risk with oral stimulation intervention	Risk with no oral stimulation	(95% CI)	(studies)	evidence (GRADE)	
Exclusive direct breastfeeding at discharge	641 per 1000	1000 per 1000 (615 to 1000)	RR 1.83 (0.96 to 3.48)	59 (1 study)	$ \bigoplus_{Very low} \bigcirc^{1} \odot^{1} \odot^{1} \odot^{1} \odot^{1} \odot^{1} \bigcirc^{1} \bigcirc^{1} \bigcirc^{1} \bigcirc^{1} \odot^{1} \odot^$	
Any direct breastfeeding at discharge	692 per 1000	<b>858 per 1000</b> (402 to 1000)	RR 1.24 (0.58 to 2.66)	110 (2 studies)	$ \bigoplus_{Very \ low} \ominus^2 $	
Exclusive breastfeeding at 1 or 6 months						This outcome was not reported.
Duration of exclusive or any breastfeeding						This outcome was not reported.
Morbidity (respiratory infections, diarrhoea, others)						This outcome was not reported.

\*The risk in the intervention group (and its 95% CI) is based on the assumed risk in the comparison group and the relative effect of the intervention (and its 95% CI). CI: confidence interval; RR: rate ratio.

#### GRADE Working Group grades of evidence

High quality: We were very confident that the true effect lies close to that of the estimate of the effect.

Moderate quality: We were moderately confident in the effect estimate: The true effect is likely to be close to the estimate of the effect, but there is a possibility that it is substantially different.

Low quality: Our confidence in the effect estimate is limited: The true effect may be substantially different from the estimate of the effect.

Very low quality: We have very little confidence in the effect estimate: The true effect is likely to be substantially different from the estimate of effect.

For details of studies included in the review, see reference (84).

1 Results are based on one randomized controlled trial with risk of bias (unclear allocation concealment, no blinding of participants and outcome assessors, and unclear attrition bias) and imprecision (wide CI) (downgraded: -3).

2 Results are based on two randomized controlled trials with risk of bias (unclear allocation concealment, no blinding of participants and outcome assessors) and imprecision (wide CI) (downgraded: -3).

## Avoidance of feeding bottles and teats

#### Supplements administered by cup or spoon compared to supplements administered by bottle in protecting, promoting and supporting breastfeeding

Patient or population: healthy full-term infants whose mothers intended to breastfeed Setting: hospital deliveries Intervention: supplements administered by cup or spoon

Comparison: supplements administered by bottle

Outcomes	Anticipated absolute effects* (95% CI)		Relative effect	№ of participants	Quality of the	Comments	
	Risk with supplements administered by bottle	Risk with supplements administered by cup or spoon	(95% CI)	(studies)	evidence (GRADE)		
Any breastfeeding at discharge (day 5)	993 per 1000	1000 per 1000 (993 to 1000 per 1000)	RR 1.01 (1.00 to 1.02)	541 (1 study)	$ \bigoplus \bigoplus \bigoplus \bigcirc^{1} \\ Moderate $	<ul> <li>All fluid supplements consisted of 10% dextrin-maltose solution and were given when considered medically indicated (being arithmedian surrowing after heartfeeding, signs of</li> </ul>	
Any breastfeeding at 2 months of life	876 per 1000	876 per 1000 (824 to 938 per 1000)	RR 1.00 (0.94 to 1.07)	541 (1 study)	$ \bigoplus \bigoplus \bigoplus \bigcirc^2 $ Moderate	<ul> <li>dehydration (no urine output over 4 hours), symptoms of hypoglycaemia with blood glucose &lt;2mmol/L).</li> <li>Intervention was limited to the first 5 days of life.</li> <li>28/250 (11.2%) of infants assigned to cup or spoon administration of supplements violated protocol.</li> </ul>	
Any breastfeeding at 6 months of life	554 per 1000	593 per 1000 (510 to 687 per 1000)	RR 1.07 (0.92 to 1.24)	505 (1 study)	$\bigoplus_{Low} \bigcirc \bigcirc^3$	<ul> <li>23/250 (9.2%) of infants assigned to cup or spoon administration were lost to follow-up; 13/291 (4.5%) of infants assigned to bottle administration were lost to follow-up.</li> </ul>	
Duration of exclusive breastfeeding	Median duration: 14 days (11 to 21 days)	Median duration: 21 days (14 to 25 per 1000)	Hazards Ratio Cox model [HR] 1.06 (0.88 to 1.27)	481 (1 study)	$\bigoplus_{\text{Low}} \ominus^4$	<ul> <li>Follow-up was done at 2, 5, 10, 16, 24, 38, and 52 weeks after birth.</li> <li>Fluid supplements consisted of either pumped breast milk</li> </ul>	
Duration of any breastfeeding	Median duration: 140 days (112 to 157 days)	Median duration: 105 days (90 days to 150 days)	RR 0.92 (0.76 to 1.12)	481 (1 study)	$\bigoplus_{Low} \bigoplus \bigcirc^5$	or formula. Indications for supplementation included: medical reasons such as hypoglycaemia or >10% weight loss (33%), maternal request (51%) and not documented (16%).	
Onset of lactation						This outcome was not reported.	
Neonatal, infant or child mortality						This outcome was not reported.	

\*The risk in the intervention group (and its 95% CI) is based on the assumed risk in the comparison group and the relative effect of the intervention (and its 95% CI). CI: confidence interval; RR: rate ratio.

#### GRADE Working Group grades of evidence

High quality: We were very confident that the true effect lies close to that of the estimate of the effect.

Moderate quality: We were moderately confident in the effect estimate: The true effect is likely to be close to the estimate of the effect, but there is a possibility that it is substantially different. Low quality: Our confidence in the effect estimate is limited: The true effect may be substantially different from the estimate of the effect. Very low quality: We have very little confidence in the effect estimate: The true effect is likely to be substantially different from the estimate of effect.

For details of studies included in the review, see reference (83).

1 Results are based on one randomized controlled trial with risk of bias (no blinding of participants and assessors; high rate of non-compliance in one group) (downgraded: -1).

2 Results are based on one randomized controlled trial with risk of bias (no blinding of participants and assessors; high rate of non-compliance in one group) (downgraded: -1).

3 Results are based on one randomized controlled trial with risk of bias (no blinding of participants and assessors; high risk of attrition bias) (downgraded: -2).

4 Results are based on one randomized controlled trial with risk of bias (no blinding of participants and unclear blinding of assessors; high risk of selection bias and unclear risk of attrition bias) (downgraded: -2).

5 Results are based on one randomized controlled trial with risk of bias (no blinding of participants and unclear blinding of assessors; high risk of selection bias and unclear risk of attrition bias) (downgraded: -2).

### Cup feeding compared to bottle feeding in protecting, promoting and supporting breastfeeding

Patient or population: term or preterm infants, up to 44 weeks' postmenstrual age or 28 days' postnatal age who were unable to breastfeed<sup>1</sup>

Setting: hospital Intervention: cup feeding

Intervention: cup reeding

Comparison: other forms of enteral feeding (bottle feeding)<sup>2</sup>

Outcomes	Anticipated absolute effects* (95% CI)		Relative effect	№ of participants	Quality of the	Comments
	Risk with bottle feeding	Risk with cup feeding	(95% CI)	(studies)	evidence (GRADE)	
Not fully breastfeeding at hospital discharge	549 per 1000	<b>335 per 1000</b> (296 to 390 per 1000)	RR 0.61 (0.52 to 0.71)	893 (4 studies)	$ \bigoplus_{\substack{\bigoplus \bigoplus \bigoplus \\ Moderate}} 3^{3} $	
Not breastfeeding at hospital discharge	198 per 1000	<b>126 per 1000</b> (97 to 168 per 1000)	RR 0.64 (0.49 to 0.85)	957 (4 studies)	$\bigoplus_{Low} \bigcirc \bigcirc^4$	
Not breastfeeding at 3 months	374 per 1000	<b>311 per 1000</b> (266 to 363 per 1000)	RR 0.83 (0.71 to 0.97)	883 (3 studies)	$ \bigoplus_{\substack{\bigoplus \bigoplus \bigoplus \\ Moderate}} 5^{5} $	
Not breastfeeding at 6 months	531 per 1000	<b>440 per 1000</b> (382 to 504 per 1000)	RR 0.83 (0.72 to 0.95)	803 (2 studies)	$ \bigoplus_{\substack{\bigoplus \bigoplus \bigoplus \bigoplus \\ Moderate}} ^{6} $	
Not fully breastfeeding at 3 months						Not estimable because of high heterogeneity ( $I^{z} = 96\%$ )
Not fully breastfeeding at 6 months						Not estimable because of high heterogeneity ( $I^2 = 86\%$ )
Onset of lactation						This outcome was not reported.
Duration of exclusive breastfeeding						This outcome was not reported.
Neonatal, infant or child mortality						This outcome was not reported.

\*The risk in the intervention group (and its 95% CI) is based on the assumed risk in the comparison group and the relative effect of the intervention (and its 95% CI). CI: confidence interval; RR: rate ratio.

#### GRADE Working Group grades of evidence

High quality: We were very confident that the true effect lies close to that of the estimate of the effect.

Moderate quality: We were moderately confident in the effect estimate: The true effect is likely to be close to the estimate of the effect, but there is a possibility that it is substantially different.

Low quality: Our confidence in the effect estimate is limited: The true effect may be substantially different from the estimate of the effect.

Very low quality: We have very little confidence in the effect estimate: The true effect is likely to be substantially different from the estimate of effect.

For details of studies included in the review, see reference (81).

- 1 All the studies in this review were conducted on preterm infants.
- 2 The comparison intervention was bottle feeding in all the studies included in the review.
- 3 Some of the trials had risk of bias (unclear sequence generation and allocation concealment) (downgraded: -1). Heterogeneity (I<sup>2</sup> = 57%) (not downgraded).
- 4 Some of the trials had risk of bias (unclear sequence generation and allocation concealment; selective reporting). Heterogeneity (*I*<sup>2</sup> = 72%) (downgraded: -2).
- 5 Some of the trials had risk of bias (unclear sequence generation and allocation concealment; selective reporting; attrition bias) (downgraded: -1).
- 6 Some of the trials had risk of bias (no trial was blinded; attrition bias; and there was high non-compliance rate) (downgraded: -1).

### Feeding by other than bottle compared to feeding by bottle in protecting, promoting and supporting breastfeeding

Patient or population: preterm infants Setting: hospital deliveries Intervention: breastfeeding with feeds by other than bottle Comparison: breastfeeding with feeds by bottle

tcomes Anticipated absolu		ite effects* (95% CI)	Relative effect	Nº of participants	Quality of the evidence (GRADE)	Comments
	Risk with feeds by bottle by other than bott		(95% CI)	(studies)		
Full breastfeeding at discharge 44 per 1000		66 per 1000 (52 to 79 per 1000)	RR 1.47 (1.19 to 1.80)	1074 (6 studies)	$ \bigoplus \bigoplus \bigoplus \bigcirc^{1} \\ Moderate $	-
Full breastfeeding at 3 months after discharge 36 per 1000		57 per 1000 (50 to 65 per 1000)	RR 1.56 (1.37 to 1.78)	986 (4 studies)	$ \bigoplus \bigoplus \bigoplus \bigcirc^2 $ Moderate	
Full breastfeeding at 6 months after discharge 31 per 1000		<b>51 per 1000</b> (35 to 73 per 1000)	RR 1.64 (1.14 to 2.36)	887 (3 studies)	$ \bigoplus \bigoplus \bigoplus \bigcirc^3 $ Moderate	
Any breastfeeding at discharge 79 per 1000		88 per 1000 (84 to 92 per 1000)	RR 1.11 (1.06 to 1.16)	1138 (6 studies)	$ \bigoplus \bigoplus \bigoplus \bigcirc^4 $ Moderate	
Any breastfeeding at 3 months after discharge 60 per 1000		<b>78 per 1000</b> (60 to 100 per 1000)	RR 1.31 (1.01 to 1.71	1063 (5 studies)	$\bigoplus_{Low} \bigoplus \bigcirc^5$	
Any breastfeeding at 6 months after discharge 45 per 1000		56 per 1000 (49 to 63 per 1000)	RR 1.25 (1.10 to 1.41)	886 (3 studies)	$ \bigoplus \bigoplus \bigoplus \bigcirc^6 $ Moderate	
Onset of lactation						This outcome was not reported.
Duration of exclusive breastfeeding						This outcome was not reported.
Neonatal, infant or child mortality						This outcome was not reported.

\*The risk in the intervention group (and its 95% CI) is based on the assumed risk in the comparison group and the relative effect of the intervention (and its 95% CI). CI: confidence interval; RR: rate ratio.

#### GRADE Working Group grades of evidence

High quality: We were very confident that the true effect lies close to that of the estimate of the effect.

Moderate quality: We were moderately confident in the effect estimate: The true effect is likely to be close to the estimate of the effect, but there is a possibility that it is substantially different.

Low quality: Our confidence in the effect estimate is limited: The true effect may be substantially different from the estimate of the effect.

Very low quality: We have very little confidence in the effect estimate: The true effect is likely to be substantially different from the estimate of effect.

For details of studies included in the review, see reference (80).

- 1 Several trials with risk of bias (high risk of attrition bias; unclear selection bias; unclear selective reporting) (downgraded: -1).
- 2 Several trials with risk of bias (high risk of attrition bias; unclear selection bias; unclear selective reporting) (downgraded: -1).
- 3 Several trials with risk of bias (high risk of attrition bias; unclear selection bias; unclear selective reporting) (downgraded: -1).
- 4 Several trials with risk of bias (high risk of attrition bias; unclear selection bias; unclear selective reporting) (downgraded: -1).
- 5 Several trials with risk of bias (high risk of attrition bias; unclear selection bias; unclear selective reporting). Heterogeneity (I<sup>2</sup> = 73%) (downgraded: -2).
- 6 Several trials with risk of bias (high risk of attrition bias; unclear selection bias; unclear selective reporting) (downgraded: -1).

## C. Creating an enabling environment

## Breastfeeding policy of facilities providing maternity and newborn services

Having a written breastfeeding policy that is routinely communicated compared to not having a breastfeeding policy in protecting, promoting and supporting breastfeeding

Patient or population: children under 6 months of age who had been born in a facilities providing maternity and newborn services

Setting: community with at least one Baby-friendly hospital

Intervention: having a written breastfeeding policy that is routinely communicated

Comparison: not having a written breastfeeding policy

Outcomes	Anticipated absolute effects* (95% CI)		Relative effect	№ of participants	Quality of the	Comments	
	Risk with not having a breastfeeding policy	Risk with having a breastfeeding policy that is routinely communicated	(95% CI)	(studies)	evidence (GRADE)		
Exclusive breastfeeding	327 per 1000	<b>343 per 1000</b> (284 to 415 per 1000)	RR 1.05 (0.87 to 1.27)	916 (1 study)	$ \bigoplus_{Very low} \bigcirc^{1}$	Results are based on a Poisson regression (crude analysis) of two cross-sectional surveys 6 months apart.	
Exclusive breastfeeding	327 per 1000	<b>360 per 1000</b> (297 to 438 per 1000)	RR 1.10 (0.91 to 1.34)	916 (1 study)	$ \bigoplus_{Very \ low} \Theta^2 $	Results are based on a Poisson regression (controlling for age of the child, maternal age group and maternal education level) of two cross-sectional surveys 6 months apart.	
Early initiation of breastfeeding						This outcome was not reported.	
Awareness of staff of the infant feeding policy of the hospital						This outcome was not reported.	
Implementation of the provision of the International Code of Marketing of Breast-milk Substitutes						This outcome was not reported.	

\*The risk in the intervention group (and its 95% CI) is based on the assumed risk in the comparison group and the relative effect of the intervention (and its 95% CI). CI: confidence interval; RR: rate ratio.

### GRADE Working Group grades of evidence

High quality: We were very confident that the true effect lies close to that of the estimate of the effect.

Moderate quality: We were moderately confident in the effect estimate: The true effect is likely to be close to the estimate of the effect, but there is a possibility that it is substantially different. Low quality: Our confidence in the effect estimate is limited: The true effect may be substantially different from the estimate of the effect. Very low quality: We have very little confidence in the effect estimate: The true effect is likely to be substantially different from the estimate of effect.

For details of studies included in the review, see reference (41).

- 1 Results are based on one observational study which collected information on the explanatory variables (fulfilment of the Ten Steps to Successful Breastfeeding) on February 2011, and collected information on outcome (breastfeeding rates) and indicator (age of child, maternal age, maternal education) variables on August 2011, 6 months afterwards. Imprecision (small sample size) (downgraded: -1).
- 2 Results are based on one observational study which collected information on the explanatory variables (fulfilment of the Ten Steps to Successful Breastfeeding) on February 2011, and collected information on outcome (breastfeeding rates) and indicator (age of child, maternal age, maternal education) variables on August 2011, 6 months afterwards. Imprecision (small sample size) (downgraded: -1).

## Training of health workers

### Education or training of health-care staff compared to no education or other forms of training in protecting, promoting and supporting breastfeeding

Patient or population: health-care staff who come in contact with mothers and infants Setting: facilities providing maternity and newborn services Intervention: education or training of health-care staff on breastfeeding and supportive feeding practices Comparison: no education or other forms of training

- · There was heterogeneity in the outcomes measured and also the data-collection tools, with none of the included studies using a validated instrument.
- Only two studies examined the impact of the intervention on knowledge. However, as one study (127) utilized a direct measure of knowledge and the other (128) used an indirect measure of knowledge, it was not possible to combine the studies in a meta-analysis. The results of the individual studies suggested a small but significant improvement in measures of breastfeeding knowledge in health-care staff receiving the intervention.
- Attitudes towards breastfeeding was only included as an outcome in two studies and again it was not possible to combine the data in a meta-analysis. One of these two studies (129) used a direct measure of attitudes which comprised four subscales, and the other study (127) used three indirect measures of attitudes (subjective norms, behavioural evaluation and self-efficacy). There was no consistent intervention effect on attitudes with two of the four subscales, which directly measured attitudes (129) and two of the three indirect measures (127), suggesting a small but significant positive effect on attitudes. There was no significant effect on the other three subscales measuring attitudes.
- Only one study measuring compliance with the Baby-friendly Hospital Initiative contributed data to this review (128), which reported a small but significant positive effect on performance of step five of the Ten Steps to Successful Breastfeeding (demonstration of breastfeeding).
- The following outcomes were not reported in the trials: early initiation of breastfeeding, exclusive breastfeeding during stay in the facility, duration of exclusive breastfeeding or adherence to the provisions of the
  International Code of Marketing of Breast-milk Substitutes (26).

For details of studies included in the review, see reference (100).

### Training on breastfeeding or supportive feeding practices compared to no training in protecting, promoting and supporting breastfeeding

Patient or population: health-facility-based staff Setting: facilities providing maternity and newborn services Intervention: training of health staff on breastfeeding or supportive feeding practices Comparison: no training of health staff on breastfeeding or supportive feeding practices

- The review identified five included studies: three non-randomized controlled before-and-after observational studies and two cluster randomized studies. None of the studies used a validated instrument.
- The two cluster randomized studies showed an improvement in the attitude of antenatal midwives and postnatal nurses after a process-oriented breastfeeding training (129) and an improved Baby-friendly Hospital compliance score among facilities providing maternity and newborn services whose health staff attended an 18-day breastfeeding training course (130).
- The three non-randomized controlled before-and-after studies showed increases in knowledge scores in the trained health professionals (131, 132) and increase in Baby-friendly hospital compliance (129). Effects of the training on attitudes were inconsistent, with an improvement in one study (132) and no change in two others (131, 133).
- One non-randomized observational study at one hospital with a 1.5-hour mandated breastfeeding education session for all nursing staff, with an optional self-paced tutorial compared to another hospital with no education session showed an increase in exclusive breastfeeding rates in the intervention hospital (from 31% to 54%; n = 15 before and 15 after) and a decrease in the control hospital (from 43% to 0%; n = 16 before and 16 after). The two hospitals were different in other potential confounding variables such as proportion of First Nations clients and proportion of multiparous mothers (both variables have a higher proportion in the intervention hospital).
- The following outcomes were not reported in the trials: early initiation of breastfeeding, exclusive breastfeeding during stay in the facility, duration of exclusive breastfeeding or adherence to the provisions of the
  International Code of Marketing of Breast-milk Substitutes (26).

For details of studies included in the review, see reference (42).

## Antenatal breastfeeding education for mothers

Antenatal education with breastfeeding components compared to no antenatal education with breastfeeding components in protecting, promoting and supporting breastfeeding

Patient or population: pregnant women and/or their partners Setting: antenatal care

Intervention: antenatal breastfeeding education

**Comparison:** routine or standard care (antenatal education without breastfeeding components)

Outcomes	Anticipated absolu	te effects* (95% CI)	Relative effect (95% CI)	№ of participants (studies)	Quality of the evidence (GRADE)	Comments
	Risk with routine or standard care	Risk with antenatal breastfeeding education				
Initiation of breastfeeding	750 per 1000	<b>758 per 1000</b> (705 to 818 per 1000)	RR 1.01 (0.94 to 1.90)	3505 (8 studies)	$ \bigoplus \bigoplus \bigoplus \bigcirc^{1} \\ Moderate $	
Exclusive breastfeeding at 3 months 376 per 1000		<b>398 per 1000</b> (338 to 470 per 1000)	RR 1.06 (0.90 to 1.25)	822 (3 studies)	$\underset{High}{\oplus \oplus \oplus^2}$	
Exclusive breastfeeding at 6 months 154 per 1000		<b>165 per 1000</b> (134 to 201 per 1000)	RR 1.07 (0.87 to 1.30)	2161 (4 studies)	$ \bigoplus \bigoplus \bigoplus \bigcirc^3 $ Moderate	
Any breastfeeding at 3 months 609 per 1000		<b>597 per 1000</b> (500 to 719 per 1000)	RR 0.98 (0.82 to 1.18)	654 (2 studies)	$ \bigoplus \bigoplus \bigoplus \bigcirc^4 $ Moderate	
Any breastfeeding at 6 months 505 per 1000		<b>505 per 1000</b> (460 to 556 per 1000)	RR 1.00 (0.91 to 1.10)	1636 (4 studies)	$ \bigoplus \bigoplus \bigoplus \bigcirc^5 $ Moderate	
Exclusive breastfeeding during stay at the facility						This outcome was not reported.
Early initiation of breastfeeding within 1 hour after birth						This outcome was not reported.
Onset of lactation						This outcome was not reported.
Exclusive breastfeeding at 1 month						This outcome was not reported.

\*The risk in the intervention group (and its 95% CI) is based on the assumed risk in the comparison group and the relative effect of the intervention (and its 95% CI). CI: confidence interval; RR: rate ratio.

#### GRADE Working Group grades of evidence

High quality: We were very confident that the true effect lies close to that of the estimate of the effect.

Moderate quality: We were moderately confident in the effect estimate: The true effect is likely to be close to the estimate of the effect, but there is a possibility that it is substantially different. Low guality: Our confidence in the effect estimate is limited: The true effect may be substantially different from the estimate of the effect.

Very low quality: We have very little confidence in the effect estimate: The true effect is likely to be substantially different from the estimate of effect.

For details of studies included in the review, see reference (43).

- 1 None of the studies had adequate blinding for the mother and staff (not downgraded). Heterogeneity (*I*<sup>2</sup> = 61%; downgraded: -1).
- 2 None of the studies had adequate blinding for the mother and staff (not downgraded).
- 3 None of the studies had adequate blinding for the mother and staff (not downgraded). Imprecision (wide CI; downgraded: -1).
- 4 None of the studies had adequate blinding for the mother and staff (not downgraded). Heterogeneity (I<sup>2</sup> = 60%; downgraded: -1).
- 5 None of the studies had adequate blinding for the mother and staff (not downgraded). Heterogeneity (I<sup>2</sup> = 61%; downgraded: -1).
#### Education and support on breastfeeding compared to not providing education and support in protecting, promoting and supporting breastfeeding

Patient or population: women exposed to interventions intended to promote breastfeeding

Setting: all

Intervention: any intervention aiming to promote the initiation of breastfeeding (education and support on breastfeeding provided before the first breastfeed) Comparison: standard care (no intervention to promote breastfeeding)

Outcomes	Anticipated absolu	te effects* (95% CI)	Relative effect	№ of participants	Quality of the	Comments
	Risk with standard care	Risk with breastfeeding education and support	(95% C1)	(studies)	evidence (GRADE)	
Initiation of breastfeeding (when breastfeeding education and support is provided by health-care professionals)	418 per 1000	598 per 1000 (448 to 808 per 1000)	RR 1.43 (1.07 to 1.93)	564 (5 studies)	$\bigoplus_{Low} \bigcirc^1$	
Initiation of breastfeeding (when breastfeeding education and support are provided by non-health-care professionals)	120 per 1000	<b>147 per 1000</b> (127 to 168 per 1000)	RR 1.22 (1.06 to 1.40)	5188 (8 studies)	$\bigoplus_{Low} \Theta^2$	
Early initiation of breastfeeding (when breastfeeding education and support are provided by non-health-care professionals)	5 per 1000	9 per 1000 (4 to 16 per 1000)	RR 1.64 (0.86 to 3.13)	5560 (3 studies)	$ \bigoplus_{\text{Very low}} \Theta^3 $	
Exclusive breastfeeding during stay at the facility						This outcome was not reported.
Exclusive breastfeeding at 1, 3 and 6 months						This outcome was not reported.
Onset of lactation						This outcome was not reported.
Duration of breastfeeding (in months)						This outcome was not reported.

\*The risk in the intervention group (and its 95% CI) is based on the assumed risk in the comparison group and the relative effect of the intervention (and its 95% CI). CI: confidence interval; RR: rate ratio.

#### GRADE Working Group grades of evidence

High quality: We were very confident that the true effect lies close to that of the estimate of the effect.

Moderate quality: We were moderately confident in the effect estimate: The true effect is likely to be close to the estimate of the effect, but there is a possibility that it is substantially different.

Low quality: Our confidence in the effect estimate is limited: The true effect may be substantially different from the estimate of the effect.

Very low quality: We have very little confidence in the effect estimate: The true effect is likely to be substantially different from the estimate of effect.

For details of studies included in the review, see reference (44).

1 Most studies had with risk of bias (unclear allocation concealment and high risk of attrition bias). Heterogeneity (*I*<sup>2</sup> = 61%) (downgraded: -2).

2 Most studies had with risk of bias (unclear allocation concealment and high risk of attrition bias). Heterogeneity (I<sup>2</sup> = 86%) (downgraded: -2).

3 Most studies had with risk of bias (unclear allocation concealment and high risk of attrition bias). Heterogeneity (1<sup>2</sup> = 78%). Imprecision (wide CI) (downgraded: -3).

### Discharge planning and linkage to continuing care

Provision of linkage to breastfeeding support after discharge from facility compared to no provision of linkage to breastfeeding support in protecting, promoting and supporting breastfeeding

Patient or population: mothers giving birth in maternity facilities

Setting: facilities providing maternity and newborn services

Intervention: provision of linkage to breastfeeding support after discharge from facilities providing maternity and newborn services

Comparison: no provision of linkage to breastfeeding support after discharge

Outcomes	Anticipated absolute effects* (95% CI)		Relative effect № of participants		Quality of the	Comments
	Risk with usual care (steps 1–9)	Risk with provision of linkage to breastfeeding support (steps 1–10)'	(95% CI)	(studies)	(GRADE)	
Exclusive breastfeeding at 14 weeks	142 per 1000	97 per 1000 (64 to 148 per 1000)	RR 0.64 (0.42 to 0.98)	671 (1 study)	$ \bigoplus_{\text{Very low}} \Theta \Theta^2 $	
Exclusive breastfeeding at 24 weeks	83 per 1000	<b>32 per 1000</b> (17 to 65 per 1000)	RR 0.39 (0.20 to 0.79)	617 (1 study)	$ \bigoplus_{\text{Very low}} \Theta \Theta^3 $	
Diarrhoea episode in the last 4 weeks, at 14 weeks of age	11 per 1000	20 per 1000 (6 to 68 per 1000)	RR 1.77 (0.50 to 6.21)	617 (1 study)	$ \bigoplus_{\text{Very low}} \Theta \Theta^4 $	
Fever with cough in the last 4 weeks, at 14 weeks of age	14 per 1000	16 per 1000 (5 to 56 per 1000)	RR 1.24 (0.34 to 4.03)	617 (1 study)	$ \bigoplus_{\text{Very low}} \Theta^{5} $	
Diarrhoea episode in the last 6 weeks, at 24 weeks of age	17 per 1000	42 per 1000 (16 to 110 per 1000)	RR 2.25 (0.98 to 6.64)	617 (1 study)	$ \bigoplus_{\text{Very low}} \Theta^{6} $	
Fever and cough in the last 6 weeks, at 24 weeks of age	30 per 1000	<b>49 per 1000</b> (23 to 105)	RR 1.61 (0.75 to 3.45)	617 (1 study)	$ \bigoplus_{\text{Very low}} \Theta^7 $	
Exclusive breastfeeding at 1 and 3 months						This outcome was not reported.
Duration of exclusive breastfeeding						This outcome was not reported.
Duration of any breastfeeding						This outcome was not reported.

\*The risk in the intervention group (and its 95% CI) is based on the assumed risk in the comparison group and the relative effect of the intervention (and its 95% CI). CI: confidence interval; RR: rate ratio.

#### **GRADE Working Group grades of evidence**

High quality: We were very confident that the true effect lies close to that of the estimate of the effect. Moderate quality: We were moderately confident in the effect estimate: The true effect is likely to be close to the estimate of the effect, but there is a possibility that it is substantially different. Low quality: Our confidence in the effect estimate is limited: The true effect may be substantially different from the estimate of the effect. Very low quality: We have very little confidence in the effect estimate: The true effect is likely to be substantially different from the estimate of effect.

For details of studies included in the review, see reference (45).

1 Both the control group (steps 1–9) and the intervention group (steps 1–10) had 2-day intensive training for staff in the antenatal care clinic, delivery room and postpartum ward. The intervention group also included the staff of the well-baby clinic in the intensive training. In addition, flyers containing culturally appropriate messages on breastfeeding were distributed by staff in the postpartum ward and well-baby clinic in the intervention group. There was no referral for any breastfeeding support after discharge from the postpartum ward.

2 Results are from one cluster randomized controlled trial with study with risk of bias (unclear detection bias, unclear selection bias, high attrition bias). Indirectness (no referral for any breastfeeding support after discharge) (downgraded: -3).

3 Results are from one cluster randomized controlled trial with study with risk of bias (unclear detection bias, unclear selection bias, high attrition bias). Indirectness (no referral for any breastfeeding support after discharge) (downgraded: -3).

4 Results are from one cluster randomized controlled trial with study with risk of bias (unclear detection bias, unclear selection bias, high attrition bias). Indirectness (no referral for any breastfeeding support after discharge) (downgraded: -3).

5 Results are from one cluster randomized controlled trial with study with risk of bias (unclear detection bias, unclear selection bias, high attrition bias). Indirectness (no referral for any breastfeeding support after discharge) (downgraded: -3).

6 Results are from one cluster randomized controlled trial with study with risk of bias (unclear detection bias, unclear selection bias). Indirectness (no referral for any breastfeeding support after discharge) (downgraded: -3).

7 Results are from one cluster randomized controlled trial with study with risk of bias (unclear detection bias, unclear selection bias, high attrition bias). Indirectness (no referral for any breastfeeding support after discharge) (downgraded: -3).

### Provision of linkage to breastfeeding support after discharge from facility compared to no provision of linkage to breastfeeding support in protecting,

### promoting and supporting breastfeeding (continued)

Patient or population: mothers giving birth in maternity facilities Setting: facilities providing maternity and newborn services Intervention: provision of linkage to breastfeeding support after discharge from facilities providing maternity and newborn services Comparison: no provision of linkage to breastfeeding support after discharge

Outcomes	Anticipated absolute effects* (95% CI)		Relative effect	№ of participants	Quality of the	Comments
	Risk with usual care	Risk with provision of information on local breastfeeding drop-in centre <sup>1</sup>	(95% C1)	(studies)	evidence (GRADE)	
Any breastfeeding at 4 months	625 per 1000	544 per 1000 (419 to 713)	RR 0.87 (0.67 to 1.14)	4625 (1 study)	$\bigoplus_{\text{Low}} \Theta^2$	
Exclusive breastfeeding at 1, 3 and 6 months						This outcome was not reported.
Duration of exclusive breastfeeding						This outcome was not reported.
Duration of any breastfeeding						This outcome was not reported.
Morbidity						This outcome was not reported.

\*The risk in the intervention group (and its 95% CI) is based on the assumed risk in the comparison group and the relative effect of the intervention (and its 95% CI). CI: confidence interval; RR: rate ratio.

#### GRADE Working Group grades of evidence

High quality: We were very confident that the true effect lies close to that of the estimate of the effect. Moderate quality: We were moderately confident in the effect estimate: The true effect is likely to be close to the estimate of the effect, but there is a possibility that it is substantially different. Low quality: Our confidence in the effect estimate is limited: The true effect may be substantially different from the estimate of the effect. Very low quality: We have very little confidence in the effect estimate: The true effect is likely to be substantially different from the estimate of effect.

For details of studies included in the review, see reference (45).

1 Both the control group (usual care) and the intervention group (information to access the breastfeeding drop-in centre) had a hospital midwife visit at 1 to 2 days after discharge, a nurse home visit at 10 to 14 days after birth, a telephone call as early as possible after birth to assign a visit before the 10th day of life if necessary, and access to a state-wide maternal and child health helpline. The intervention group had, in addition, written information on local community breastfeeding drop-in centres.

2 Results are from one cluster randomized controlled trial with study with risk of bias (unclear detection bias, unclear selection bias, high attrition bias) and imprecision (wide CI) (downgraded: -2).

# Annex 4. GRADE-CERQual summary of qualitative findings tables on values and preferences of mothers

Ten systematic reviews of the values and preferences of mothers on various aspects of breastfeeding support as related to the Ten Steps to Successful Breastfeeding and the Baby-friendly Hospital Initiative were done. A search of Embase and MEDLINE databases was done in May 2016. In total, the search identified 2297 article titles and abstracts for screening; of these, 326 articles were assessed for inclusion from full text screening, and 81 were included in at least one of the reviews. Data were extracted onto standardized data sheets. Screening, assessments and date extraction were independently done by two reviewers and discrepancies were resolved by a third reviewer.

The quality of each individual study was appraised using the Critical Appraisal Skills Programme (CASP) quality-assessment tool for qualitative studies (123). The quality of each article was double-reviewed. For each of the breastfeeding interventions, thematic analysis of the relevant data was performed. The GRADE-Confidence in the Evidence from Reviews of Qualitative Research (CERQual) approach was used to provide a systematic and transparent way of assessing and describing how much confidence can be placed in the findings (124, 134). This approach is based on an assessment of the methodological limitations, relevance, coherence and adequacy of data for each theme. Each individual theme was graded using the GRADE-CERQual approach.

### A. Immediate support to initiate and establish breastfeeding

### Early skin-to-skin contact and initiation of breastfeeding

Two hundred and eighty-six studies were assessed for inclusion. Thirteen studies were identified as eligible for inclusion in this review (135–147). The 13 studies were carried out in Australia, Colombia, Egypt, Italy, Palestine, Russia, Sweden, the United Kingdom of Great Britain and Northern Ireland (United Kingdom) and the United State of America (United States).

#### Guideline: protecting, promoting and supporting breastfeeding in facilities providing maternity and newborn services

### Theme: Most mothers valued immediate skin-to-skin contact and felt happy doing this

Review findings	Contributing	Confidence	Explanation of the
	studies	in the evidence	confidence in the evidence
<ul> <li>Among mothers with normal deliveries: <ul> <li>A majority of the mothers would prefer to have immediate skin-to-skin contact again in the future.</li> <li>Some mothers felt that without immediate skin-to-skin contact, the delivery would feel too clinical and too pristine rather than natural.</li> <li>"Most of the mothers looked happy, although about a fifth felt tired."</li> <li>In Palestine, more young mothers were interested in skin-to-skin contact after being given information about it.</li> <li>In Egypt, roughly half of the mothers had knowledge about benefits of skin-to-skin contact.</li> <li>In Sweden, those who had short immediate skin-to-skin contact (&lt;15 minutes) were dissatisfied and felt that the skin-to-skin contact time was too short.</li> </ul> </li> <li>Among mothers with caesarean deliveries: <ul> <li>Mothers were very satisfied and convinced that immediate skin-to-skin contact contributed to the feeling of closeness to the child.</li> <li>Many would prefer to have immediate skin-to-skin contact again in the future.</li> <li>A mother reported that she "forgot about the pain" when put on skin-to-skin contact with her infant and it "helped her recover".</li> <li>Mothers who had previous caesarean sections without immediate skin-to-skin contact had a very high satisfaction of immediate skin-to-skin contact did not perceive any benefit of immediate skin-to-skin contact.</li> </ul> </li> <li>Among mothers whose infants were admitted to the neonatal intensive care unit (for preterm births or low birth weight): <ul> <li>Mothers believed that early, continuous, and prolonged mother-infant skin-to-skin care without unwarranted restrictions should be offered as soon as possible. Many believe that this was the most important "step".</li> </ul> </li> </ul>	(135-147)	Moderate confidence	Methodological limitations: there were 13 studies with moderate concerns on methodological limitations. Most studies had data from questionnaires with close-ended questions though a few had in-depth interviews. Coherence: there were no concerns on coherence. Data from the primary studies were all consistent among mothers with normal births, caesarean births or births with admission to the neonatal intensive care unit, usually for very low-birth-weight or very preterm infants. Relevance: there were minor concerns on relevance. None of the studies were from Asia or Africa, or from low-income countries. Adequacy of data: there were minor concerns on adequacy of the data. Almost 8000 mothers were interviewed or answered questionnaires on their values and preferences regarding immediate skin-to-skin contact. There were thick data and high coherence.

### Showing mothers how to breastfeed

Eighty studies were assessed for inclusion. Eight studies were identified as eligible for inclusion in this review (148–155). The eight studies were carried out in Canada, the United Kingdom and the United States. Two studies were on showing mothers how to breastfeed, and six were on expression of breast milk.

Theme: Most mothers found that being taught how to breastfeed was helpful but sometimes inadequately done

Review findings	Contributing	Confidence	Explanation of the
	studies	in the evidence	confidence in the evidence
<ul> <li>Among mothers (those with normal-term infants and those with preterm infants) who were shown how to breastfeed:</li> <li>Mothers found it helpful when they were shown how to hold and position the baby at the breast and how to get the baby to latch on.</li> <li>Mothers recognized that they needed help to start breastfeeding but most felt that they did not receive adequate or sufficient help. For instance, some were supported to latch only once or had inconsistent advice from different health-care workers.</li> </ul>	(148, 149)	Low confidence	Methodological limitations: there were two studies with minor concerns on methodological limitations. One study interviewed 16 mothers of preterm infants and one used a questionnaire with open-ended questions on 253 African-American mothers. Coherence: there were minor concerns on coherence. Mothers appreciated the support but found it insufficient. Relevance: there were moderate concerns on relevance. The two studies were from high-income countries with good health-care systems. Adequacy of data: there were moderate concerns on adequacy of the data. There were thick data but from only two studies.

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### Theme: Most mothers of normal infants found that being taught how to express breast milk was useful

Review findings	Contributing	Confidence	Explanation of the
	studies	in the evidence	confidence in the evidence
<ul> <li>Among mothers with normal-term infants who were taught how to express breast milk:</li> <li>Mothers who were taught how to pump breast milk agreed that this skill was useful and enabled them to breastfeed for longer.</li> <li>The most frequent reasons for pumping breast milk are to have someone else feed the child, to have an "emergency" stock of breast milk and to add to complementary food (for children who are old enough).</li> </ul>	(150)	Low confidence	<ul> <li>Methodological limitations: there was one study with moderate concerns on methodological limitations. The study used a questionnaire with mostly close-ended questions on 3606 mothers of term or near-term infants.</li> <li>Coherence: there were moderate concerns on coherence. The qualitative information was not very detailed.</li> <li>Relevance: there were substantial concerns on relevance. The study included mothers of young and older infants from the United States.</li> <li>Adequacy of data: there were moderate concerns on adequacy of the data. The information was from a questionnaire.</li> </ul>

### Theme: Mothers of infants who were admitted to the neonatal intensive care unit found that expression of breast milk was a "paradoxical experience", in which they felt intense dislike, but that it gave a feeling of connection

Review findings	Contributing	Confidence	Explanation of the
	studies	in the evidence	confidence in the evidence
<ul> <li>Among mothers with infants who were admitted to the neonatal intensive care unit, low birth weight or preterm or had poor latch:</li> <li>Mothers usually felt "intense dislike" for breast pumping ("felt like a cow", did not feel the same as having a baby to hold, were embarrassed to be seen by others pumping). They reported pain and discomfort during expression of breast milk and sought more support.</li> <li>Most continued to pump for the sake of their baby (especially among mothers of infants in the neonatal intensive care unit) and it has been described as "giving life" to the infant.</li> <li>This has been described as a "paradoxical experience" of separation and connection.</li> </ul>	(151–155)	Moderate confidence	Methodological limitations: there were five studies with no concerns on methodological limitations. The studies interviewed mothers with good qualitative methods. Coherence: there were no concerns on coherence. The information was consistent among mothers and between studies. Relevance: there were moderate concerns on relevance. The studies were from the United States (4 studies) and Canada (1 study), both high-income countries. Adequacy of data: there were moderate concerns on adequacy of the data. There were thick data from a narrow context.

### **Rooming-in**

Thirty-seven studies were assessed for inclusion. Seven studies were identified as eligible for inclusion in this review (135, 156–161). The seven studies were carried out in Indonesia, Ireland, Norway, Russia, Sweden, the United Kingdom and the United States.

Theme: Most mothers preferred to room-in their infant, although there was a significant proportion who would prefer not to room-in at night

1000	Review findings	Contributing studies	Confidence in the evidence	Explanation of the confidence in the evidence
1990	<ul> <li>Among mothers with normal-term infants:</li> <li>Rooming-in was not universally preferred by mothers. Those who want to room-in their children stated that they wished to be with their infant and were anxious to receive early training and practice in infant care. They wanted the baby close in case something happens.</li> </ul>	(135, 156-161)	Moderate confidence	Methodological limitations: there were minor concerns on methodological limitations. Most of the studies combined in-depth interviews with questionnaires. Coherence: there were no concerns on coherence.
8	<ul> <li>In Indonesia (80%), Norway (95%) and Sweden (93%) most of the mothers would choose to have their babies with them at night.</li> </ul>			Relevance: there were minor concerns on relevance. The studies were from high- and middle-income countries. No studies were from regione in the Middle Fact or Original
0	• Those who did not want to room-in their children wanted to rest while in the hospital, were confident that their infants would receive professional care in the nursery and felt that their children would be able sleep better in the nursery where it was more peaceful. For instance, in Indonesia, there was concern that there was not enough space between beds (more noise and disturbance during the nights).			Adequacy of data: there were minor concerns on adequacy of the data. There were thick data available.
2	• Travellers (Northern Ireland) greatly appreciated midwives taking the baby away from them at night.			

### **Demand feeding**

Two hundred and thirty-one studies were assessed for inclusion. Four studies were identified as eligible for inclusion in this review (135, 144, 162, 163). The four studies were carried out in Japan, Russia, Sweden and the United Kingdom.

#### Theme: Mothers valued demand feeding but felt that they needed more support

Review findings	Contributing	Confidence	Explanation of the
	studies	in the evidence	confidence in the evidence
<ul> <li>Among mothers with normal-term infants and those with infants admitted to the neonatal intensive care unit:</li> <li>Mothers thought that demand feeding was important. However, mothers were uncertain and confused about interpreting hunger and feeding cues from their babies. This made the mothers frustrated, stressed, anxious and tired.</li> <li>Mothers of babies from the neonatal intensive care unit felt that breastfeeding on demand should be done as early as possible. However, these mothers also felt they needed guidance on recognizing feeding cues and shifts in their infant's behavioural states. They felt that they needed support when the infants transition to demand feeding as the infants start to show signs of interest in sucking.</li> </ul>	(135, 144, 162, 163)	Low confidence	<ul> <li>Methodological limitations: there were moderate concerns on methodological limitations. Most of the studies were done with questionnaires, observations or midwife-led interviews.</li> <li>Coherence: there were no concerns on coherence. The findings were consistent even in different contexts among mothers of infants admitted to the neonatal intensive care unit, very preterm infants, very low-birth-weight infants and normal-weight term infants.</li> <li>Relevance: there were minor concerns on relevance. All four studies directly addressed mothers' perceptions towards demand feeding, though there were no studies from low- or middle- income countries outside of Europe and Asia.</li> <li>Adequacy of data: there were moderate concerns on adequacy of the data. Most of the studies had thin data from close-ended questionnaires.</li> </ul>

### B. Feeding practices and additional needs of infants

### Early additional foods or fluids

Ninety-nine studies were assessed for inclusion. Three studies were identified as eligible for inclusion in this review (164–166). The three studies were carried out in Ethiopia, Nigeria and Pakistan.

### Theme: Mothers living in cultural contexts where pre-lacteal feeds are acceptable valued pre-lacteal feeds

Review findings	Contributing	Confidence	Explanation of the
	studies	in the evidence	confidence in the evidence
<ul> <li>Among mothers with normal-term infants and those with preterm infants:</li> <li>Mothers perceived pre-lacteal feeding as beneficial to the child (e.g., cleaning of the stomach, positive effect on health, prevention of afflictions).</li> <li>Societal norms and cultural beliefs perceived pre-lacteal feeds in a positive and socially acceptable way.</li> </ul>	(164–166)	Moderate confidence	Methodological limitations: there were no concerns on methodological limitations. Coherence: there were no concerns on coherence. The findings were consistent among the three findings from different cultural backgrounds. Relevance: there were moderate concerns on relevance. All studies were from low- and middle-income countries. Adequacy of data: there were minor concerns on adequacy of the data. There were thick data from the studies in Ethiopia and Nigeria, and moderate thickness of data from the study in Pakistan.

### Avoidance of pacifiers or dummies

Six hundred and thirty studies were assessed for inclusion. Five studies were identified as eligible for inclusion in this review (95-97, 167, 168). They were carried out in Australia, Brazil, Egypt, New Zealand and Sweden.

### Theme: Mothers valued the use of pacifiers or dummies

Review findings	Contributing studies	Confidence in the evidence	Explanation of the confidence in the evidence
<ul> <li>Among mothers with normal-term infants and those with infants admitted to the neonatal intensive care unit:</li> <li>Mothers used pacifiers or dummies because they believed that these soothe/settle their babies, to teach them to suck, to rest between breastfeeds, and to help in the weaning of the baby. Pacifier use was seen as normal positive behaviour.</li> </ul>	(95-97, 167, 168)	Moderate confidence	Methodological limitations: there were no concerns on methodological limitations. Coherence: there were no concerns on coherence. Relevance: there were minor concerns on relevance. There were
<ul> <li>In trials assigning mothers to avoid pacifiers or dummies, 24–61% of mothers had introduced a pacifier.</li> </ul>			no primary studies from regions in Africa and Asia and no primary
<ul> <li>Mothers of preterm and very preterm infants suggested including as a step: "Offer the infant a pacifier for relief of pain, stress and anxiety, and for stimulating the uptake of nutrients during tube feeding. Introduce bottle feeding when there is a reason!".</li> </ul>			Adequacy of data: there were no concerns on adequacy of the data. There were thick data from these studies.
In Egypt, around 40% give pacifiers or dummies.			
<ul> <li>Only a minority of mothers (6% in one study) would withhold the pacifier for fear that it would interfere with breastfeeding. Another 20-30% avoided pacifier use for appearance, concern for formation of a habit or said that it was not needed or said it was "unnatural" (and they would rather carry their baby as a better way to soothe them). There was also concern about hygiene, problems with losing the pacifier, and concerns about the effect on teeth.</li> </ul>			

### Avoidance of feeding bottles and teats

Six hundred and thirty studies were assessed for inclusion. Three studies were identified as eligible for inclusion in this review (96, 97, 169). Of these studies, three discussed mothers' values and preferences on avoidance of artificial teats and bottles (carried out in Australia, Sweden and the United Kingdom) and two discussed mothers' values and preferences on use of cup feeding (carried out in Australia and the United Kingdom).

### Theme: Mothers valued the use of bottles

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Review findings	Contributing	Confidence	Explanation of the
	studies	in the evidence	confidence in the evidence
<ul> <li>Among mothers with normal-term infants and those with infants admitted to the neonatal intensive care unit:</li> <li>Mothers found using a bottle easy and convenient. They felt that there was no need for training and it appeared that this skill came naturally. It was the natural option when there were difficulties with breastfeeding.</li> <li>Among mothers of very preterm and very low-birth-weight infants, mothers held the opinion that breastfeeding is the best choice, but bottle feeding can also be a good choice, when the mother is so emotionally drained after spending a lot of time with the infant in the hospital for several months that she cannot cope with the "job" of breastfeeding, and when coming home with a baby with medical problems.</li> </ul>	(96, 97, 169)	Low confidence	Methodological limitations: there were no concerns on methodological limitations. Coherence: there were no concerns on coherence. Findings were consistent between mothers of normal-term infants and mothers with preterm, very low-birth-weight infants or infants admitted to the neonatal intensive care unit. Relevance: there were moderate concerns on relevance. All studies were from high-income countries; none were from Africa, the Americas or regions in the Middle East. Adequacy of data: there were minor concerns on adequacy of the data. There were fairly thick data from the studies.

### Theme: Mothers found cup feeding difficult

Review findings	Contributing	Confidence	Explanation of the
	studies	in the evidence	confidence in the evidence
<ul> <li>Among mothers with normal-term infants:</li> <li>Mothers found using a cup difficult: messy, time consuming, lots of spills (wastes), infant not satisfied.</li> <li>In addition, in trials of mothers assigned to cup feed, the majority introduced the bottle.</li> <li>Those that continued cup feeding were afraid of nipple confusion (from one of the 30 mothers from the study conducted in the United Kingdom).</li> </ul>	(97, 169)	Low confidence	<ul> <li>Methodological limitations: there were no concerns on methodological limitations.</li> <li>Coherence: there were no concerns on coherence. The findings were consistent among mothers of normal-term infants and those with preterm infants.</li> <li>Relevance: there were moderate concerns on relevance.</li> <li>There were only two studies, both from high-income countries.</li> <li>Adequacy of data: there were moderate concerns on adequacy of the data. There were fairly thick data from these studies.</li> </ul>

### C. Creating an enabling environment

### Breastfeeding policy of facilities providing maternity and newborn services

No studies were found on maternal values and preferences pertaining to policy on breastfeeding of facilities providing maternity and newborn services.

### **Training of health workers**

No studies were found on maternal values and preferences pertaining to training of health workers.

### Antenatal breastfeeding education for mothers

Two hundred and eighty-six studies were assessed for inclusion. Eighteen studies were identified as eligible for inclusion in this review (170–187). The 18 studies were carried out in Australia, Brazil, Canada, Ireland, Mexico, Russia, Sweden, Uganda, the United Kingdom and the United States. The findings are divided into two themes: the content and the method of antenatal breastfeeding education.

### Theme: Mothers felt that infant feeding was not discussed enough in the antenatal period

100	Review findings	Contributing studies	Confidence in the evidence	Explanation of the confidence in the evidence
23 2234	<ul> <li>Among mothers with normal-term infants and those with infants admitted to the neonatal intensive care unit:</li> <li>Some of the mothers felt that feeding was not discussed enough in the antenatal period. Mothers wanted more information from prenatal classes. Mothers wished to have more formal institutional support for infant feeding in the antenatal period.</li> </ul>	(170–187)	Moderate confidence	Methodological limitations: there were no concerns on methodological limitations. Most studies were good quality qualitative studies. Coherence: there were no concerns on coherence.
3	<ul> <li>Many mothers (about half of the mothers in most studies; all of the mothers interviewed in Uganda; most of the mothers who had previous breast-reduction mammoplasty; most of the adolescent mothers) felt that antenatal education on feeding was insufficient or too infrequent.</li> </ul>			Relevance: there were minor concerns on relevance, with only on study from a low-income country and none from Asia or regions in the Middle East.
3	<ul> <li>Some mothers commented that the contents of antenatal education were too breastfeeding biased with not enough discussion on other options; that there is not enough discussion on what to expect (for instance, how hard or painful breastfeeding could be) and thus there was a mismatch between women's expectations and experiences.</li> </ul>			There were thick data from the studies.
3	<ul> <li>Mothers preferred practical information. If the mothers received sufficient and practical information (e.g. not bending down when holding the baby) then they were satisfied with the antenatal information.</li> </ul>			

### Theme: Mothers felt that antenatal education on breastfeeding was not optimally done

Review findings	Contributing studies	Confidence in the evidence	Explanation of the confidence in the evidence
<ul> <li>Among mothers with normal-term infants and those with infants admitted to the neonatal intensive care unit:</li> <li>Many mothers complained about the antenatal breastfeeding education in terms of negative attitude or miscommunication with the health-care worker.</li> </ul>	(170–187)	(170–187) Moderate confidence	Infidence       Methodological limitations: there were no concerns on methodological limitations. Most studies were good quality qualitative studies.         Coherence:       there were no concerns on coherence.         Relevance:       there were minor concerns on relevance with only one study is from a law.
<ul> <li>Others cited experiences with providers who appeared to mention breastfeeding simply because it was required by the job, with little sincerity or positive feelings conveyed (in some studies, these were identified as the physicians).</li> </ul>			
Mothers experienced frustration, confusion, and finally mistrust in what health-service providers told them.			in the Middle East.
<ul> <li>Many respondents viewed health-care professionals as highly motivated advocates of breastfeeding.</li> <li>Female health-care professionals with personal experience in breastfeeding were thought to be the most sincere and effective counsellors. Continuity of care to postnatal support was highly valued.</li> </ul>			Adequacy of data: there were no concerns on adequacy of the data. There were thick data from the studies.

### Discharge planning and linkage to continuing support

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Six hundred and forty-eight studies were assessed for inclusion. Twenty-two studies were identified as eligible for inclusion in this review (127, 135, 187–206). The 22 studies were carried out in Australia, Canada, Denmark, France, Ireland, Russia, Spain, Sweden, Switzerland, the United Kingdom and the United States.

Theme: Most mothers valued linkage to breastfeeding support after discharge

Review findings	Contributing	Confidence	Explanation of the
	studies	in the evidence	confidence in the evidence
<ul> <li>Among mothers with normal-term infants and those with infants admitted to the neonatal intensive care unit:</li> <li>Most mothers appreciated having support for breastfeeding continued after discharge.</li> <li>Regardless of the type of support (telephone, baby café, hospital visit, home visit, videoconferencing, combination of support mechanisms), the mothers seemed to value having access to support after discharge.</li> <li>The mothers experienced a greater sense of security from the support received, especially within the first postnatal week.</li> </ul>	(127, 135, 187–206)	Moderate confidence	Methodological limitations: there were minor concerns on methodological limitations. Most studies were comparing two different strategies or methods of support for breastfeeding after discharge. Coherence: there were no concerns on coherence. Relevance: there were moderate concerns on relevance. There were no primary studies from Africa or regions in the Middle East. Adequacy of data: there were moderate concerns on adequacy of the data. Most of the studies had scoring of maternal satisfaction.

### Annex 5. GRADE-CERQual summary of qualitative findings tables on acceptability among health workers and stakeholders

A systematic review of the values and preferences of health-care workers on various aspects of breastfeeding support as related to the Ten Steps to Successful Breastfeeding and the Baby-friendly Hospital Initiative was done. A search of Embase and Cumulative Index to Nursing and Allied Health Literature (CIHNAL) databases was done in June 2016. In total, the search identified 1037 article titles and abstracts for further screening; of these, 145 articles were assessed for inclusion from full-text screening. A total of 62 articles were eligible for inclusion. Data were extracted onto a standardized data sheet and organized by which of the breastfeeding interventions they pertained to. Screening, assessments and date extraction were independently done by two reviewers and discrepancies were resolved by a third reviewer.

The quality of each individual study was appraised using the Critical Appraisal Skills Programme (CASP) quality-assessment tool for qualitative studies (123). The quality of each article was double-reviewed. For each of the breastfeeding interventions, a thematic analysis of the relevant data was performed. The GRADE-Confidence in the Evidence from Reviews of Qualitative Research (CERQual) approach was used to provide a systematic and transparent way of assessing and describing how much confidence can be placed in the findings (124, 134). This approach is based on an assessment of the methodological limitations, relevance, coherence and adequacy of data for each theme. Each individual theme was graded using the GRADE-CERQual approach.

### A. Immediate support to initiate and establish breastfeeding

### Early skin-to-skin contact and initiation of breastfeeding

Fifteen studies were identified as eligible for inclusion in this review (72, 131, 207–219). The 15 studies were carried out in Australia, Canada, China, France, India, New Zealand and the United States. Of these studies, seven were relevant to the first theme (health workers valued and had favourable views towards early skin-to-skin contact), nine were relevant to the second theme (health workers had safety concerns during skin-to-skin contact after caesarean delivery or anaesthesia) and two were relevant for the third theme (health workers had concerns about breastfeeding and skin-to-skin contact when the infant was admitted to the neonatal intensive care unit).

### Theme: Health workers valued and had favourable views towards early skin-to-skin contact

Review findings	Contributing	Confidence	Explanation of the
	studies	in the evidence	confidence in the evidence
<ul> <li>Among health workers from delivery, labour services:</li> <li>Maternity staff had favourable views towards skin-to-skin care after delivery. The benefits of skin-to-skin care seem to be fairly well known and accepted among health-care personnel.</li> <li>Some providers considered skin-to-skin contact as a way to improve efficiency while also improving patient outcomes; for example: "It's [skin-to-skin contact] a time saver in the delivery suite as well because if you have your mother and baby skin-to-skin, that baby is safe with the mother, and more likely to latch on itself. You can just leave your mother and baby there quite happily. So it's not a time-consuming thing for us because we can just leave them together quite safely and happily".</li> </ul>	(131, 207–213)	Low confidence	Methodological limitations: there were minor concerns on methodological limitations. The studies used questionnaires, face-to-face interviews and focus group discussions. Coherence: there were minor concerns on coherence. The findings were similar across the studies. Relevance: there were moderate concerns on relevance. The studies were from Australia, India and the United States. Adequacy of data: there were moderate concerns on adequacy of the data. There were fairly thin data from each of the studies.

#### Theme: Health workers had safety concerns during early breastfeeding and skin-to-skin contact after caesarean delivery or anaesthesia

Review findings	Contributing studies	Confidence in the evidence	Explanation of the confidence in the evidence	
<ul> <li>Among health workers from delivery, labour services:</li> <li>Health personnel had concerns about early skin-to-skin contact and breastfeeding, especially during deliveries with anaesthesia, such as during caesarean section or epidural anaesthesia.</li> </ul>	(131, 210, 212–218) Moderate confidence	(131, 210, 212–218) Moderate confidence Methodological limitations: there were minor concerns on methodological limitations. Coherence: there were minor concerns on coherence.	Methodological limitations: there were minor concerns on methodological limitations. Coherence: there were minor concerns on coherence.	
Though maternity staff had positive feelings towards early skin-to-skin contact, for the actual implementation of this step, maternity staff believed initiating breastfeeding within a half an hour after birth was not always reasonable.			The information reflects similar values with few conflicting data. <b>Relevance:</b> there were substantial concerns on relevance. The studies were from Australia, China, France, India, New Zealand and the United States. There were no studies conducted from low-income countries. <b>Adequacy of data:</b> there were minor concerns on adequacy of the data. Most of the nine studies had thick data from interviews and focus group discussions.	
<ul> <li>A study conducted in India interviewing nurses found that only half of the nursing staff felt that breastfeeding should happen shortly after delivery. Another study found that maternity staff believed that the timing of the first feed needs to be relaxed to allow mothers and babies to initiate feeding when it works best for their individual situation. This was especially true if mothers received anaesthesia during labour, which was thought to influence a baby's ability to suck.</li> </ul>				
<ul> <li>Several studies reported that maternity staff found skin-to-skin contact and breastfeeding as soon as possible was impractical and unsafe in the operating room. The operating room routines and staffing would interfere with these practices, particularly in the case of complicated or caesarean deliveries.</li> </ul>				
<ul> <li>Studies identified barriers in terms of the hospital culture and staff members desiring to get the mother and baby out of the delivery room as soon as possible after delivery. The division between labour and postpartum staff contributed to the feelings that skin-to-skin and early initiation of breastfeeding is not for the delivery room. In one study conducted in the United States, many nurses stated that initiation of breastfeeding in the operating room was impractical, if not impossible, owing to the physical position of the mother, risk of contamination to the incision site, and potential disapproval of physicians.</li> </ul>				

### Theme: Health workers had safety concerns about early breastfeeding and skin-to-skin contact when the infant was admitted to the neonatal intensive care unit

Review findings	Contributing studies	Confidence in the evidence	Explanation of the confidence in the evidence
<ul> <li>Among health workers in neonatal intensive care units:</li> <li>Among infants admitted to the neonatal intensive care units, health personnel reported safety concerns during the implementation of early skin-to-skin contact and breastfeeding.</li> </ul>	(72, 219)	) Moderate confidence	<ul> <li>Methodological limitations: there were minor concerns on methodological limitations. The two studies had in-depth face- to-face interviews and focus group discussions with good quality methodologies.</li> <li>Coherence: there were minor concerns on coherence.</li> <li>The studies presented similar findings.</li> <li>Relevance: there were substantial concerns on relevance.</li> <li>The studies were from Australia and Canada, two high-income</li> </ul>
<ul> <li>Staff feared implementing skin-to-skin contact and early initiation of breastfeeding in a medically fragile population. Common concerns were physiological instability and dislodging of intravenous and umbilical lines.</li> </ul>			
<ul> <li>Staff believed infants in the neonatal intensive care units are different, owing to various complications, and believed that early skin-to-skin contact and early initiation of breastfeeding does not apply to this population.</li> </ul>			
<ul> <li>Although the neonatal intensive care unit staff were aware of the benefits of skin-to-skin contact, they also felt that the risk to patient safety was too great and that it was better to ignore this intervention than to risk harming the infant.</li> </ul>			countries. Adequacy of data: there were moderate concerns on adequacy of the data. The two studies had moderately thick data.

### Showing mothers how to breastfeed

Twenty-one studies were identified as eligible for inclusion in this review (72, 131, 209, 210, 215, 219–234). The 21 studies were carried out in Australia, Canada, Iraq, Ireland, Pakistan, South Africa, the United Kingdom and the United States. Of these studies, 13 were relevant to the first theme (health workers felt that there were too many barriers, especially lack of time, to adequately show mothers how to breastfeed), five were relevant for the second theme (there were differing levels of confidence among health workers when showing mothers how to breastfeed). They often felt that someone else, someone more experienced, would do a better job), and five were relevant to the third theme (negative attitudes among health workers towards showing mothers how to breastfeed. Health workers could themselves be obstacles to breastfeeding.)

### Theme: Health workers felt that there were too many barriers (especially lack of time) to adequately show mothers how to breastfeed

Review findings	Contributing	Confidence	Explanation of the
	studies	in the evidence	confidence in the evidence
<ul> <li>Among health workers from delivery, labour services and those working in neonatal intensive care units:</li> <li>Health personnel felt that there was not enough time and too many barriers to adequately teach mothers how to breastfeed.</li> <li>Most studies reported that maternity staff did not feel as if they had enough time to show mothers how to breastfeed, owing to short hospital stays and inadequate staffing.</li> <li>One provider explained: "We do not have the time to sit with all these women for 20 minutes or half-an-hour. You just don't have the time. You're not a one-on-one and what happens is that people forget that you're not looking, if you've got four or five women that you're looking after".</li> <li>Several studies reported that maternity staff felt that they were too busy with other higher priorities than to show mothers how to breastfeed. One provider stated, "Breast is best but not when we're busy".</li> <li>Breastfeeding was viewed as a complex skill that was very time consuming to teach to mothers. Nurses and midwives described feeling like they were overwhelming already-tired mothers with advice and education.</li> <li>Neonatal intensive care staff also mentioned challenges with getting the necessary equipment, such as breast pumps for mothers to maintain lactation during separation.</li> </ul>	(72, 131 209, 210, 215, 219-226)	Moderate confidence	Methodological limitations: there were moderate concerns on methodological limitations. Coherence: there were moderate concerns on coherence. The primary barrier was the time that the staff had to provide the support to mothers, though other barriers such as equipment or privacy were also mentioned. Relevance: there were substantial concerns on relevance. Studies were conducted from Australia, Canada, Pakistan, South Africa, the United Kingdom and the United States. Adequacy of data: there were minor concerns on adequacy of the data. The studies had thick data.

### Theme: There were differing levels of confidence among health workers when showing mothers how to breastfeed; they often felt that someone else, someone more experienced, would do a better job

Review findings	Contributing	Confidence	Explanation of the
	studies	in the evidence	confidence in the evidence
<ul> <li>Among health workers from delivery, labour services and those working in neonatal intensive care units:</li> <li>Health personnel felt that there were differing levels of confidence when supporting mothers to breastfeed.</li> <li>Some health-care personnel stated they lacked the necessary skills to show women how to breastfeed and maintain lactation.</li> <li>One study that interviewed physicians found, "The participants admitted they were not able to manage all breastfeeding problems and questioned whether it was necessary for them to do so".</li> <li>Several studies noted that the health providers' confidence in teaching breastfeeding skills and navigating problems were influenced by personal breastfeeding experience rather than previous training or work-related experience.</li> <li>Most health-care personnel needed easily accessible breastfeeding experts to call or refer patients to if they lacked the confidence or skills to help mothers maintain lactation.</li> <li>Some studies described how providers reported not having any breastfeeding information or advice to address breastfeeding among specific population groups like obese or adolescent mothers.</li> </ul>	(227-231)	Moderate confidence	Methodological limitations: there were moderate concerns on methodological limitations. Although some studies used in-depth interviews and semi-structured questionnaires, some used close-ended questionnaires. Coherence: there were minor concerns on coherence. The studies had consistent information on this theme. Relevance: there were substantial concerns on relevance. The studies were from Australia, Canada, Iraq, Ireland and the United States. Adequacy of data: there were moderate concerns on adequacy of the data. There were fairly thick data.

### Theme: There was a negative attitude among health workers towards showing mothers how to breastfeed; health workers could themselves be obstacles to breastfeeding

Review findings	Contributing studies	Confidence in the evidence	Explanation of the confidence in the evidence
<ul> <li>Among health workers from delivery and labour services:</li> <li>Some health personnel had negative feelings and prevailing resistance towards showing mothers how to breastfeed.</li> <li>Lack of "buy-in" and negative attitudes described in some "older staff" were observed, despite breastfeeding education and availability of expert resources.</li> <li>An underlying resistance was described in some health workers. Prevailing beliefs and attitudes towards breastfeeding resulted in staff undermining breastfeeding because they did not wish to change practices. Some studies reported a "why fix it if it isn't broken" attitude among some health workers, who wished to rely on advice that worked for them in the past, despite being made aware of newer practices.</li> <li>In some studies, new midwives described feelings of "intimidation" and "being made fun of" by colleagues when they spent extra time teaching mothers how to breastfeed.</li> <li>Health-care providers also expressed being concerned about hurting their relationship with the patient. For example, one midwife felt concerned about making patients who chose not breastfeed feel neglected and undermined as a result of inadequate privacy arrangements in the postpartum area: "I don't want to make a bottle-feeding mum feel that she's doing something wrong by the fact that I'm encouraging the breast-feeding mum in the next bed. I do find that difficult".</li> <li>One study identified that staff had negative feelings because some providers believed that showing women how to breastfeed was disempowering women. Showing mothers how to breastfeed was described as creating a reliance on the health-care providers. A midwife explained during an interview: "By taking over, I think it's a medical-type thing, we come in 'Right, I'm here!', but I think we give the impression that 'I'm here now, and I will do this' rather than 'It's your baby you can do it, you show us'".</li> <li>Obstacles to breastfeeding related to health workers included lack of support for the mother</li></ul>	(215, 212, 232–234)	Moderate confidence	<ul> <li>Methodological limitations: there were minor concerns on methodological limitations. Most of the studies used in-depth and semi-structured interviews based on a predefined analytical framework.</li> <li>Coherence: there were moderate concerns on coherence. Although the studies consistently identified negative attitudes among health workers, the source or reason for this attitude differed among studies.</li> <li>Relevance: there were substantial concerns on relevance. The studies were from Australia, South Africa, the United Kingdom and the United States.</li> <li>Adequacy of data: There were minor concerns on adequacy of the data. There were thick data.</li> </ul>

### **Rooming-in**

108

Seven studies were identified as eligible for inclusion in this review (72, 131, 207, 211, 215, 218, 219). The seven studies were carried out in Australia, Canada, India and the United States.

Theme: Though some health workers valued rooming-in, most felt that it was not necessary

Review findings	Contributing studies	Confidence in the evidence	Explanation of the confidence in the evidence
<ul> <li>Among health workers from delivery, labour services and those working in neonatal intensive care units:</li> <li>Rooming-in was reported to be viewed favourably and encouraged by some of the health workers. However, several studies reported that most health workers believed that babies should be allowed to go to the nursery to let mothers rest from their baby.</li> </ul>	(72, 131, 207, 211, 215, 218, 219)	15, Moderate confidence	Methodological limitations: there were minor concerns on methodological limitations. Most of the studies used good qualitative methodologies. Coherence: there were minor concerns on coherence. The studies were consistent in the information. Relevance: there were substantial concerns on relevance. There were no studies from low-income countries.
• The most frequent reason for taking the baby to the nursery was to "give mom a break" or "allow mom to get some sleep". One nurse commented that "I would say that the majority of our babies actually stay in the nursery at night, and that the majority of women don't want it [rooming-in]".			
<ul> <li>In a study in India, only a quarter of nurses viewed rooming-in as a beneficial practice. Many were uncertain as to when to deny a request to send the baby to the nursery.</li> </ul>			
<ul> <li>In settings such as the neonatal intensive care unit, rooming-in was also seen as an "insurmountable" barrier when trying to achieve Baby-friendly hospital status. For instance, neonatal intensive care units have limits in their resources to allow mothers and infants to stay together for 24 hours.</li> </ul>			

### **Demand feeding**

Seven studies were identified as eligible for inclusion in this review (72, 211, 215, 234-237). The seven studies were carried out in Australia, Canada, China, India, Ireland and the United States.

### Theme: There were differing views among providers about demand feeding

a.	Review findings	Contributing studies	Confidence in the evidence	Explanation of the confidence in the evidence		
	mong health workers from delivery, labour services and those working in neonatal intensive care units: Studies reported health workers feeling insecure about promoting semi-demand or demand feeding. Demand feeding was fairly widely accepted by health workers, but some studies described persisting "older beliefs" in which providers still taught mothers to limit the time the infant spends breastfeeding or to wake the infant up every 3 hours. Health-care providers demonstrated greater comfort relying on scheduled feeding than in following newer recommendations on demand feeding.	(72, 211, 215, 234–237)	(72, 211, 215, 234–237) Low confide	(72, 211, 215, 234–237) L	7) Low confidence	Low confidence Methodological limitations: there were minor concerns on methodological limitations. Most of the studies had good methodological quality. Coherence: there were moderate concerns on coherence. There seemed to be a dichotomy of values with regard to demand feeding.
34	A study in India cited that only half of the nurses that were interviewed were aware of the concept of demand feeding. In another study conducted in India, the majority of the doctors and nurses preferred scheduled feeding, while the majority of auxiliary nurses and auxiliary midwives preferred demand feeding.				Relevance: there were substantial concerns on relevance. There were no studies from low-income countries. Adequacy of data: there were moderate concerns on adequacy of the data. There were fairly thick data.	
39	A study in Australia noted that demand feeding was found to be encouraged as standard practice and fitted well within the hospital routine, whereas scheduled feeding practices were restricted to specialized areas with special care nurses.					
33	In a study in Canada, most of the scheduled feeding practices have been limited to the neonatal intensive care units and specialized areas. In these areas, health-care providers felt that scheduled feedings and strict documentation of feedings are required and thus they were uncomfortable with demand feeding.					

### B. Feeding practices and additional needs of infants

### **Early additional foods or fluids**

Twelve studies were identified as eligible for inclusion in this review (72, 131, 169, 207, 212, 215, 236–241). The 12 studies were carried out in Australia, Canada, China, India, the United Kingdom and the United States.

Theme: Health workers felt that breast milk is good, but that breast-milk substitutes were also fine

Review findings	Contributing studies	Confidence in the evidence	Explanation of the confidence
<ul> <li>Among health workers from delivery, labour services and those working in neonatal intensive care units:</li> <li>Health workers felt that breast milk is good, but that formula is fine, too.</li> <li>Several studies report that health workers view infant formula as an acceptable option that will not harm an infant.</li> <li>Some studies describe health-care providers as saying that giving early additional foods or fluids is the mother's choice and that formula should be an option if that is what she wants.</li> <li>One study reported that only a little more than half of health workers agreed when asked that infants should not be supplemented unless medically indicated. Another study found that almost all doctors will sometimes recommend formula to breastfeeding mothers. Supplementation was not universally believed to harm breast feeding.</li> <li>Some studies found that protecting mothers from tiredness during the night and offering short-term relief for mothers was viewed as being an acceptable reason for supplementing with formula.</li> <li>Health workers in neonatal intensive care units workers described infant formula and/or fortified expressed breast milk as necessary for the premature or ill infants.</li> </ul>	(72, 131, 169, 207, 212, 215, 236-241)	Moderate confidence	<ul> <li>Methodological limitations: there were minor concerns on methodological limitations. Most of the studies were of good quality.</li> <li>Coherence: there were minor concerns on coherence. There was little inconsistency among the studies.</li> <li>Relevance: there were moderate concerns on relevance. The countries were from four regions, although none were low-income countries.</li> <li>Adequacy of data: there were moderate concerns on adequacy of the data. There were fairly thick data.</li> </ul>

### Avoidance of pacifiers or dummies

Nine studies were identified as eligible for inclusion in this review (72, 131, 207, 209, 212, 215, 242-244). The nine studies were carried out in Australia, Canada, Germany, India, the United Kingdom and the United States.

### Theme: Health workers had differing values with regard to pacifier use

Review findings	Contributing studies	Confidence in the evidence	Explanation of the confidence in the evidence
Among health workers from delivery, labour services and those working in neonatal intensive care units: • Health personnel had differing values with regard to pacifier use.	(72, 131, 207, 209, 212, 215, 242-244)	Moderate confidence	Methodological limitations: there were minor concerns on methodological limitations. Most of the studies had good quality.
There were mixed findings on health-care providers' perceptions of pacifier use. Studies varied on whether maternity staff found advising women on pacifier use easy or an obstacle.			<b>Coherence:</b> there were minor concerns on coherence. There was some inconsistency among the studies.
<ul> <li>Some studies found the health-care providers had an "almost universal ambivalence by staff towards the use of teats and dummies".</li> </ul>			The studies were from four regions, although no studies from low-income countries.
<ul> <li>Some felt that the practice of using or avoiding teats in the hospital was inconsistent but that this was not open for discussion.</li> </ul>			Adequacy of data: there were minor concerns on adequacy of the data. There were thick data from the studies.
<ul> <li>Some health-care personnel were reported as not being aware of the effect of pacifiers or dummies on breastfeeding, or having personal experiences that led them to advise women against banning pacifiers or dummies.</li> </ul>			

### Avoidance of feeding bottles and teats

Ten studies were identified as eligible for inclusion in this review (72, 131, 207, 212, 221, 233, 242-245). The 10 studies were carried out in Canada, Germany, India, the United Kingdom and the United States.

### Theme: Health workers disliked cup feeding and were ambivalent about bottle feeding

Review findings	Contributing studies	Confidence in the evidence	Explanation of the confidence in the evidence	
<ul> <li>Among health workers from delivery, labour services and those working in neonatal intensive care units:</li> <li>Most health professionals disliked cup feeding and were ambivalent about bottle feeding.</li> </ul>	(72, 131, 207, 212, 221, 233, 242-245)	Moderate confidence	Methodological limitations: there were minor concerns on methodological limitations. Most of the studies had good quality.	
• In several of the studies, providers expressed the belief that it makes no difference how a baby is fed and sometimes it might be better if the baby has a bottle.			Coherence: there were minor concerns on coherence. There was little inconsistency in the information.	
<ul> <li>Bottles were described by some health-care providers as being essential or even beneficial when a mother is struggling.</li> </ul>			The studies were from three regions, although none were from low-income countries.	
<ul> <li>A study in India found that half of the nurses thought that introducing a bottle in the first month of life was beneficial to the baby.</li> </ul>				Adequacy of data: there were minor concerns on adequacy of the data. There were thick data from the studies.
<ul> <li>One study described perceptions of midwives who said that women who bottle fed were "closeted away" because bottle feeding was a "no, no" in their facility.</li> </ul>				
<ul> <li>In the neonatal intensive care unit, bottles were reported as being necessary, with the perception that this was due to prioritization of medical care over breastfeeding.</li> </ul>				
<ul> <li>Many studies reported that bottles were preferred by health-care providers to other methods of feeding, such as cup feeding.</li> </ul>				

### C. Creating an enabling environment

### Breastfeeding policy of facilities providing maternity and newborn services

Six studies were identified as eligible for inclusion in this review (101, 207, 213, 218, 220, 246). The six studies were carried out in Australia, China, New Zealand, South Africa, the United Kingdom and the United States. One study contributed to the first theme on the content of the policy and all six contributed to the theme on the difficulty of implementing such a policy.

### Theme: Health workers felt that a clearly stated infant feeding policy should be neutral or there should not be one

Review findings	Contributing	Confidence	Explanation of the
	studies	in the evidence	confidence in the evidence
<ul> <li>Among maternity unit midwifery staff of a district general hospital:</li> <li>The midwives of the maternity unit valued having a neutral breastfeeding policy.</li> <li>A majority of maternity staff believed that hospitals should have a clearly stated policy on infant feeding, though one third felt that there should not be such a policy. Among those who felt that there should be a policy, the majority favoured a neutral policy that does not emphasize the promotion of one method of feeding over another.</li> <li>The main reason cited for not wanting a policy is the fear that it would engender guilt among mothers that chose not to breastfeed or were unable to.</li> <li>Creating a neutral breastfeeding policy allowed staff to feel that they could support mothers in whichever feeding method they chose, without feeling as if they had to promote one feeding method over another.</li> </ul>	(101)	Very low confidence	Methodological limitations: there were substantial concerns on methodological limitations. The study used a questionnaire to collect data among 48 maternity unit midwifery staff. Coherence: there were moderate concerns on coherence. No triangulation was done among other staff in the district general hospital. Relevance: there were substantial concerns on relevance. There was one study from Australia. No other studies reported on concerns on the content of the infant feeding policy. Adequacy of data: there were substantial concerns on adequacy of the data.

Theme: Health workers felt that implementing a policy on breastfeeding was a daunting task and would require frequent communication.

Review findings	Contributing studies	Confidence in the evidence	Explanation of the confidence in the evidence
<ul> <li>Among health workers from delivery and labour services:</li> <li>Staff members viewed writing an infant feeding policy as a "daunting task", partly because many administrators no prior experience with this. Not having enough resources to create and implement a policy was seen as a barrier hospital administration.</li> </ul>	(101, 207, 213, 218, 220, had 246) for	Low confidence	Methodological limitations: there were minor concerns on methodological limitations. Multiple methods were used for data collection. Coherence: there were minor concerns on coherence.
<ul> <li>Success at changing maternity facility policy was particularly challenging if there was no buy-in from administration or other intra-organizational players such as the medical team.</li> </ul>	'n		There were no conflicting findings. <b>Relevance:</b> there were moderate concerns on relevance. The studies were conducted from three regions. There were
<ul> <li>Administrators found that having specific protocols to support policy implementation helped make new breastfeeding policies clearer for staff. Clear and frequent communication with staff was a common theme that was viewed as being an important opportunity to establish consistent breastfeeding messages.</li> </ul>			no studies conducted in low-income countries. Adequacy of data: there were minor concerns on adequacy of the data. There were thick data from the face-to-face and
he communication aspect of breastfeeding policies was considered particularly difficult to achieve with ss stable workforces.			in-depth interviews.

### Training of health workers

Six studies were identified as eligible for inclusion in this review (72, 207, 235, 246, 251, 252). The six studies were carried out in Canada, Ireland, New Zealand and the United States.

Theme: Health workers felt that more breastfeeding training would be helpful, yet there was lack of time for breastfeeding training due to competing priorities

Review findings	Contributing studies	Confidence in the evidence	Explanation of the confidence in the evidence
<ul> <li>Among health workers from delivery, labour services and those working in neonatal intensive care units:</li> <li>Health personnel felt that more breastfeeding training is helpful, yet there is a lack of time for breastfeeding training due to competing priorities.</li> <li>Maternity staff welcomed the idea of breastfeeding training and felt that training was an important aspect that allowed people to overcome feelings of negativity towards the Baby-friendly Hospital Initiative.</li> <li>However, the majority of the resident doctors found their breastfeeding education and training to be inadequate.</li> <li>Staff felt that though they value training in breastfeeding, they did not feel like they had enough time to complete training. Other educational priorities seemed to be a key issue with finding time for breastfeeding training.</li> <li>Despite the interest, breastfeeding education was assigned a lower priority when compared to educating health workers on necessary skills to safely care for mothers with complications. Though staff members felt that more training could increase breastfeeding rates, such as in the neonatal intensive care units, breastfeeding education did not seem to be as "front and centre".</li> <li>The residents who felt their training was adequate were more likely to counsel women about breastfeeding.</li> </ul>	(72, 207, 235, 246, 251, 252)	Low confidence	<ul> <li>Methodological limitations: there were moderate concerns on methodological limitations. Most of the studies had surveys and questionnaires with close-ended questions.</li> <li>Coherence: there were moderate concerns on coherence. There was some inconsistency in the information from the studies.</li> <li>Relevance: there were moderate concerns on relevance. The studies were all conducted in high-income countries.</li> <li>Adequacy of data: there were moderate concerns on adequacy of the studies did not have much thickness in the findings.</li> </ul>

### Antenatal breastfeeding education for mothers

Seventeen studies were identified as eligible for inclusion in this review (219, 224, 226–228, 245, 247–251, 253–258). The 17 studies were carried out in Australia, Canada, Iraq, South Africa, Sweden, the United Kingdom and the United States. Thirteen studies contributed to the first theme on the roles of health workers in promoting breastfeeding in antenatal breastfeeding education and five contributed to the theme on the health workers' confidence in providing counselling on breastfeeding.

Theme: Health workers had differing views on provider roles in promoting breastfeeding in antenatal breastfeeding education

Review findings	Contributing studies	Confidence in the evidence	Explanation of the confidence in the evidence		
<ul> <li>Among health workers from antenatal and general clinics, delivery and labour services and those working in neonatal intensive care units:</li> <li>Health-care workers had differing views on what their role as providers should be when informing women about breastfeeding.</li> </ul>	(219, 224, 226, 227, 245, 247–251, 255)	7, 245, Moderate confidence 5)	(219, 224, 226, 227, 245, 247-251, 255) Moderate confidence Methodological limitations: there were minor concerns methodological limitations. There were good quality qua studies. Coherence: there were moderate concerns on coherence.	Moderate confidence Methodological limits 7–251, 255) Moderate confidence Methodological limits studies. Coherence: there were	Methodological limitations: there were minor concerns on methodological limitations. There were good quality qualitative studies. Coherence: there were moderate concerns on coherence. There
<ul> <li>Many providers viewed promoting and supporting breastfeeding as being a part of their role. Five studies reported that providers felt that counselling women on breastfeeding was an important use of their time during prenatal visits.</li> </ul>			were some inconsistencies in the information. <b>Relevance:</b> there were minor concerns on relevance. The studies were conducted in four regions, though all of them were in high- income countries		
<ul> <li>Nine studies also showed that health-care providers struggled with trying to promote breastfeeding without creating feelings of animosity with patients. The decision to breastfeed or bottle feed was viewed as a mother's individual choice. The studies explaining this phenomenon used phrases such as, "breastfeeding bullies", "overstepping boundaries", "mother unfriendly", and "breastfeeding Nazis".</li> </ul>	Adequacy of data: data. There were f		Adequacy of data: there were minor conc data. There were fairly thick data.	Adequacy of data: there were minor concerns on adequacy of the data. There were fairly thick data.	
<ul> <li>Some studies identified that providers felt uncertain about addressing education on bottle feeding. In one study, the authors found that only 54% of providers would recommend breastfeeding to a mother who had decided to bottle feed.</li> </ul>					
<ul> <li>In several studies, health-care providers felt apathetic towards breastfeeding counselling and many preferred a neutral approach to breastfeeding promotion to better maintain patient rapport. Providers believed that breastfeeding promotion is a delicate balance, and that when that balance is not achieved it can be detrimental to the provider- patient relationship.</li> </ul>					

### Theme: Health workers had differing confidence and perceived effectiveness in breastfeeding counselling

Review findings	Contributing studies	Confidence in the evidence	Explanation of the confidence in the evidence
<ul> <li>Among health workers from antenatal and general clinics, delivery and labour service:</li> <li>There was differing confidence and perceived effectiveness in counselling from health workers.</li> </ul>	(227, 254–258)	Low confidence	Methodological limitations: there were moderate concerns on methodological limitations. Most of the studies used
<ul> <li>Three studies (from Iran, the United Kingdom and the United States) reported that physicians felt confident in counselling women on breastfeeding and breastfeeding problems. However, this was not the case for the two other studies (from the United Kingdom and the United States), which identified that many providers felt uncertain and ineffective in their counselling.</li> </ul>			questionnaires and only one used an interview. <b>Coherence:</b> there were minor concerns on coherence. There was consistent information from the studies. <b>Relevance:</b> there were moderate concerns on relevance. The duing were from three countries: Irac the United Kingdom
<ul> <li>Providers lacked feedback and stated that they were unable to know whether they were adequately supporting mothers with breastfeeding. This was exemplified by one physician explaining: "I think I'm pretty effective, but I don't, um, you know, I always wonder, you know. We [can] help moms in the hospital, but that doesn't mean that they're still breastfeeding a month from now, or 3 months from now'."</li> </ul>			and the United States. <b>Adequacy of data:</b> there were minor concerns on adequacy of the data. There was a fair amount of information from the studies.

### Discharge planning and linkage to continuing support

Six studies were identified as eligible for inclusion in this review (207, 215, 217, 231, 243, 255). The six studies were carried out in Canada, New Zealand and the United States.

### Theme: Health workers felt that linkage to continuing support for breastfeeding was challenging

Review findings	Contributing	Confidence	Explanation of the
	studies	in the evidence	confidence in the evidence
<ul> <li>Among health workers from antenatal and general clinics, delivery and labour services and those working in neonatal intensive care units:</li> <li>Health workers expressed many challenges and obstacles to providing follow-up care for breastfeeding after discharge.</li> <li>Most studies describe the phenomenon of "gaps" in the continuum of care after women leave the hospital.</li> <li>Studies described a lack of communication between providers in the hospital and outside of the hospital and having no health-care provider in charge of breastfeeding across the continuum of care, leading to fragmented support, inconsistent messaging and missed opportunities.</li> <li>Cost and adequate training were perceived as barriers to follow-up. Some studies described perceptions of having adequate support groups and clinics for women to visit, yet this not being the norm.</li> <li>Specialized services for the patient population of the neonatal intensive care unit were perceived as being underdeveloped.</li> </ul>	(207, 215, 217, 231, 243, 255)	Moderate confidence	Methodological limitations: there were minor concerns on methodological limitations. The studies were good quality qualitative studies. Coherence: there were minor concerns on coherence. The information was consistent across studies. Relevance: there were substantial concerns on relevance. The studies were from three high-income countries. Adequacy of data: there were minor concerns on adequacy of the data. There were thick data from the studies.

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### Cochrane Pregnancy and Childbirth Group

Balogun OO, O'Sullivan EJ, McFadden A, Ota E, Gavine A, Garner CD, Renfrew MJ, MacGillivray S. Interventions for promoting the initiation of breastfeeding. Cochrane Database Syst Rev. 2016;(11):CD001688. doi:10.1002/14651858.CD001688. pub3. (44)

Becker GE, Smith HA, Cooney F. Methods of milk expression for lactating women. Cochrane Database Syst Rev. 2016;(9):CD006170. doi:10.1002/14651858. CD006170.pub5. (40)

Fallon A, Van der Putten D, Dring C, Moylett EH, Fealy G, Devane D. Baby-led compared with scheduled (or mixed) breastfeeding for successful breastfeeding. Cochrane Database Syst Rev. 2016;(9):CD009067. doi:10.1002/14651858.CD009067. pub3. (59)

Jaafar SH, Ho JJ, Jahanfar S, Angolkar M. Effect of restricted pacifier use in breastfeeding term infants for increasing duration of breastfeeding. Cochrane Database Syst Rev. 2016;(8):CD007202. doi:10.1002/14651858.cd007202.pub4. (85)

Jaafar SH, Ho JJ, Lee KS. Rooming-in for new mother and infant versus separate care for increasing the duration of breastfeeding. Cochrane Database Syst Rev. 2016;(8):43D006641. doi:10.1002/14651858. cd006641.pub3. (60)

Lumbiganon P, Martis R, Laopaiboon M, Festin MR, Ho JJ, Hakimi M. Antenatal breastfeeding education for increasing breastfeeding duration. Cochrane Database Syst Rev. 2016;(12):CD006425. doi:10.1002/14651858. CD006425.pub4. (43)

McFadden A, Gavine A, Renfrew MJ, Wade A, Buchanan P, Taylor JL, Veitch E, Rennie AM, Crowther SA, Neiman S, MacGillivray S. Support for healthy breastfeeding mothers with healthy term babies. Cochrane Database Syst Rev. 2017;(2):CD001141. doi:10.1002/14651858. CD001141.pub5. (61) Moore ER, Bergman N, Anderson GC, Medley N. Early skin-to-skin contact for mothers and their healthy newborn infants. Cochrane Database Syst Rev. 2016;(11):CD003519. doi:10.1002/14651858.CD003519. pub4. (62)

Smith HA, Becker GE. Early additional food and fluids for healthy breastfed full-term infants. Cochrane Database Syst Rev. 2016;(8):CD006462. doi:10.1002/14651858.CD006462.pub4. (86)

### St Luke's International University in Tokyo (Cochrane Pregnancy and Childbirth Group in Japan)

Abe SK, Jung J, Rahman M, Haruyama R, Kita M, Koyama M et al. Hospitals with a written breastfeeding policy statement and implementation of the steps of breastfeeding: a systematic review [protocol]. PROSPERO. 2016:CRD42016038143 (https://www.crd.york.ac.uk/PROSPERO/display\_ record.asp?ID=CRD42016038143). (41)

Balogun OO, Dagvadorj A, Yourkavitch J, da Silva Lopez K, Suto M, Takemoto Y, et al. Health facility staff training for improving breastfeeding outcome: a systematic review for step 2 of the Baby-friendly Hospital Initiative. Breastfeed Med. 2017;20 September [epub ahead of print] PubMed PMID: 28930480. (42)

da Silva Lopez K, Ohde S, Suto M, Rayco-Solon P, Miyazaki C, Balogun OO et al. Providing linkage to breastfeeding support to mothers on discharge to improve breastfeeding outcomes: a systematic review [protocol]. PROSPERO. 2016:CRD42016041273 (https://www.crd.york.ac.uk/PROSPERO/display\_ record.asp?ID=CRD42016041273). (45)

Ganchimeg T, Sugimoto K, Fukazawa KR, Rayco-Solon P, Ota E. Avoidance of bottles and artificial teats during the establishment of breastfeeds in healthy term infants: a systematic review of randomized controlled trials [protocol]. PROSPERO. 2016:CRD42016041370 (http://www.crd.york.ac.uk/ PROSPERO/display\_record.asp?ID=CRD42016041370). (83)

### **Cochrane Neonatal Review Group**

Collins CT, Gillis J, McPhee AJ, Suganuma H, Makrides M. Avoidance of bottles during the establishment of breast feeds in preterm infants. Cochrane Database Syst Rev. 2016;(10):CD005252. doi:10.1002/14651858. CD005252.pub4. (80)

Conde-Agudelo A, Díaz-Rossello JL. Kangaroo mother care to reduce morbidity and mortality in low birth weight infants. Cochrane Database Syst Rev. 2016;(8):CD002771. doi:10.1002/14651858. CD002771.pub4. (57)

Crowe L, Chang A, Wallace K. Instruments for assessing readiness to commence suck feeds in preterm infants: effects on time to establish full oral feeding and duration of hospitalisation. Cochrane Database Syst Rev. 2016;(8):CD005586. doi:10.1002/14651858.CD005586.pub3. (58)

Flint A, New K, Davies MW. Cup feeding versus other forms of supplemental enteral feeding for newborn infants unable to fully breastfeed. Cochrane Database Syst Rev. 2016;(8):CD005092. doi:10.1002/14651858. CD005092.pub3. (81) Foster JP, Psaila K, Patterson T. Non-nutritive sucking for increasing physiologic stability and nutrition in preterm infants. Cochrane Database Syst Rev. 2016;(10):CD001071. doi:10.1002/14651858. CD001071.pub3. (82)

Greene Z, O'Donnell CPF, Walshe M. Oral stimulation for promoting oral feeding in preterm infants. Cochrane Database Syst Rev. 2016;(9):CD009720. doi:10.1002/14651858. CD009720.pub2. (84)

Watson J, McGuire W. Responsive versus scheduled feeding for preterm infants. Cochrane Database Syst Rev. 2016;(8):CD005255. doi:10.1002/14651858. CD005255.pub5. (64)

### **Independent reviewers**

Gavine A, MacGillivray S, Renfrew MJ, Siebelt L, Haggi H, McFadden A. Education and training of healthcare staff in the knowledge, attitudes and skills needed to work effectively with breastfeeding women: a systematic review. Int Breastfeed J. 2017. 12:6. doi:10.1186/s13006-016-0097-2. (100)

Smith E, Hurt L, Chowdhury R, Sihna B, Fawzi W, Edmond K. Effect of delayed breastfeeding initiation on infant survival: a systematic review and metaanalysis. Int J Epidemiol. 2017 [submitted]. (63)

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# **IMPLEMENTATION GUIDANCE**

Protecting, promoting and supporting Breastfeeding in facilities providing maternity and newborn services: the revised BABY-FRIENDLY HOSPITAL INITIATIVE







# **IMPLEMENTATION GUIDANCE**

Protecting, promoting and supporting Breastfeeding in facilities providing maternity and newborn services: the revised BABY-FRIENDLY HOSPITAL INITIATIVE





**Implementation guidance**: protecting, promoting and supporting breastfeeding in facilities providing maternity and newborn services – the revised Baby-friendly Hospital Initiative.

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## Foreword

Forthcoming

# Acknowledgements

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Over 300 participants in the 2016 Baby-friendly Hospital Initiative (BFHI) Congress, representing 130 countries and numerous nongovernmental organizations, donors and professional associations, provided invaluable insights to the successes of and challenges for the BFHI, and outlined many of the priorities for future activity. We would like to thank the members of the BFHI Congress planning committee for their insights in shaping this useful meeting (in alphabetical order): Ms Maite Hernández Aguilar, Ms Funke Bolujoko, Dr Anthony Calibo, Ms Elsa Giuliani, Ms Trish MacEnroe and Ms Agnes Sitati.

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# **Executive summary**

The first few hours and days of a newborn's life are a critical window for establishing lactation and for providing mothers with the support they need to breastfeed successfully. Since 1991, the Baby-friendly Hospital Initiative (BFHI) has helped to motivate facilities providing maternity and newborn services worldwide to better support breastfeeding.<sup>1</sup> Based on the Ten Steps to Successful Breastfeeding (the Ten Steps),<sup>2</sup> the BFHI focuses on providing optimal clinical care for new mothers and their infants. There is substantial evidence that implementing the Ten Steps significantly improves breastfeeding rates.

The BFHI has been implemented in almost all countries in the world, with varying degrees of success. After more than a quarter of a century, coverage at a global level remains low. As of 2017, only 10% of infants in the world were born in a facility currently designated as "Baby-friendly".<sup>3</sup> Countries have found it difficult to sustain a BFHI programme, with implementation often relying on specific individual and external resources. The programme has characteristically been implemented as a vertical intervention focused on designating facilities that volunteer to take part in the programme and can document their full adherence to the Ten Steps. Facilities may make changes in their policies and procedures to obtain the designation, but these changes are not always sustainable, especially when there are no regular monitoring systems in place.

In 2015, the World Health Organization (WHO) and the United Nations Children's Fund (UNICEF) began a process to re-evaluate and reinvigorate the BFHI programme. Case-studies, key informant interviews, a global policy survey and literature reviews were conducted to better understand the status and impact of the initiative. Systematic literature reviews were commissioned to carefully examine the evidence for each of the Ten Steps. WHO convened a guideline development group to write the WHO guideline Protecting, promoting and supporting breastfeeding in facilities providing maternity and newborn services<sup>4</sup> and an external review group to update the guidance on countrylevel implementation of the BFHI. The main concepts and outline of the updated implementation guidance were discussed extensively at the BFHI Congress in October 2016, involving approximately 300 participants from over 130 countries. The draft updated guidance document was disseminated through an online consultation in October 2017 and comments from over 300 respondents were considered in the final revisions of the document.

This updated implementation guidance is intended for all those who set policy for, or offer care to, pregnant women, families and infants: governments; national managers of maternal and child health programmes in general, and of breastfeeding- and BFHI-related programmes in particular; and health-facility managers at different levels (facility directors, medical directors, chiefs of maternity and neonatal wards). The document presents the first revision of the Ten Steps since 1989. The topic of each step is unchanged, but the wording of each one has been updated in line with the evidence-based guidelines and global public health policy. The steps are subdivided into (i) the institutional procedures necessary to ensure that care is delivered consistently and ethically (critical management procedures); and (ii) standards for individual care of mothers and infants (key clinical practices). Full application of the International Code of Marketing of Breast-milk Substitutes<sup>5</sup> and relevant World Health Assembly Resolutions (the Code),<sup>6</sup> as well as ongoing internal monitoring of adherence to the clinical practices, have been incorporated into step 1 on infant feeding policies.

The implementation guidance also recommends revisions to the national implementation of the BFHI, with an emphasis on scaling up to universal coverage and ensuring sustainability over time. The guidance focuses on integrating the programme more fully in the health-care system, to ensure that all facilities in a country implement the Ten Steps. Countries are called upon to fulfil nine key responsibilities through a national BFHI programme, including establishing or strengthening a national coordination body; integrating the Ten Steps into national policies and standards; ensuring the capacity of all health-care professionals; using external assessment to regularly evaluate adherence to the Ten Steps; incentivizing change; providing necessary technical assistance; monitoring implementation; continuously communicating and advocating; and identifying and allocating sufficient resources.

World Health Organization, United Nations Children's Fund. The Baby-friendly Hospital Initiative: monitoring and reassessment: tools to sustain progress. Geneva: World Health Organization; 1991 (WHO/NHD/99.2; http://apps.who.int/iris/handle/10665/65380)

Protecting, promoting and supporting breast-feeding: the special role of maternity services. A joint WHO/UNICEF statement. 2 Geneva: World Health Organization; 1989 (http://apps.who.int/iris/bitstream/10665/39679/1/9241561300.pdf)

National implementation of the Baby-friendly Hospital Initiative. Geneva: World Health Organization; 2017 (http://apps.who.int/iris/bitstre 3 am/10665/255197/1/9789241512381-eng.pdf?ua=1).

Guideline: protecting, promoting and supporting breastfeeding in facilities providing maternity and newborn services. Geneva: World Health Organization; 2017 (<u>http://apps.who.int/iris/bitstream/10665/259386/1/9789241550086-eng.pdf?ua=1</u>). 4

International Code of Marketing of Breast-milk Substitutes. Geneva: World Health Organization; 1981 (<u>http://www.who.int/nutrition/publications/code\_english.pdf</u>); The International Code of Marketing of Breast-Milk Substitutes – 2017 update: frequently asked questions. Geneva: World Health Organization; 2017 (<u>http://apps.who.int/iris/bitstream/10665/254911/1/WHO-NMH-NHD-17.1-eng.pdf?ua=1</u>). 5

World Health Organization. Code and subsequent resolutions (http://www.who.int/nutrition/netcode/resolutions/en/).

The BFHI focuses on protecting, promoting and supporting breastfeeding in facilities providing maternity and newborn services. It is understood that many other interventions are needed to ensure adequate support for breastfeeding, including in antenatal care, postpartum care, communities and workplaces, as well as adequate maternity protection and Code legislation. It is critical that the BFHI programme is integrated with all other aspects of breastfeeding protection, promotion and support.

By reinvigorating the BFHI and ensuring that all facilities adhere to evidence-based recommendations on maternity and newborn care, breastfeeding rates can be substantially increased and the health of mothers and children dramatically improved.

# Scope and purpose

This document contains the latest version of the guidance for implementing the Baby–friendly Hospital Initiative (BFHI) (1) in facilities providing maternity and newborn services, as well as guidance for coordination and management of the BFHI at national (or subnational where applicable) level.

The core purpose of the BFHI is to ensure that mothers and newborns receive timely and appropriate care before and during their stay in a facility providing maternity and newborn services, to enable the establishment of optimal feeding of newborns, which promotes their health and development. Given the proven importance of breastfeeding (2), the BFHI protects, promotes and supports breastfeeding, while enabling timely and appropriate care and feeding of newborns who are not breastfed.

This document complements the World Health Organization (WHO) *Guideline: protecting, promoting and supporting breastfeeding in facilities providing maternity and newborn services* (3). It also complements existing *Standards for improving quality of maternal and newborn care in health facilities* (4), *Guidelines on the optimal feeding of low birth-weight infants in low- and middle-income countries* (5), WHO recommendations: intrapartum care for a positive childbirth experience (6) and other guidance documents on maternal and newborn care. It is crucial that the BFHI is implemented within a broader context of support for breastfeeding in families, communities and the workplace. This document does not address these areas specifically.

The intended audience of this document includes all those who set policy for, or offer care to, pregnant women, families and infants: governments; national managers of maternal and child health programmes in general, and of breastfeeding- and BFHI-related programmes in particular; and health-facility managers at different levels (facility directors, medical directors, chiefs of maternity and neonatal wards).

### **1.Introduction**

#### 1.1 Breastfeeding matters

Breastfeeding is the biological norm for all mammals, including humans. Breastfeeding is critical for achieving global goals on nutrition, health and survival, economic growth and environmental sustainability. WHO and the United Nations Children's Fund (UNICEF) recommend that breastfeeding be initiated within the first hour after birth, continued exclusively for the first 6 months of life and continued, with safe and adequate complementary foods, up to 2 years or beyond (7). Globally, a minority of infants and children meet these recommendations: only 44% of infants initiate breastfeeding within the first hour after birth and 40% of all infants under 6 months of age are exclusively breastfed. At 2 years of age, 45% of children are still breastfeeding (8).

Immediate and uninterrupted skin-to-skin contact and initiation of breastfeeding within the first hour after birth are important for the establishment of breastfeeding, and for neonatal and child survival and development. The risk of dying in the first 28 days of life is 33% higher for newborns who initiated breastfeeding 2–23 hours after birth, and more than twice as high for those who initiated 1 day or longer after birth, compared to newborns who were put to the breast within the first hour after birth (9). The protective benefit of early initiation extends until the age of 6 months (10).

Exclusive breastfeeding for 6 months provides the nurturing, nutrients and energy needed for physical and neurological growth and development. Beyond 6 months, breastfeeding continues to provide energy and high-quality nutrients that, jointly with safe and adequate complementary feeding, help prevent hunger, undernutrition and obesity (11). Breastfeeding ensures food security for infants (8).

Inadequate breastfeeding practices significantly impair the health, development and survival of infants, children and mothers. Improving these practices could save over 820 000 lives a year (2). Nearly half of diarrhoea episodes and one third of respiratory infections are due to inadequate breastfeeding practices. Longer breastfeeding is associated with a 13% reduction in the likelihood of overweight and/ or prevalence of obesity and a 35% reduction in the incidence of type 2 diabetes (2). An estimated 20 000 maternal deaths from breast cancer could be prevented each year by improving rates of breastfeeding (2). Recent analyses have documented that increasing rates of breastfeeding could add US\$ 300 billion to the global economy annually, by helping to foster smarter, more productive workers and leaders (13). In Brazil, adults who had been breastfed for at least 12 months earned incomes that were 33% higher than for those who had been breastfed for shorter durations (14). Inadequate breastfeeding has a significant impact on the costs of health care for children and women (15, 16). Mothers who feed their infants on formula are absent from work more often than breastfeeding mothers, owing to a higher frequency and severity of infant illness (17).

Recent analyses have documented that increasing rates of breastfeeding could add US\$ 300 billion to the global economy annually

Breastfeeding is a non-polluting, non-resourceintensive, sustainable and natural source of nutrition and sustenance. Breast-milk substitutes add to greenhouse gas emissions at every step of production, transport, preparation and use. They also generate waste, which requires disposal. Greenhouse gases include methane, nitrous oxide and carbon dioxide; a recent report estimated the carbon dioxide emissions resulting from manufacture of infant formula in Asia at 2.9 million tons (18).

In humanitarian settings, the life-saving potential of breastfeeding is even more crucial (7). International guidance recommends that all activities to protect, promote and support breastfeeding need to be increased in humanitarian situations, to maintain or improve breastfeeding practices (19). Breastfeeding is a vital component of realizing every child's right to the highest attainable standard of health, while respecting every mother's right to make an informed decision about how to feed her baby, based on complete, evidence-based information, free from commercial interests, and the necessary support to enable her to carry out her decision (20).

Improving breastfeeding can be a key driver for achievement of the Sustainable Development Goals (21). Breastfeeding can be linked to several of the goals, including goals 1 (end poverty in all its forms everywhere); 2 (end hunger, achieve food security and promote sustainable agriculture); 3 (ensure healthy lives and promote well-being for all at all ages) 4 (ensure inclusive and quality education for all and promote lifelong learning); 5 (achieve gender equality and empower all women and girls); 8 (promote sustained, inclusive and sustainable economic growth, employment and decent work for all); 10 (reduce inequality within and among countries); and 12 (ensure sustainable consumption and production patterns).

### 1.2 The Baby-friendly Hospital Initiative: an overview

The first few hours and days of a newborn's life are a critical window for establishing lactation and providing mothers with the support they need to breastfeed successfully. This support is not always provided, as illustrated by a review of UNICEF data showing that 78% of deliveries were attended by a skilled health provider, but only 45% of newborns were breastfed within the first hour after birth (8, 22). Although breastfeeding is the biological norm, health professionals may perform inappropriate procedures that interfere with the initiation of breastfeeding, such as separation of the mother and infant; delayed initiation of breastfeeding; provision of prelacteal feeds; and unnecessary supplementation. These procedures significantly increase the risk of breastfeeding challenges that lead to early cessation. Families need to receive evidence-based information and counselling about breastfeeding and must be protected from commercial interests that negatively impact on breastfeeding.

In 1989, WHO and UNICEF published the Ten Steps to Successful Breastfeeding (the Ten Steps), within a package of policies and procedures that facilities providing maternity and newborn services should implement to support breastfeeding (23). The Innocenti Declaration on the protection, promotion and support of breastfeeding, adopted in Florence in 1990 (24), called for all governments to ensure that every facility providing maternity and newborn services fully practises all 10 of the Ten Steps. In 1991, WHO and UNICEF launched the Baby-friendly Hospital Initiative (BFHI) (1), to help motivate facilities providing maternity and newborn services worldwide to implement the Ten Steps. Facilities that documented their full adherence to the Ten Steps, as well as their compliance with the International Code of Marketing of Breast-milk Substitutes (25, 26) and

The first few hours and days of a newborn's life are a critical window for establishing lactation and providing mothers with the support they need to breastfeed successfully

relevant World Health Assembly (WHA) resolution (theCode)(27),couldbedesignated as "Baby-friendly". WHO published accompanying evidence for each of the Ten Steps in 1998 (28).

Several global health-policy documents have emphasized the importance of the Ten Steps. WHA resolutions in 1994 and 1996 called for specific action related to the BFHI (29, 30). The 2002 Global strategy for infant and young child feeding called upon all facilities providing maternity and newborn services worldwide to implement the Ten Steps (7). At the 15th anniversary of the Innocenti Declaration (24) in 2005, the Innocenti partners issued a call to action, which included a call to revitalize the BFHI, maintaining the global criteria as the minimum requirement for all facilities and expanding the initiative's application to include maternity, neonatal and child health services and community-based support for lactating women and caregivers of young children (31). The BFHI package was updated in 2006 after extensive user surveys, and relaunched in 2009 (32). The updated package reflected the new evidence for some of the steps (steps 4 and 8 for example) and their interpretation, and specifically addressed the situation of women living with HIV. It included guidelines for "mother-friendly care" and described breastfeeding-friendly practices in other facilities and communities. Standards for providing support for "non-breastfeeding mothers" were included, as the initiative encompasses ensuring that *all* mothers, regardless of feeding method, get the feeding support they need. The package included updated training and

> The specific maternity-care practices could reduce the odds of early termination of breastfeeding 13-fold

assessment tools.

In 2012, the WHA endorsed six targets for maternal, infant and young child nutrition, including achieving a global rate of exclusive breastfeeding in the first 6 months of life of at least 50% (33, 34). The policy briefs and comprehensive implementation plan for the targets include expansion of the BFHI (34). The 2014 Second International Conference on Nutrition (ICN2) Framework for Action (35), which forms the underpinnings of the United Nations Decade for Action on Nutrition (36), called for policies, programmes and actions to ensure that health services protect, promote and support breastfeeding, "including the Babyfriendly Hospital Initiative". The Global monitoring framework for maternal, infant and young child nutrition, endorsed by the WHA in 2015 (37), includes an indicator on the percentage of births occurring in facilities that have been designated as "Baby-friendly" (38).

Almost all countries in the world have implemented the BFHI at some point in time. Coverage within most countries has remained low, however. In 2011, it was estimated that 28% of all facilities providing maternity and newborn services had been designated as "Babyfriendly at some point in time" (39). However, as of 2017, WHO estimated that only about 10% of babies in the world were born in a facility currently designated as "Baby-friendly" (40). The impact of the initiative is probably greater than this number implies, since facilities might implement several of the Ten Steps without having reached designation as "Babyfriendly", but there are currently no global systems to assess this.

#### 1.3 Strengths and impact of the Baby-friendly Hospital Initiative

Substantial evidence has accumulated that the BFHI has the potential to significantly influence success with breastfeeding. In Belarus, a group-randomized trial undertaken at the end of the 1990s increased the rate of exclusive breastfeeding at 3 months to 43% in hospitals that implemented the Ten Steps, compared to only 6% in the hospitals that did not receive the intervention (41).

A systematic review of 58 studies on maternity and newborn care published in 2016 demonstrated clearly that adherence to the Ten Steps impacts rates of breastfeeding (early initiation immediately after birth, exclusive breastfeeding and total duration of any breastfeeding) (42). This review found a doseresponse relationship between the number of BFHI steps women are exposed to and the likelihood of improved breastfeeding outcomes. Avoiding supplementation of newborns with products other than breast milk (step 6) was demonstrated to be a crucial factor in determining breastfeeding outcomes, possibly because, in order to implement this step, other steps also need to be in place. Community support (step 10) proved crucial to maintaining the improved breastfeeding rates achieved in facilities providing maternity and newborn services (42).

One study based in the United States of America (USA) found that adherence to six of the specific maternitycare practices could reduce the odds of early termination of breastfeeding 13-fold (see Fig. 1) (43).



Fig. 1. Among women who initiated breastfeeding and intended to breastfeed for >2 months, the percentage who stopped breastfeeding before 6 weeks, according to the number of Baby-friendly hospital practices they experienced (43) Experiences in BFHI implementation from that time showed that national leadership (including strong national involvement and support) was key to successful implementation of the BFHI. Nationalor facility-level adaptation, ongoing facilitylevel monitoring, and making the BFHI part of the continuum of care were also found to be important for BFHI implementation (44).

A recent article about the USA, which reviewed two national policy documents and 16 original studies, confirmed the BFHI's success in facilitating successful breastfeeding initiation and exclusivity (45). The duration of breastfeeding also appears to increase when mothers have increased exposure to Babyfriendly practices. However, current mechanisms for tracking breastfeeding are suboptimal and therefore limited reliable data are available on the duration of breastfeeding. Of the 10 steps of the BFHI, step 3 (antenatal education) and step 10 (postnatal breastfeeding support) were mentioned as the most challenging steps to implement (45); however, these two steps have the potential to significantly impact breastfeeding practices.

In anticipation of the 25th anniversary of the BFHI, WHO and UNICEF undertook a broad-based assessment of the current status of the initiative. A global survey among all WHO Member States on the implementation at country level was conducted in June to August 2016, with responses received from 117 countries (40). In-depth case-studies on how the initiative has operated in 13 countries were solicited from ministries of health, nongovernmental BFHI coordinators and UNICEF staff; key informant interviews with the BFHI coordinators (including government officials and staff of nongovernmental organizations (NGOs) in 22 countries) provided additional insights regarding challenges and lessons learnt over the first 25 years of the initiative (40, 46).

The information gathered in the case-studies and key informant interviews (40, 46) indicates that the implementation of the BFHI has led to improvements in health professionals' capacity, as well as strengthened protection, promotion and support of breastfeeding, in large numbers of facilities providing maternity and newborn services, thereby possibly contributing to increased rates of early initiation of breastfeeding across the globe. The systematic approach to improving facility policies and practices, and the visibility and rewarding nature of the designation "Baby-friendly", are appreciated by many actors.

For facilities that were designated, the process of becoming Baby-friendly was often transformative, changing the whole environment around infant feeding. In many countries, becoming designated has been a key motivating factor for facilities to transform their practices. As a consequence of this, care in these facilities became more patient centred; staff attitudes about infant feeding improved; and skill levels dramatically increased. Use of infant formula typically dropped dramatically, and the use of nurseries for newborn babies was greatly reduced. The quality of care for breastfeeding clearly improved in facilities that were designated as "Baby-friendly".

The case-studies and interviews also captured several challenges, which are described in the next section.

## 1.4 Challenges in implementing the Baby-friendly Hospital Initiative

Several key challenges in BFHI implementation emerged from the above-mentioned assessments.

In summary, the feedback from the case-studies and key informant interviews indicates that the vertical and often project-type implementation of the BFHI, while a strength in achieving specific and short-term goals, has proved to be a barrier to reaching a high coverage of the practices recommended in the Ten Steps, as well as to the sustainability of these practices and to monitoring of the initiative. Specific challenges mentioned are listed next.

- National and facility-level implementation often depends more on having committed individuals or "champions" and less on building and strengthening sustainable systems. When former champions are no longer associated with the BFHI, continuity of interventions is often affected.
- The processes of providing technical assistance to facilities; training and maintaining assessors; implementing assessments and re-assessments; and communicating about the initiative all require resources on an ongoing basis. For many countries, these resources are provided by external donors and not incorporated in the regular government budget. When donors shift funds to other priorities, this impacts on the BFHI.
- National governments, especially in low- and middle-income countries, have generally focused only on public facilities.

• A key challenge is the building and maintenance of staff capacity of facilities providing maternity and newborn services to protect, promote and support breastfeeding. Although the BFHI guidance mentions the importance of pre-service training as well as in-service training, the assessment processes and tools have a strong focus on in-service training. In virtually all countries and territories that responded to the case-studies or key informant interviews, the incorporation of breastfeeding in pre-service education (including medical and nursing schools and similar institutions for other professions) has been insufficient. This has created barriers for implementation and maintenance of the BFHI, since ongoing in-service training is very human- and financial-resource intensive.

 Additionally, trainers need to be recruited or, when health professionals themselves, spend time away from their regular job, and the trainees are also taken away from their regular tasks. While it is possible to undertake electronic and online courses, it may be costly to develop these, particularly when participant fees need to be paid to a commercial entity; such courses cannot fully replace the need for face-to-face skills-building and skills assessment and they will still keep trainees away from their main task. It has also proven difficult, in a 20-hour course, to change health professionals' behaviour, when they have implemented practices in a certain way for years.

- The focus on individual facilities instead of national standards of care makes it challenging to achieve high coverage of recommended facility practices.
- At the level of individual facilities, the focus of the BFHI has often been on achieving "Baby-friendly" designation. It has frequently been challenging to sustain the changes made. Many facilities appear to make changes in their policies and procedures to obtain the designation, but then drift back into old ways over time, especially when there are no regular monitoring systems in place. As a result, it is difficult to know the extent to which designated facilities continue to adhere to the BFHI criteria.

• Step 10 of the original Ten Steps (23), on fostering the establishment of breastfeeding support groups, has proven very difficult to implement for most facilities providing maternity and newborn services, since many of these do not have sufficient staff to work outside of their own facility. In most settings, maternity and newborn facilities have not been held accountable for outreach into the community.

• Full compliance with the Code (25–27) has also been a challenge for many facilities. Distributors of breast-milk substitutes have often been found to violate the Code by providing free or subsidized supplies to facilities or governments, and/or providing promotional materials to health facilities or health professionals. Facilities often find it difficult to resist these offers in the face of tight operating budgets. Companies that market breast-milk substitutes often exert political influence at multiple levels, to weaken standards on the protection of breastfeeding and make it difficult for facilities to achieve the Baby-friendly standards. In 2016, the Pan-American Health Organization published a report on the BFHI in the Americas, in which they examined the years in which BFHI designations or re-designations occurred (47). The report showed that for most countries in the region, BFHI designations or re-designations occurred almost exclusively in a single 5-year window of time. Some countries designated many facilities in the 1990s but then stopped; others started later but then stopped; and a few countries have only recently been designating facilities. However, no country conducted more than a handful of designations outside of a peak 10-year period (see Fig. 2 for two examples). These results suggest that it is difficult for countries to sustain an ongoing designation and re-designation programme for more than a few years.

Whereas the Ten Steps were focused on the in-facility care of healthy, full-term infants, many countries have expanded the concept of "Babyfriendly" into other areas of breastfeeding support outside of facilities providing maternity and newborn services, as suggested in the 2009 revision of the BFHI guidance (32). While these programmes have successfully improved the quality of maternal and infant care in many countries, international standards have not been developed to give a specific set of criteria and evaluation tools for programmes, leading to diversity in application worldwide. Guidelines are needed to improve breastfeeding support groups outside of facilities providing maternity and newborn services, as they each have unique aspects that cannot be addressed within the BFHI.

The large numbers of countries implementing the BFHI on the one hand, and the low percentage of designated facilities on the other hand, demonstrate the broad reach the initiative has achieved, but also indicate the need for continued improvement in maternity and newborn care. As long as adherence to the Ten Steps is limited to only selected facilities, inequities in the quality of health care for newborns will persist. Achieving adherence by *all* facilities will

## It is difficult for countries to sustain an ongoing designation and re-designation programme for more than a few years

require redoubled efforts and new approaches.

The case-studies and key informant interviews (40, 46) showed that countries have adapted the BFHI guidance to their own situation and possibilities. This has resulted in several excellent examples of management and operational processes that can facilitate the sustainable implementation and scaleup of practices that support breastfeeding. These examples, as well as a broad set of general lessons learnt and recommendations for achieving the protection, promotion and support of breastfeeding in facilities providing maternity and newborn services at scale, obtained from the case-studies and key informant interviews, and combined with an intensive consultative process with the external review group (see section 1.5), form the basis for this revised implementation guidance.



Fig. 2. Number of hospitals designated or re-designated by 5-year period in Paraguay and Mexico (47). Reproduced by permission of the publisher from: Pan American Health Organization, World Health Organization Regional Office for the Americas. The Baby Friendly Hospital Initiative in Latin America and the Caribbean: current status, challenges, and opportunities. Washington (DC): Pan American Health Organization; 2016 (http://iris.paho. org/xmlui/bitstream/handle/123456789/18830/9789275118771\_eng.pdf?sequence=1&isAllowed=y)

#### 1.5 Revision of the Ten Steps to Successful Breastfeeding and the implementation guidance

In 2015, WHO and UNICEF began the process of reviewing and revising both the Ten Steps to Successful Breastfeeding and the implementation guidance for countries on how to protect, promote, and support breastfeeding in facilities providing maternity and newborn services. Using the standard WHO guideline development process (48), WHO established a guideline development group. Detailed description of the process for developing the 2017 WHO Guideline: protecting, promoting and supporting breastfeeding in facilities providing maternity and newborn services (3), including the systematic literature reviews on each step, is published elsewhere (3). In addition, WHO convened an external review group to provide additional expert guidance to the guideline development group and to develop the revised implementation guidance for countries, presented in this document.

The external review group met three times in faceto-face meetings (December 2015, April 2016 and October 2016) and held numerous conference calls and reviewed draft documents via email. The case-studies and interviews with national BFHI leaders described above provided important insights to the external review group in shaping the implementation guidance. An early draft of this guidance was presented at the BFHI Congress in October 2016 (49). Approximately 300 participants from over 130 countries, and 20 development partners (NGOs, international professional associations and donors), discussed the guidance in small workgroups over the course of 3 days, and gave extensive input to the revisions. The updated guidance was disseminated through an online consultation in October 2017 and comments from over 300 respondents were considered in the final revisions of the document.

This updated guidance covers only those activities that are specifically pertinent to the protection, promotion and support of breastfeeding in facilities providing maternity and newborn services. The care of small, sick and/or preterm newborns cannot be separated from that of full-term infants, as they both occur in the same facilities, often attended by the same staff. As such, the care for these newborns in neonatal intensive care units or in regular maternity or newborn wards is included in the scope of this document. However, since this document focuses on global standards and is not a clinical guide, it does not provide in-depth guidance on how to care for small, sick and/or preterm newborns but merely outlines the standards and key steps for breastfeeding and/or the provision of human milk to this group. More specific guidance on the feeding of small, sick and/or preterm newborns is available elsewhere (5, 50).

While the 2009 BFHI guidance suggested including "mother-friendly" actions focusing on ensuring mothers' physical and psychological health (32), this updated BFHI guidance does not include guidance on these aspects. This guidance explicitly recommends countries to integrate the Ten Steps into other programmes and initiatives for maternal and newborn health. In-depth, relevant, evidence-based guidance on the quality of care of maternal health is already available elsewhere (4), but it is important for all health professionals, whether or not they are responsible for delivery or newborn care, to be fully aware of motherfriendly practices and how they can affect the mother, baby and breastfeeding, so that they can ensure these practices are implemented and achieve the intended quality-of-care benefits. For this reason, a summary of this guidance is provided in section 2.

Similarly, this document does not cover criteria for Baby-friendly communities, Baby-friendly paediatric units or Baby-friendly physicians' offices. Support for breastfeeding is critical in all of these settings, but is beyond the scope of this document.

#### Revision of the Ten Steps to Successful Breastfeeding

The 2017 WHO Guideline: protecting, promoting and supporting breastfeeding in facilities providing maternity and newborn services (3) examined the evidence for each of the original Ten Steps that were originally published in 1989 (23). Based on the new guidelines, this implementation guidance rewords the Ten Steps while maintaining the basic theme of each step. The core intent of the steps remains the same as the 1989 version of the Ten Steps, namely protecting, promoting and supporting breastfeeding in facilities providing maternity and newborn services. The guidance separates the first two steps, which address the management procedures necessary to ensure that care is delivered consistently and ethically, and the other eight steps, which spell out standards for clinical care of mothers and infants. The updated Ten Steps are presented in Box 1.

Step 1 on facility breastfeeding policy has been modified to include three components. Application of the Code (25-27) has always been a major component of the BFHI but was not included as part of the original Ten Steps. This revision explicitly incorporates full compliance with the Code as a step. In addition, the need for ongoing internal monitoring of adherence to the clinical practices has been incorporated into step 1. Internal monitoring should help to ensure that adoption of the Ten Steps is sustained over time.

Some of the steps have been simplified in their application, to ensure that they are feasible and applicable for all facilities. To ensure that every infant who is born in a facility has equitable access to the best quality of care, the steps must be within reach of every facility, not just a select few. For example, step 2 on training staff focuses more on competency assessment to ensure that staff have the knowledge, competence and skills to support breastfeeding, rather than insisting on a specific curriculum. Step 5 on providing mothers with practical support on how to breastfeed does not emphasize one type of milk expression, but focuses more on issues of positioning, suckling, and ensuring the mother is prepared for potential breastfeeding difficulties.

Step 9 on the use of feeding bottles, teats and pacifiers now focuses on counselling mothers on their use, rather than completely prohibiting them. The evidence for a complete prohibition of their use was found to be weak, since the systematic review conducted in the guideline development process found little or no difference in breastfeeding rates between healthy term infants who used feeding bottles, teats or pacifiers in the immediate postpartum period and those who did not (51). Among preterm infants, the systematic reviews on non-nutritive suckling did not find a difference in breastfeeding-related outcomes and found a positive impact on the duration of hospital stay (52, 53). For preterm infants, the use of feeding bottles and teats is still discouraged.

Step 10 on post-discharge care focuses more on the responsibilities of the facility providing maternity and newborn services to plan for discharge and make referrals, as well as to coordinate with and work to enhance community support for breastfeeding, rather than the specific creation of mother-to-mother support groups.

The core intent of the Ten Steps... is to protect, promote and support breastfeeding

#### Box 1. Ten Steps to Successful Breastfeeding (revised 2018)

#### Critical management procedures

- 1. a. Comply fully with the International Code of Marketing of Breast-milk Substitutes and relevant World Health Assembly resolutions.
  - b. Have a written infant feeding policy that is routinely communicated to staff and parents.
  - c. Establish ongoing monitoring and data-management systems.
- 2. Ensure that staff have sufficient knowledge, competence and skills to support breastfeeding.

#### **Key clinical practices**

- 3. Discuss the importance and management of breastfeeding with pregnant women and their families.
- Facilitate immediate and uninterrupted skin-to-skin contact and support mothers to initiate breastfeeding as soon as possible after birth.
- 5. Support mothers to initiate and maintain breastfeeding and manage common difficulties.
- 6. Do not provide breastfed newborns any food or fluids other than breast milk, unless medically indicated.
- 7. Enable mothers and their infants to remain together and to practise rooming-in 24 hours a day.
- 8. Support mothers to recognize and respond to their infants' cues for feeding.
- 9. Counsel mothers on the use and risks of feeding bottles, teats and pacifiers.
- 10. Coordinate discharge so that parents and their infants have timely access to ongoing support and care.

### Revision of the country-level implementation guidance

This implementation guidance proposes a number of revisions to the implementation of the BFHI, to facilitate nationwide scale-up and ensure sustainability over time. The guidance focuses on integrating the protection, promotion and support of breastfeeding more fully into the health-care system, including in private and public facilities. The modifications and increased feasibility serve the purpose of increasing newborns' access to breastfeeding in all facilities, not only a select few.

The guidance focuses on integrating... more fully into the health-care system The guidance also incorporates, or is aligned with, other WHO or UNICEF technical guidance documents, including the Guidance on ending the inappropriate promotion of foods for infants and young children (54), the 2016 WHO/UNICEF Guideline: updates on HIV and infant feeding (55), the WHO Standards for improving quality of maternal and newborn care in health facilities (4) and the WHO Framework on integrated people-centred health services (56).

This updated guidance is aimed at strengthening the health system and proposes a less vertical management and implementation structure, requiring fewer resources dedicated specifically to the initiative. It aims to coordinate the strategies for integrated people-centred health services (56) and strengthen the quality-improvement aspects already present in the BFHI.

Box 2 summarizes the key updated directions for BFHI implementation, as described in detail in section 3 and section 4.

### Box 2. Summary of updated directions for implementation of the Baby-friendly Hospital Initiative

- 1. Appropriat e care to protect, promote, and support breastfeeding is the responsibility of every facility providing maternity and newborn services. This includes private facilities, as well as public ones, and large as well as small facilities.
- Countries need to establish national standards for the protection, promotion and support for breastfeeding in all facilities providing maternity and newborn services, based on the updated Ten Steps to Successful Breastfeeding and global criteria.
- 3. The Baby-friendly Hospital Initiative must be integrated with other initiatives for maternal and newborn health, health-care improvement, health-systems strengthening and quality assurance.
- 4. To ensure that health-care providers have the competencies to implement the BFHI, this topic needs to be integrated into pre-service training curricula. In addition, in-service training needs to be provided when competencies are not yet met.
- 5. Public recognition of facilities that implement the Ten Steps and comply with the global criteria is one way to incentivize quality improvement. Several other incentives exist, ranging from compliance with national facility standards to performance-based financing.
- 6. Regular internal monitoring is a crucial element of both quality improvement and ongoing quality assurance.
- 7. External assessment is a valuable tool for validating the quality of maternity and newborn services. External assessments should be sufficiently streamlined into existing mechanisms that can be implemented sustainably.

### 2. The role of facilities providing maternity and

### newborn services

The core purpose of the BFHI is to ensure that mothers and newborns receive timely and appropriate care before and during their stay in a facility providing maternity and newborn services, to enable the establishment of optimal feeding of the newborn, thereby promoting their health and development. Given the proven importance of breastfeeding, the BFHI protects, promotes and supports breastfeeding. At the same time, it also aims to enable appropriate care and feeding of newborns who are not (yet or fully) breastfed, or not (yet) able to do so.

Families must receive quality and unbiased information about infant feeding. Facilities providing maternity and newborn services have a responsibility to promote breastfeeding, but they must also respect the mother's preferences and provide her with the information needed to make an informed decision about the best feeding option for her and her infant. The facility needs to support mothers to successfully feed their newborns in the manner they choose.

In line with the WHO Framework on integrated peoplecentred health services (56), it is important to ensure that "all people have equal access to quality health services that are co-produced in a way that meets their life course needs and respects social preferences, are coordinated across the continuum of care, and are comprehensive, safe, effective, timely, efficient and acceptable; and all carers are motivated, skilled and operate in a supportive environment". A specific aspect of this is providing care in a culturally appropriate manner, including providing materials in languages that all clients understand.

The Ten Steps do not encompass all aspects of quality maternity and newborn care. "Mother-friendly" birthing and postnatal care practices have been identified that are important for the mother's own well-being and the respect of her dignity and her rights (4). Many of these "mother-friendly" practices also help to enable breastfeeding (57). It is important that women are not submitted to unnecessary or harmful practices during labour, childbirth and the early postnatal period. Such practices include, but are not limited to, unnecessary (i.e. without a medical indication) use of the following: episiotomy, instrumental vaginal childbirth and caesarean section. Women should also be encouraged to adopt the position of their choice during labour. In addition, women and newborns must be treated with respect, with their dignity maintained and their privacy respected; they must not be subjected to mistreatment (58); and they must be able to make informed decisions. Women also need to be able to have a birth companion of their choice.

With regard to HIV, the 2016 WHO/UNICEF guideline on HIV and infant feeding (55) recommends that national or subnational health authorities should set recommendations for infant feeding in the context of HIV, and decide whether health services will mainly counsel and support mothers known to be living with HIV to either (i) breastfeed and receive antiretroviral drug interventions; or (ii) avoid all breastfeeding. Where authorities recommend breastfeeding plus antiretroviral therapy, this includes early initiation of breastfeeding, exclusive breastfeeding for the first 6 months of life and continued breastfeeding, with adequate and safe complementary feeding, up to at least 12 months; breastfeeding may be continued up to 24 months or beyond (similar to the general population), while the mother is fully supported for adherence to antiretroviral therapy. Where authorities recommend avoiding all breastfeeding, skilled and coordinated support for infant feeding is needed to improve the safety of replacement feeding. The BFHI can be implemented in both contexts.

Facilities providing maternity and newborn services need to comply with the Ten Steps. The 2018 version of the Ten Steps is separated into critical management procedures, which provide an enabling environment for sustainable implementation within the facility, and key clinical practices, which delineate the care that each mother and infant should receive. The key clinical practices are evidence-based interventions to support mothers to successfully establish breastfeeding. The Ten Steps are outlined in Box 1 and described in detail in section 2.1 and section 2.2. The specific recommendations in the new WHO Guideline: protecting, promoting and supporting breastfeeding in facilities providing maternity and newborn services (3) are also presented in the text, with the relevant recommendation number added. Annex 1 shows how the revised Ten Steps incorporate all of the new WHO guidelines (3) and how they relate to the original Ten Steps.

While each of the Ten Steps contributes to improving the support for breastfeeding, optimal impact on breastfeeding practices, and thereby on maternal and child well-being, is only achieved when all Ten Steps are implemented as a package. The text that follows should be read in this light.

## 2.1. Critical management procedures to support breastfeeding

Facilities providing maternity and newborn services need to adopt and maintain four critical management procedures to ensure universal and sustained application of the key clinical practices. The first three of these, application of the Code (25–27), development of written policies, and operation of monitoring and data-management systems, are all part of the first step on facility policies. Step 2 deals with the need to ensure the capacity of all facility staff.

#### Step 1: Facility policies

The International Code of Marketing of Breastmilk Substitutes and relevant World Health Assembly resolutions (25-27)

Step 1a: Comply fully with the International Code of Marketing of Breast-milk Substitutes and relevant World Health Assembly resolutions.

Rationale: Families are most vulnerable to the marketing of breast-milk substitutes during the entire prenatal, perinatal and postnatal period when they are making decisions about infant feeding. The WHA has called upon health workers and health-care systems to comply with the International Code of Marketing of Breast-milk Substitutes (25, 26) and subsequent relevant WHA resolutions (27) (the Code), in order to protect families from commercial pressures. Additionally, health professionals themselves need protection from commercial influences that could affect their professional activities and judgement. Compliance with the Code is important for facilities providing maternity and newborn services, since the promotion of breast-milk substitutes is one of the largest undermining factors for breastfeeding (59). Companies marketing breast-milk substitutes, feeding bottles and teats are repeatedly found to violate the Code (60). It is expected that the sales of breast-milk substitutes will continue to increase globally, which is detrimental for children's survival and well-being (13, 61). This situation means that ongoing concerted efforts will be required to protect, promote and support breastfeeding, including in facilities providing maternity and newborn services.

**Implementation:** The Code (25–27) lays out clear responsibilities of health-care systems to not promote infant formula, feeding bottles or teats and to not be

used by manufacturers and distributers of products under the scope of the Code for this purpose. This includes the provision that all facilities providing maternity and newborn services must acquire any breast-milk substitutes, feeding bottles or teats they require through normal procurement channels and not receive free or subsidized supplies (WHA Resolution 39.28 (62)). Furthermore, staff of facilities providing maternity and newborn services should not engage in any form of promotion or permit the display of any type of advertising of breast-milk substitutes, including the display or distribution of any equipment or materials bearing the brand of manufacturers of breast-milk substitutes, or discount coupons, and they should not give samples of infant formula to mothers to use in the facility or to take home.

In line with the WHO Guidance on ending the inappropriate promotion of foods for infants and young children, published in 2016 and endorsed by the WHA (54), health workers and health systems should avoid conflicts of interest with companies that market foods for infants and young children. Health-professional meetings should never be sponsored by industry and industry should not participate in parenting education.

#### **Global standards:**

 All infant formula, feeding bottles and teats used in the facility have been purchased through normal procurement channels and not received through free or subsidized supplies.

• The facility has no display of products covered under the Code or items with logos of companies that produce breast-milk substitutes, feeding bottles and teats, or names of products covered under the Code.

• The facility has a policy that describes how it abides by the Code, including procurement of breastmilk substitutes, not accepting support or gifts from producers or distributors of products covered by the Code and not giving samples of breast-milk substitutes, feeding bottles or teats to mothers.

• At least 80% of health professionals who provide antenatal, delivery and/or newborn care can explain at least two elements of the Code.

#### Infant feeding policy

# Step 1b: Have a written infant feeding policy that is routinely communicated to staff and parents.

**Rationale:** Policy drives practice. Health-care providers and institutions are required to follow established policies. The clinical practices articulated in the Ten Steps need to be incorporated into facility policies, to guarantee that appropriate care is equitably provided to all mothers and babies and is not dependent on the preferences of each care provider. Written policies are the vehicle for ensuring patients receive consistent, evidence-based care, and are an essential tool for staff accountability. Policies help to sustain practices over time and communicate a standard set of expectations for all health workers.

**Implementation:** Facilities providing maternity and newborn services should have a clearly written breastfeeding policy that is routinely communicated to staff and parents (recommendation 12). A facility breastfeeding policy may stand alone as a separate document, be included in a broader infant feeding policy, or be incorporated into a number of other policy documents. However organized, the policy should include guidance on how each of the clinical and care practices should be implemented, to ensure that they are applied consistently to all mothers. The policy should also spell out how the management procedures should be implemented, preferably via specific processes that are institutionalized.

#### **Global standards:**

- The health facility has a written infant feeding policy that addresses the implementation of all eight key clinical practices of the Ten Steps, Code implementation, and regular competency assessment.
- Observations in the facility confirm that a summary of the policy is visible to pregnant women, mothers and their families.
- A review of all clinical protocols or standards related to breastfeeding and infant feeding used by the maternity services indicates that they are in line with BFHI standards and current evidence-based guidelines.
- At least 80% of clinical staff who provide antenatal, delivery and/or newborn care can explain at least two elements of the infant feeding policy that influence their role in the facility.

#### Monitoring and data-management systems

### Step 1c: Establish ongoing monitoring and data-management systems.

**Rationale:** Facilities providing maternity and newborn services need to integrate recording and monitoring of the clinical practices related to breastfeeding into their quality-improvement/monitoring systems (see section 2.4).

Implementation: Recommended indicators for facility-based monitoring of the key clinical practices are listed in Appendix 1, Table 1. Two of the indicators, early initiation of breastfeeding and exclusive breastfeeding, are considered "sentinel indicators". All facilities should routinely track these indicators for each mother-infant pair. Recording of information on these sentinel indicators should be incorporated into the medical charts and collated into relevant registers. The group or committee that coordinates the BFHIrelated activities within a facility needs to review progress at least every 6 months. During concentrated periods of quality improvement, monthly review is needed. The purpose of the review is to continually track the values of these indicators, to determine whether established targets are met, and, if not, plan and implement corrective actions. In addition, if the facility has an ongoing system of maternal discharge surveys for other quality-improvement/qualityassurance assessments, and it is possible to add question(s), one or both indicators could be added for additional verification purposes or periodic checks.

Additional process indicators for monitoring adherence to the key clinical practices are also recommended. These indicators are particularly important during an active process of quality improvement and should be assessed monthly during such a process. Once acceptable levels of compliance have been achieved, the frequency of data collection on these additional indicators can be reduced, for example to annually. However, if the level of the sentinel indicators falls below 80% (or below national standards), it will be important to assess both the clinical practices and all management procedures, to determine where the bottlenecks are and what needs to be done to achieve the required standards. The recommended indicators do not cover all of the global standards listed above because of the need to keep the monitoring system as simple as possible. Countries or individual facilities could include additional indicators where feasible. Two alternative methods for verification are proposed – newborn registries and maternal discharge surveys (which could be done in a written or oral way or via a cell phone [SMS]). Facilities are not expected to use both methodologies at the same time. Depending on what other monitoring systems facilities are using, either may be more practical and feasible.

The frequency of data collection will depend on the method of verification. For example, if questions are added to maternal discharge surveys that are already ongoing, the periodicity will, by default, be a function of the periodicity of the ongoing survey. If the information is collected through newborn registries and the registries are already being reviewed to collect data on the sentinel outcome indicators, collection of data on the key clinical practices for all newborns is recommended. Alternatively, a sample of registries could be reviewed every 6 months to collect this information, to reduce the burden of abstracting, summarizing and reviewing large amounts of data from the registries. If a new system of maternal discharge surveys is put into place, a minimum periodicity of every 6 months is needed. However, monitoring needs to be streamlined and manageable within the facilities' existing resources.

Thus, to the extent possible, it is best to not implement new methods of data collection, unless necessary or for periodic purposes of verification. The same goes for the amount of data collected; more is not necessarily better if systems are not in place to analyse and use the information to improve breastfeeding support.

For the key clinical practice indicators, monitoring is best if based on maternal report. Collection of data for some indicators could be done through electronic medical records or from paper reports on each mother–infant pair, but runs the risk that staff completing these records will over-report practices that they have been taught they are supposed to do. Options for maternal data collection include:

- exit interviews with mothers (preferably by a person not directly in charge of their care);
- short paper questionnaires to mothers for confidential completion upon discharge;
- sending questions to the mother via SMS.

It is recommended that a minimum of 20 motherinfant pairs be included for each indicator, each time the data are reviewed, although small facilities may need to settle for a smaller number if 20 pairs are not available.

The global standards call for a minimum of 80% compliance for all process and outcome indicators, including early initiation of breastfeeding and exclusive breastfeeding. It is recognized that in contexts where many women choose not to breastfeed, these rates may be difficult to attain. Lower standards may need to be set at the national or local level, with the expectation that they should be raised over time, as other aspects of breastfeeding support in the community improve. Each facility should attempt to regularly achieve at least 80% adherence on each indicator, and facilities that do not meet this target should focus on increasing the percentage over time.

#### **Global standards:**

• The facility has a protocol for an ongoing monitoring and data-management system to comply with the eight key clinical practices.

• Clinical staff at the facility meet at least every 6 months to review implementation of the system.

#### Step 2: Staff competency

Step 2: Ensure that staff have sufficient knowledge, competence and skills to support breastfeeding.

**Rationale:** Timely and appropriate care for breastfeeding mothers can only be accomplished if staff have the knowledge, competence and skills to carry it out. Training of health staff enables them to develop effective skills, give consistent messages, and implement policy standards. Staff cannot be expected to implement a practice or educate a patient on a topic for which they have received no training.

**Implementation:** Health-facility staff who provide infant feeding services, including breastfeeding support, should have sufficient knowledge, competence and skills to support women to breastfeed (recommendation 13). In general, the responsibility for building this capacity resides with the national pre-service education system. However, if staff capacity is deficient, facilities providing maternity and newborn services will need to take corrective measures to strengthen that capacity, such as by offering courses at the facility or requiring that staff take courses elsewhere. While some material can be taught through didactic lectures (including electronic resources), some supervised clinical experience with testing of competency is necessary. It is important to focus not on a specific curriculum but on the knowledge and skills obtained.

All staff who help mothers with infant feeding should be assessed on their ability to:

- use listening and learning skills to counsel a mother;
- 2. use skills for building confidence and giving support to counsel a mother;
- 3. counsel a pregnant woman about breastfeeding;
- 4. assess a breastfeed;
- help a mother to position herself and her baby for breastfeeding;
- 6. help a mother to attach her baby to the breast;
- explain to a mother about the optimal pattern of breastfeeding;
- 8. help a mother to express her breast milk;
- 9. help a mother to cup feed her baby;
- 10. help a mother to initiate breastfeeding within the first hour after birth;
- help a mother who thinks she does not have enough milk;
- 12. help a mother with a baby who cries frequently;
- help a mother whose baby is refusing to breastfeed;
- 14. help a mother who has flat or inverted nipples;
- 15. help a mother with engorged breasts;
- 16. help a mother with sore or cracked nipples;
- 17. help a mother with mastitis;
- help a mother to breastfeed a low-birth-weight baby or sick baby;
- 19. counsel a mother about her own health;
- 20. implement the Code in a health facility.

#### **Global standards:**

- At least 80% of health professionals who provide antenatal, delivery and/or newborn care report they have received pre-service or in-service training on breastfeeding during the previous 2 years.
- At least 80% of health professionals who provide antenatal, delivery and/or newborn care report receiving competency assessments in breastfeeding in the previous 2 years.
- At least 80% of health professionals who provide antenatal, delivery and/or newborn care are able to correctly answer three out of four questions on breastfeeding knowledge and skills to support breastfeeding.

# 2.2. Key clinical practices to support breastfeeding

The updated BFHI highlights eight key clinical practices, based on the WHO *Guideline: protecting, promoting and supporting breastfeeding in facilities providing maternity and newborn services* (3), issued in 2017. These key practices are discussed next.

#### **Step 3: Antenatal information**

Step 3: Discuss the importance and management of breastfeeding with pregnant women and their families.

Rationale: All pregnant women must have basic information about breastfeeding, in order to make informed decisions. A review of 18 qualitative studies indicated that mothers generally feel that infant feeding is not discussed enough in the antenatal period and that there is not enough discussion of what to expect with breastfeeding (42). Mothers want more practical information about breastfeeding. Pregnancy is a key time to inform women about the importance of breastfeeding, support their decisionmaking and pave the way for their understanding of the maternity care practices that facilitate its success. Mothers also need to be informed that birth practices have a significant impact on the establishment of breastfeeding. Implementation: Where facilities provide antenatal care, pregnant women and their families should be counselled about the benefits and management of breastfeeding (recommendation 14). In many settings, antenatal care is predominantly provided through primary health-care clinics or community health workers. If facilities providing maternity and newborn services do not have direct authority over these care providers, they should work with them to ensure that mothers and families are fully informed about the importance of breastfeeding and know what to expect when they deliver at the facility. In other cases, the facility directly provides antenatal care services or offers classes for pregnant women. In this case, provision of breastfeeding information and counselling is the direct responsibility of the facility.

Breastfeeding education should include information on the importance of breastfeeding and the risks of giving formula or other breast-milk substitutes, along with national and health-professional recommendations for infant feeding. Practical skills such as positioning and attachment, on-demand feeding, and recognizing feeding cues are a necessary component of antenatal counselling. Families should be presented with upto-date information on best practices in facilities providing maternity and newborn services regarding skin-to-skin contact, initiation of breastfeeding, supplementation protocols and rooming-in. Women also need to be informed about possible challenges they might encounter (such as engorgement, or a perception of not producing enough milk) and how to address them.

Antenatal breastfeeding counselling must be tailored to the individual needs of the woman and her family, addressing any concerns and questions they have. This counselling needs to be sensitively given and consider the social and cultural context of each family.

Wherever possible, conversations on breastfeeding should begin with the first or second antenatal visit, so that there is time to discuss any challenges, if necessary. This is particularly important in settings where women have few antenatal visits and/or initiate their visits late in their pregnancy. Additionally, women who deliver prematurely may not have adequate opportunities to discuss breastfeeding if the conversations are delayed until late in pregnancy.

Information on breastfeeding should be provided in multiple ways. Printed or online information that is in a language mothers (including illiterate ones) understand is one way to ensure that all relevant topics are covered. However, there is no assurance that all women will read this information, and it may not directly address the key questions they have. Interpersonal counselling, either one-on-one or in small groups, is important to allow women to discuss their feelings, doubts and questions about infant feeding. The information must be provided free of conflicts of interest. As stipulated in the *Guidance on ending inappropriate promotion of foods for infants and young children (54)*, companies that market foods for infants and young children should not "directly or indirectly provide education to parents and other caregivers on infant and young child feeding in health facilities".

Women at increased risk for preterm delivery or birth of a sick infant (e.g. pregnant adolescents, high-risk pregnancies, known congenital anomalies) must begin discussions with knowledgeable providers as soon as feasible concerning the special circumstances of feeding a premature, low-birth-weight or sick baby (63).

#### **Global standards:**

A protocol for antenatal discussion of breastfeeding
includes at a minimum:

the importance of breastfeeding;

– global recommendations on exclusive breastfeeding for the first 6 months, the risks of giving formula or other breast-milk substitutes, and the fact that breastfeeding continues to be important after 6 months when other foods are given;

 the importance of immediate and sustained skinto-skin contact;

- the importance of early initiation of breastfeeding;
- the importance of rooming-in;
- the basics of good positioning and attachment;
- recognition of feeding cues.
- At least 80% of mothers who received prenatal care at the facility report having received prenatal counselling on breastfeeding.

• At least 80% of mothers who received prenatal care at the facility are able to adequately describe what was discussed about two of the topics mentioned above.

#### Step 4: Immediate postnatal care

Step 4: Facilitate immediate and uninterrupted skin-to-skin contact and support mothers to initiate breastfeeding as soon as possible after birth.

Rationale: Immediate skin-to-skin contact and early initiation of breastfeeding are two closely linked interventions that need to take place in tandem for optimal benefit. Immediate and uninterrupted skinto-skin contact facilitates the newborn's natural rooting reflex that helps to imprint the behaviour of looking for the breast and suckling at the breast. Additionally, immediate skin-to-skin contact helps populate the newborn's microbiome and prevents hypothermia. Early suckling at the breast will trigger the production of breast milk and accelerate lactogenesis. Many mothers stop breastfeeding early or believe they cannot breastfeed because of insufficient milk, so establishment of a milk supply is critically important for success with breastfeeding. In addition, early initiation of breastfeeding has been proven to reduce the risk of infant mortality (10).

**Implementation:** Early and uninterrupted skin-toskin contact between mothers and infants should be facilitated and encouraged as soon as possible after birth (recommendation 1). Skin-to-skin contact is when the infant is placed prone on the mother's abdomen or chest with no clothing separating them. It is recommended that skin-to-skin contact begins immediately, regardless of method of delivery. It should be uninterrupted for at least 60 minutes.

Initiation of breastfeeding is typically a direct consequence of uninterrupted skin-to-skin contact, as it is a natural behaviour for most babies to slowly squirm or crawl toward the breast. Mothers may be supported to help the baby to the breast if desired. Mothers should be helped in understanding how to support the baby and how to make sure the baby is able to attach and suckle at the breast. All mothers should be supported to initiate breastfeeding as soon as possible after birth, within the first hour after delivery (recommendation 2).

It should be noted that the milk a newborn consumes immediately after birth is colostrum, which is highly nutritious and contains important antibodies and immune-active substances. The amount of colostrum a newborn will receive in the first few feedings is very small. Early suckling is important for stimulating milk production and establishing the maternal milk supply. The amount of milk ingested is a relatively unimportant factor. During immediate skin-to-skin contact, and for at least the first 2 hours after delivery, sensible vigilance and safety precautions should be taken so that health professionals can observe for, assess and manage any signs of distress. Mothers who are sleepy or under the influence of anaesthesia or drugs will require closer observation. When mothers are not fully awake and responsive, a health professional, doula, friend or family member should accompany the mother, to prevent the baby from being hurt accidentally.

Immediate skin-to-skin care and initiation of breastfeeding is feasible following a caesarean section with local anaesthesia (epidural) (64). After a caesarean section with general anaesthesia, skinto-skin contact and initiation of breastfeeding can begin when the mother is sufficiently alert to hold the infant. Mothers or infants who are medically unstable following delivery may need to delay the initiation of breastfeeding. However, even if mothers are not able to initiate breastfeeding during the first hour after birth, they should still be supported to provide skinto-skin contact and to breastfeed as soon as they are able (65).

Skin-to-skin contact is particularly important for preterm and low-birth-weight infants. Kangaroo mother care involves early, continuous and prolonged skin-to-skin contact between the mother and the baby (66), and should be used as the main mode of care as soon as the baby is stable (defined as the absence of severe apnoea, desaturation and bradycardia), owing to demonstrated benefits in terms of survival, thermal protection and initiation of breastfeeding. The infant is generally firmly held or supported on the mother's chest, often between the breasts, with the mother in a semi-reclined and supported position.

Preterm infants may be able to root, attach to the breast and suckle from as early as 27 weeks' gestation (67). As long as the infant is stable, with no evidence of severe apnoea, desaturation or bradycardia, preterm infants can start breastfeeding. However, early initiation of effective breastfeeding may be difficult for these infants if the suckling reflex is not yet established and/or the mother has not yet begun plentiful milk secretion. Early and frequent milk expression is critical to stimulating milk production and secretion for preterm infants who are not yet able to suckle. Transition to direct and exclusive breastfeeding should be the aim whenever possible (50) and is facilitated by prolonged skin-to-skin contact.

#### **Global standards:**

• At least 80% of mothers of term infants report that their babies were placed in skin-to-skin contact with them immediately or within 5 minutes after birth and that this contact lasted 1 hour or more, unless there were documented medically justifiable reasons for delayed contact.

• At least 80% of mothers of term infants report that their babies were put to the breast within 1 hour after birth, unless there were documented medically justifiable reasons.

#### Step 5: Support with breastfeeding

Step 5: Support mothers to initiate and maintain breastfeeding and manage common difficulties.

**Rationale:** While breastfeeding is a natural human behaviour, most mothers need practical help in learning how to breastfeed. Even experienced mothers encounter new challenges with breastfeeding a newborn. Postnatal breastfeeding counselling and support has been shown to increase rates of breastfeeding up to 6 months of age (68). Early adjustments to position and attachment can prevent breastfeeding problems at a later time. Frequent coaching and support helps build maternal confidence.

**Implementation:** Mothers should receive practical support to enable them to initiate and maintain breastfeeding and manage common breastfeeding difficulties (recommendation 3). Practical support includes providing emotional and motivational support, imparting information and teaching concrete skills to enable mothers to breastfeed successfully. The stay in the facility providing maternity and newborn services is a unique opportunity to discuss and assist the mother with questions or problems related to breastfeeding and to build confidence in her ability to breastfeed.

All mothers should receive individualized attention, but first-time mothers and mothers who have not breastfed before will require extra support. However, even mothers who have had another child might have had a negative breastfeeding experience and need support to avoid previous problems. Mothers delivering by caesarean section and obese mothers should be given additional help with positioning and attachment. Practical support for preterm, including late preterm, newborns is particularly critical, in order to establish and maintain the production of breast milk. Many mothers of preterm infants have health problems of their own and need motivation and extra support for milk expression. Late preterm infants are generally able to exclusively breastfeed at the breast, but are at greater risk of jaundice, hypoglycaemia and feeding difficulties than full-term infants, and thus require increased vigilance (69). Mothers of twins also need extra support, especially for positioning and attachment.

A number of topics should be included in teaching mothers to breastfeed. It is essential to demonstrate good positioning and attachment at the breast, which are crucial for stimulating the production of breast milk and ensuring that the infant receives enough milk. Direct observation of a feed is necessary to ensure that the infant is able to attach to and suckle at the breast and that milk transfer is happening. Additionally, facility staff need to educate mothers on the management of engorged breasts, ways to ensure a good milk supply, prevention of cracked and sore nipples, and evaluation of milk intake.

Mothers should be coached on how to express breast milk as a means of maintaining lactation in the event of their being separated temporarily from their infants (recommendation 4). There is not sufficient evidence that one method of expression (hand expression, manual pump or electric pump) is more effective than another (70), and thus any method(s) may be taught, depending on the mother's context. However, hand expression does have the advantage of being available no matter where the mother is and of allowing the mother to relieve pressure or express milk when a pump is not available. Pumps can potentially have more microbial contamination if they cannot easily be cleaned. Mothers also need to be supported for collection and storage of expressed milk.

#### **Global standards:**

- At least 80% of breastfeeding mothers of term infants report that someone on the staff offered assistance with breastfeeding within 6 hours after birth.
- At least 80% of mothers of preterm or sick infants report having been helped to express milk within 1–2 hours after birth.
- At least 80% of breastfeeding mothers of term infants are able to demonstrate how to position their baby for breastfeeding and that the baby can suckle and transfer milk.
- At least 80% of breastfeeding mothers of term infants can describe at least two ways to facilitate milk production for their infants.
- At least 80% of breastfeeding mothers of term infants can describe at least two indicators of whether a breastfed baby consumes adequate milk.
- At least 80% of mothers of breastfed preterm and term infants can correctly demonstrate or describe how to express breast milk.

#### **Step 6: Supplementation**

Step 6: Do not provide breastfed newborns any food or fluids other than breast milk, unless medically indicated.

**Rationale:** Giving newborns any foods or fluids other than breast milk in the first few days after birth interferes with the establishment of breast-milk production. Newborns' stomachs are very small and easily filled. Newborns who are fed other foods or fluids will suckle less vigorously at the breast and thus inefficiently stimulate milk production, creating a cycle of insufficient milk and supplementation that leads to breastfeeding failure. Babies who are supplemented prior to facility discharge have been found to be twice as likely to stop breastfeeding altogether in the first 6 weeks of life (43). In addition, foods and liquids may contain harmful bacteria and carry a risk of disease. Supplementation with artificial milk significantly alters the intestinal microflora (71).

**Implementation:** Mothers should be discouraged from giving any food or fluids other than breast milk, unless medically indicated (recommendation 7). Very few conditions of the infant or mother preclude the feeding of breast milk and necessitate the use of breast-milk substitutes. The WHO/UNICEF document on *Acceptable medical reasons for use of breast-milk substitutes* describes conditions for which breastfeeding is contraindicated (72). In addition, some breastfed

infants will require supplementation. The Academy of Breastfeeding Medicine has laid out a clinical protocol for managing situations in which supplementation of the mother's own milk would become necessary (73). Infants should be assessed for signs of inadequate milk intake and supplemented when indicated, but routine supplementation is rarely necessary in the first few days of life. Lack of resources, staff time or knowledge is not justification for the use of early additional foods or fluids.

Mothers who intend to "mixed feed" (a combination of both breastfeeding and feeding with breast-milk substitutes) should be counselled on the importance of exclusive breastfeeding in the first few weeks of life, and how to establish a milk supply and to ensure that the infant is able to suckle and transfer milk from the breast. Supplementation can be introduced at a later date if the mother chooses. Mothers who report they have chosen not to breastfeed should be counselled on the importance of breastfeeding. However, if they still do not wish to breastfeed, feeding with breast-milk substitutes will be necessary. Mothers who are feeding breast-milk substitutes, by necessity or by choice, must be taught about safe preparation and storage of formula (56) and how to respond adequately to their child's feeding cues.

Infants who cannot be fed their mother's own milk, or who need to be supplemented, especially low-birthweight infants, including those with very low birth weight (5, 75) and other vulnerable infants, should be fed donor human milk. If donor milk is unavailable or culturally unacceptable, breast-milk substitutes are required. In most cases, supplementation is temporary, until the newborn is capable of breastfeeding and/or the mother is available and able to breastfeed. Mothers must also be supported and encouraged to express their milk to continue stimulating production of breast milk, and to prioritize use of their own milk, even if direct breastfeeding is challenging for a period of time.

#### **Global standards:**

- At least 80% of infants (preterm and term) received only breast milk (either from their own mother or from a human milk bank) throughout their stay at the facility.
- At least 80% of mothers who have decided not to breastfeed report that the staff discussed with them the various feeding options and helped them to decide what was suitable in their situations.
- At least 80% of mothers who have decided not to breastfeed report that the staff discussed with them the safe preparation, feeding and storage of breast-milk substitutes.
- At least 80% of term breastfed babies who received supplemental feeds have a documented medical indication for supplementation in their medical record.
- At least 80% of preterm babies and other vulnerable newborns that cannot be fed their mother's own milk are fed with donor human milk.
- At least 80% of mothers with babies in special care report that they have been offered help to start lactogenesis II (beginning plentiful milk secretion) and to keep up the supply, within 1–2 hours after their babies' births.

#### Step 7: Rooming-in

Step 7: Enable mothers and their infants to remain together and to practise rooming-in 24 hours a day.

**Rationale:** Rooming-in is necessary to enable mothers to practise responsive feeding, as mothers cannot learn to recognize and respond to their infants' cues for feeding if they are separated from them. When the mother and infant are together throughout the day and night, it is easy for the mother to learn to recognize feeding cues and respond to them. This, along with the close presence of the mother to her infant, will facilitate the establishment of breastfeeding.

**Implementation:** Facilities providing maternity and newborn services should enable mothers and their infants to remain together and to practise rooming-in throughout the day and night (recommendation 5). Rooming-in involves keeping mothers and infants together in the same room, immediately after vaginal birth or caesarean section, or from the time when the mother is able to respond to the infant, until discharge. This means that the mother and infant are together throughout the day and night. Postnatal wards need to be designed so that there is enough space for mothers and their newborns to be together. Facility staff need to visit the ward regularly to ensure the babies are safe. Babies should only be separated from their mothers for justifiable medical and safety reasons. Minimizing disruption to breastfeeding during the stay in the facility will require health-care practices that enable a mother to breastfeed for as much, as frequently and for as long as her baby needs it.

When a mother is placed in a dedicated ward to recover from a caesarean section, the baby should be accommodated in the same room with her, close by. She will need practical support to position her baby to breastfeed, especially when the baby is in a separate cot or bed.

Rooming-in may not be possible in circumstances when infants need to be moved for specialized medical care (recommendation 5). If preterm or sick infants need to be in a separate room to allow for adequate treatment and observation, efforts must be made for the mother to recuperate postpartum with her infant, or to have no restrictions for visiting her infant. Mothers should have adequate space to express milk adjacent to their infants.

#### **Global standards:**

• At least 80% of mothers of term infants report that their babies stayed with them since birth, without separation lasting for more than 1 hour.

• Observations in the postpartum wards and wellbaby observation areas confirm that at least 80% of mothers and babies are together or, if not, have medically justifiable reasons for being separated.

• At least 80% of mothers of preterm infants confirm that they were encouraged to stay close to their infants, day and night.

#### Step 8: Responsive feeding

### Step 8: Support mothers to recognize and respond to their infants' cues for feeding.

Rationale: Breastfeeding involves recognizing and responding to the infant's display of hunger and feeding cues and readiness to feed, as part of a nurturing relationship between the mother and infant. Responsive feeding (also called on-demand or babyled feeding) puts no restrictions on the frequency or length of the infant's feeds, and mothers are advised to breastfeed whenever the infant is hungry or as often as the infant wants. Scheduled feeding, which prescribes а predetermined, and usually time-restricted, frequency and schedule of feeds is not recommended. It is important that mothers know that crying is a late cue and that it is better to feed the baby earlier, since optimal positioning and attachment are more difficult when an infant is in distress.

**Implementation:** Mothers should be supported to practise responsive feeding as part of nurturing care (recommendation 6). Regardless of whether they breastfeed or not, mothers should be supported to recognize and respond to their infants' cues for feeding, closeness and comfort, and enabled to respond accordingly to these cues with a variety of options, during their stay at the facility providing maternity and newborn services (recommendation 8). Supporting mothers to respond in a variety of ways to behavioural cues for feeding, comfort or closeness enables them to build a caring, nurturing relationship with their infants and increases their confidence in themselves, in breastfeeding and in their infants' growth and development.

When the mother and baby are not in the same room for medical reasons (post-caesarean section, preterm or sick infant), the facility staff need to support the mother to visit the infant as often as possible, so that she can recognize feeding cues. When staff notice feeding cues, they should bring the mother and baby together.

#### **Global standards:**

• At least 80% of breastfeeding mothers of term infants can describe at least two feeding cues.

• At least 80% of breastfeeding mothers of term infants report that they have been advised to feed their babies as often and for as long as the infant wants.

#### Step 9: Feeding bottles, teats and pacifiers

### Step 9: Counsel mothers on the use and risks of feeding bottles, teats and pacifiers.

**Rationale:** Proper guidance and counselling of mothers and other family members enables them to make informed decisions on the use or avoidance of pacifiers and/or feeding bottles and teats until the successful establishment of breastfeeding. While WHO guidelines (3) do not call for absolute avoidance of feeding bottles, teats and pacifiers for term infants, there are a number of reasons for caution about their use, including hygiene, oral formation and recognition of feeding cues.

**Implementation:** If expressed milk or other feeds are medically indicated for term infants, feeding methods such as cups, spoons or feeding bottles and teats can be used during their stay at the facility (recommendation 10). However, it is important that staff do not become reliant on teats as an easy response to suckling difficulties instead of counselling mothers and enabling them to attach babies properly and suckle effectively.

It is important that the facility staff ensure appropriate hygiene in the cleaning of these utensils, since they can be a breeding ground for bacteria. Facility staff should also inform mothers and family members of the hygiene risks related to inadequate cleaning of feeding utensils, so that they can make an informed choice of the feeding method.

The physiology of suckling at the breast is different from the physiology of suckling from a feeding bottle and teat (76). It is possible that the use of the feeding bottle and teat could lead to breastfeeding difficulties, particularly if use is prolonged. However, the only study on this did not demonstrate a specific carryover effect from suckling at a feeding bottle and teat to suckling at the breast (77).

Pacifiers have long been used to soothe an upset infant. In some cases, they serve a therapeutic purpose, such as reducing pain during procedures when breastfeeding or skin-to-skin contact are not possible. However, if pacifiers replace suckling and thus reduce the number of times an infant stimulates the mother's breast physiologically, this can lead to a reduction of maternal milk production. The use of teats or pacifiers may interfere with the mother's ability to recognize feeding cues. If the use of a pacifier prevents the mother from observing the infant's smacking of the lips or rooting towards the breast, she may delay feeding until the infant is crying and agitated. For preterm infants, evidence does demonstrate that use of feeding bottles with teats interferes with learning to suckle at the breast. If expressed breast milk or other feeds are medically indicated for preterm infants, feeding methods such as cups or spoons are preferable to feeding bottles and teats (recommendation 11). On the other hand, for preterm infants who are unable to breastfeed directly, non-nutritive sucking and oral stimulation may be beneficial until breastfeeding is established (recommendation 9). Non-nutritive sucking or oral stimulation involves the use of pacifiers, a gloved finger or a breast that is not yet producing milk.

There should be no promotion of feeding bottles or teats in any part of facilities providing maternity and newborn services, or by any of the staff. As is the case with breast-milk substitutes, these products fall within the scope of the Code (25–27).

#### **Global standards:**

• At least 80% of breastfeeding mothers of preterm and term infants report that they have been taught about the risks of using feeding bottles, teats and pacifiers.

#### Step 10: Care at discharge

Step 10: Coordinate discharge so that parents and their infants have timely access to ongoing support and care.

Rationale: Mothers need sustained support to continue breastfeeding. While the time in the facility providing maternity and newborn services should provide a mother with basic breastfeeding skills, it is very possible her milk supply has not been fully established until after discharge. Breastfeeding support is especially critical in the succeeding days and weeks after discharge, to identify and address early breastfeeding challenges that occur. She will encounter several different phases in her production of breast milk, her infant's growth and her own circumstances (e.g. going back to work or school), in which she will need to apply her skills in a different way and additional support will be needed. Receiving timely support after discharge is instrumental in maintaining breastfeeding rates. Maternity facilities must know about and refer mothers to the variety of resources that exist in the community.

**Implementation:** As part of protecting, promoting and supporting breastfeeding, discharge from facilities providing maternity and newborn services should be planned for and coordinated, so that parents and their infants have access to ongoing support and receive appropriate care (recommendation 15). Each mother should be linked to lactation-support resources in the community upon discharge. Facilities need to provide appropriate referrals to ensure that mothers and babies are seen by a health worker 2–4 days after birth and again in the second week, to assess the feeding situation. Printed and/or online information could be useful to provide contacts for support, in case of questions, doubts or difficulties, but this should not substitute for active follow-up care by a skilled professional.

Facilities providing maternity and newborn services need to identify appropriate community resources for continued and consistent breastfeeding support that is culturally and socially sensitive to their needs. The facilities have a responsibility to engage with the surrounding community to enhance such resources. Community resources include primary health-care centres, community health workers, home visitors, breastfeeding clinics, nurses/midwives, lactation consultants, peer counsellors, mother-to-mother support groups, or phone lines ("hot lines"). The facility should maintain contact with the groups and individuals providing the support as much as possible, and invite them to the facility where feasible.

Follow-up care is especially crucial for preterm and low-birth-weight babies. In these cases, the lack of a clear follow-up plan could lead to significant health hazards. Ongoing support from skilled professionals is needed.

#### **Global standards:**

• At least 80% of mothers of preterm and term infants report that a staff member has informed them where they can access breastfeeding support in their community.

 The facility can demonstrate that it coordinates with community services that provide breastfeeding/ infant feeding support, including clinical management and mother-to-mother support.

#### 2.3. Coordination

Each facility needs to have a structure in place to coordinate the protection, promotion and support of breastfeeding. It is recommended that this area of work is incorporated into the responsibilities of an existing committee or working group comprising decision-makers in the areas of maternal and newborn health, quality assurance and management. If there is no existing structure that can be utilized for this purpose, it might be appropriate to establish a separate body. This body will need to have strong linkages with maternal and newborn health, quality-assurance and management structures and decision-makers.

#### 2.4. Quality-improvement process

The process of changing health-care practices takes time. There are well-documented methods for implementing changes and building systems to sustain the changes once a specific goal has been reached. Quality improvement is a management approach that health professionals can use to reorganize care to ensure that patients receive good-quality health care (78). Quality improvement can be defined as "systematic and continuous actions that lead to measurable improvement in health care services and the health status of targeted patient groups" (79). The process of quality improvement has been extensively studied and there are well-developed models of quality improvement in health care (including by the WHO Regional Office for South-East Asia (78, 80), the Institute for Healthcare Improvement (IHI) (81, 82) and the US Department for Health and Human Services (79).

Quality-improvement processes are cyclical and comprise the following steps: (i) planning a change in the quality of care; (ii) implementing the changes; (iii) measuring the changes in care practices and/or outcomes; and (iv) analysing the changed situation and taking further action to either further improve or maintain the practices. In the IHI model, these steps are called plan, do, study and act (PDSA) and are visualized in Fig. 3.

In the context of the BFHI, a PDSA cycle can be used to improve implementation of each of the Ten Steps. Application of the quality-improvement methodology is particularly important for steps that the facility has found especially difficult and for which the global standards have not been achieved. Once the desired level is achieved, the implementing team can focus on monitoring the performance of the sentinel indicators. The quality-improvement approach is very relevant for the BFHI, and countries are strongly encouraged to apply this approach. It helps to improve sustainability, since standard processes require fewer external resources or additional staff. The BFHI-related aspects can be combined with other quality-improvement initiatives that are already ongoing in newborn health or maternal and child health at the facility.

Regardless of what model of quality improvement is used, some key principles of quality improvement are central:

• the triad of planning, improvement and control is central to the approach: implementing teams need guidance on how to move through these steps;

 active participation of the main service providers or front-line implementers: a team of staff members in the facility should review their own practices and systems and decide on the processes or actions that need to be changed; the day-to-day service providers like nurses, and possibly one or more physicians, know best what works and which obstacles they face;

 engagement of leadership personnel: facility administrators, heads of medical departments and thought leaders need to be convinced of the importance of the protection, promotion and support of breastfeeding and achieving high rates for early initiation of and exclusive breastfeeding; they need to encourage the front-line implementers to adapt their practices where needed, and facilitate and actively support necessary changes; facility managers also play a pivotal role in implementing the critical management procedures;

 measurement and analysis of progress over time: using data to identify where problems are occurring allows a more focused approach to solving them (see the list of possible indicators in Appendix 1, Table 1); the team needs to decide on the key indicators to measure in addition to the two sentinel indicators;

• external evaluation or assessment: quality-assurance systems implemented by national or decentralized authorities with an agreed regularity can be relevant to validate the results and the maintenance of the agreed standards; the indicators in Appendix 1, Tables 1 and 2 can be used for external assessments.



Fig. 3. Visualization of the four steps of quality improvement

### 3. Country-level implementation and sustainability

While the changes to clinical care and maintenance of a supportive breastfeeding environment necessarily rest with each facility providing maternity and newborn services, national leadership is needed to ensure that all mothers and newborns receive timely and evidence-based care and services appropriate to their needs. Transforming the quality of services to protect, promote and support breastfeeding in all facilities will require a health-systems approach. WHO has developed a Health Systems Framework that describes six core components, or "building blocks": service delivery, health workforce, health information systems, access to essential medicines, financing, and leadership/governance (*83*). Each of these is relevant for BFHI implementation.

Primary objectives of a national BFHI programme should be to scale-up to 100% coverage of the

programme and sustain recommended practices over time. Countries are called upon to implement nine key responsibilities of a national BFHI programme (see Box 3). These are illustrated in Fig. 4.

National leadership and coordination are critical to achieve both high coverage and sustainability. While all nine responsibilities are interconnected, integration into national policies and standards, improving the training of all health-care professionals, external assessment processes, incentivizing change, and providing necessary technical assistance on the change process are especially important for achieving universal coverage. National monitoring, continuous communication and advocacy, and secure financing are especially important for sustainability over time. These responsibilities are explained in greater detail throughout this section.

#### Box 3. Nine key responsibilities of a national BFHI programme

- 1. Establish or strengthen a national breastfeeding coordination body.
- 2. Integrate the Ten Steps into relevant national policy documents and professional standards of care.
- 3. Ensure the competency of health professionals and managers in implementation of the Ten Steps.
- 4. Utilize external assessment systems to regularly evaluate adherence to the Ten Steps.
- 5. Develop and implement incentives for compliance and/or sanctions for non-compliance with the Ten Steps.
- 6. Provide technical assistance to facilities that are making changes to adopt the Ten Steps.
- 7. Monitor implementation of the initiative.
- 8. Advocate for the BFHI to relevant audiences.
- 9. Identify and allocate sufficient resources to ensure the ongoing funding of the initiative.



Fig. 4. Key responsibilities of a national BFHI programme.

#### 3.1 National leadership and coordination

### Establish or strengthen a national breastfeeding coordination body.

Every country should have an active national coordination body that is responsible for breastfeeding in general and the protection, promotion and support of breastfeeding, specifically in facilities providing maternity and newborn services. The national breastfeeding coordination body should be multisectoral and include representation from government (including health and nutrition, financing and social services), academia, professional organizations, NGOs and community-based organizations. Organizations responsible for maternal and newborn care both within and outside of government need to be part of the breastfeeding coordination body. Some countries have found utility in including representation from consumer organizations or mothers' groups, to ensure that the perspectives of the target populations are considered.

Actors with a conflict of interest, particularly companies that produce and/or market foods for infants and young children, or feeding bottles and teats, cannot be members of the coordination body. The same applies to health professionals, researchers and others who have received funding from producers or distributors of products under the scope of the Code (25-27), or from their parent or subsidiary companies. A conflict of interest is a set of circumstanceswhere the interests of the BFHI may be unduly influenced by the conflicting interest of a partner in a way that affects, or may reasonably be perceived to affect, the integrity, independence, credibility of and public trust in the BFHI in a given country, and its ability to protect, promote and support breastfeeding in facilities providing maternity and newborn services. There is a risk that the aforementioned pressure from the breast-milk substitutes industry will continue to be present and try to undermine BFHI efforts at different levels.

It is most practical when the functions of the coordination body can be added to the functions of an existing governmental department or existing institution or NGO. This helps avoid the BFHI becoming a vertical intervention that is implemented as a stand-alone initiative or "silo", not connected to other maternal and child health and nutrition interventions. It is also recommended that the breastfeeding coordination body is incorporated in the national strategy under which the BFHI is covered.

In countries where the health system is managed in a decentralized manner, members from decentralized levels can be incorporated in one national body, or subnational coordination bodies can be established. Where feasible, WHO and UNICEF can be included as members of the coordinating body, to provide technical support and guidance.

It is recommended to have one clearly identified focal person for the protection, promotion and support of breastfeeding in facilities providing maternity and newborn services. This can either be a government staff member for whom this is part of their duties, or, where needed and feasible, a person appointed only for this task. In some countries, the focal person may be the director of an NGO designated to serve as the BFHI coordinating organization.

The coordination body needs to have terms of reference and a strategic plan with a scope of at least 5 years, with annual workplans. The national breastfeeding coordination body has overall responsibility to plan and coordinate all the key functions of the national BFHI programme as described in Box 3, and ensure they fit the national context.

# 3.2. Policies and professional standards of care

# Integrate the Ten Steps into relevant national policy documents and professional standards of care.

Countries are encouraged to explore all possible avenues for mandating the Baby-friendly standards so that all mother–infant pairs can benefit from timely evidence-based care and services appropriate to their needs. The strongest incentive for facilities providing maternity and newborn services is often a governmental mandate. Through legislation, regulation, accreditation or certification, governments can require health–care facilities to adhere to specific policies and procedures. For example, legislation can require that all facilities have a breastfeeding policy and prohibit them from accepting donations of breast–milk substitutes. Facility accreditation can be made dependent on adherence to a full set of clinical standards and specific management procedures.

The protection, promotion and support of breastfeeding in facilities providing maternity and newborn services need to be integrated into all relevant policy and planning documents, for example in the national nutrition policy and action plans and action plans for maternal, newborn and child health or hospital accreditations.

Broader development plans, such as a national strategy for the reduction of neonatal deaths or a national development strategy, should explicitly include protection, promotion and support of breastfeeding in facilities providing maternity and newborn services. Such inclusion will facilitate the integration of service delivery and inclusion in (national) budgets. It is also important to ensure that other supportive policy documents are developed, including on implementation of the Code (25-27). The key clinical practices and global standards of the revised Ten Steps should be written into the standards of care for professional bodies. At a minimum, standards for nursing, midwifery, family medicine, obstetrics, paediatrics, neonatology, dietetics and anaesthesiology should be laid out as basics of care for all newborns. The national protocols for feeding of infants of mothers who are living with HIV, as well as protocols for the use of donated human milk, also need to be incorporated into these standards. In addition, the management procedures of the revised Ten Steps need to be reflected in relevant guidance documents for clinical professionals, and countries need to develop tools to measure whether the standards of care are being met (see section 3.7).

A relevant guidance document for incorporating the key clinical practices into standards of care is *Standards* for improving quality of maternal and newborn care in health facilities (4). This document provides clear standards and has incorporated most of the Ten Steps. Several countries are already working to implement these standards in the context of the Quality of Care initiative (84).

It should be clear in the policies and standards of care that the protection, promotion and support of breastfeeding in facilities providing maternity and newborn services need to be maintained and, where necessary, strengthened in humanitarian settings.

# 3.3. Health professional competency building

Ensure the competency of health professionals and managers in implementation of the Ten Steps.

At all levels of the health-care system, health professionals need to have adequate knowledge, competence and skills to implement globally recommended practices and procedures for the protection, promotion and support of breastfeeding in facilities providing maternity and newborn services. Individual facilities have the responsibility for assessing competencies and ensuring that all of those who work at a facility have appropriate knowledge and skills when these are found to be substandard.

Designated teaching staff with appropriate qualifications, education and experience, will need to be appointed to teach and, if necessary, adapt or develop the new materials and curricula. This is an essential investment for long-term sustainable capacity-strengthening.

Pre-service training for all professions that will interact with pregnant women, deliveries and newborns needs to include adequate time and attention on breastfeeding, including on the Ten Steps, and should include theoretical as well as practical sessions. Since current pre-service training on breastfeeding is inadequate in many countries, new competency-based national curricula may need to be developed and their quality guaranteed. The WHO Model chapter for textbooks for medical students and allied health professionals is a useful basis (85). Curricula on breastfeeding need to include clinical and administrative practices related to the protection, promotion and support of breastfeeding, as well as health-worker responsibilities under the Code (25-27). It is understood that updating a curriculum, especially in the case of national curricula, is often a lengthy process that involves many different stakeholders who are not usually involved in breastfeeding-related activities (such as the ministry of education and other government institutions where relevant, as well as individual institutions for higher learning and organizations that award professional credentials).

While pre-service training is a critical component of long-term change in maternity practices, all health professionals working with pregnant women, mothers and infants already in practice also need to be educated on timely and appropriate care. Continuing education and in-service training will be important until several batches of newly trained professionals in all the professions and technical areas involved have graduated. Where national guidance or national curricula for in-service training of health professionals exist, the clinical practices and the Code (25-27) need to be incorporated in the curricula. This also ensures that each individual facility does not need to develop its own materials or procedures. Many countries have adapted the 20-hour course of the 2009 BFHI implementation guidance (86). WHO and UNICEF are in the process of revising the course, based on the updated Ten Steps and Global Standards in this document and are also creating an Integrated IYCF [Infant and Young Child Feeding] Counselling Training package.

In-service training must be seen as a short-term solution to a problem, not an ongoing method of capacity-development. On-the-job refresher training sessions and continuing education are needed regularly and can be done in a modular way so that they do not interfere too much with the provision of services. Training needs to be competency based, focusing on practical skills rather than only on theoretical knowledge. The teaching staff in all relevant schools and universities, as well as trainers engaged in in-service training and continuing education, will need to be trained in the new materials. However, this is an essential investment for long-term sustainable capacity-strengthening and an important task of the national breastfeeding coordination body. Train-thetrainer approaches to create a large cadre of BFHI experts across the country are likely to be a costeffective strategy to disseminate in-depth information about the Ten Steps.

Many of the educational materials needed for appropriate maternity and newborn care may be taught through electronic or online courses. This could be an efficient and low-cost means of education, also allowing health professionals to learn at their own pace and review information when they need to refresh their knowledge later on. Existing resources already exist in some countries and could be shared. Health professionals need to be granted study time to undertake self-study courses.

However, teaching some skills will require faceto-face interaction. Some staff will also benefit from face-to-face and group learning, to help them debrief following a difficult personal experience of breastfeeding or because they have worked in situations where they have not been able to provide effective, evidence-based care. In addition, skills assessment will require direct observation. As a result, some one-to-one learning and competency-based assessment will still be needed.

The role of facility managers in the protection, promotion and support of breastfeeding in facilities providing maternity and newborn services is crucial. Performance-based contracts with targets for breastfeeding rates in general, or BFHI implementation in particular, may be useful to strengthen accountability. Facility managers need to have an adequate understanding of breastfeeding and the BFHI, so that they can guide and oversee BFHI implementation at the facility level.

Proactive education of facility administrators and medical directors, combined with technical assistance as needed, may be sufficient to stimulate change in many practices. Implementing most of the Babyfriendly standards does not cost more money (some may even save facilities money, sometimes after an initial investment in adopting a new practice), but require a conscious decision to make a change. If directors understand the rationale for recommended standards, can have their questions answered, and can be helped through challenges, this may be sufficient incentive to make the change.

#### 3.4. External assessment

### Utilize external assessment systems to regularly evaluate adherence to the Ten Steps.

All facilities providing maternity and newborn services are responsible for providing timely and appropriate care for mothers and newborns, in line with the Babyfriendly guidelines (32) and national evidence-based quality standards. As described above, facilities need to develop internal monitoring mechanisms to ensure adherence to quality standards. However, external assessment is also critical for quality assurance. The primary purpose of external assessment should be to facilitate technical assistance and correction of inappropriate practices. The technical assistance is not necessarily provided by the external assessors themselves. In some countries, external assessors report back to a specific group, which then provides feedback to the facility.

Monitors from outside the facility are able to validate the results and identify gaps in care and noncompliance with standards much more readily than those within the facility. Therefore, countries need to maintain an ongoing external assessment process (including assessments and re-assessments) to validate adherence to the Ten Steps and to provide feedback to each facility on areas for improvement.

It is recommended that an external assessment process be integrated with other quality-assurance processes, such as facility certification/accreditation or assessments for health insurance schemes. In some certification systems, being designated as a Babyfriendly hospital means that certain aspects of the quality assurances are considered fulfilled, thereby reducing the costs of certification. Incorporation of the BFHI clinical standards into facility certification procedures would help to institutionalize them and would reduce the costs of the overall programme. It must be understood that assessment of the Ten Steps includes a clinical assessment as well as an administrative assessment, and some additional training might be required to incorporate BFHI assessments into existing assessments.

External assessment should review documentation on all of the key clinical practice indicators proposed in Appendix 1, Table 1, including the sentinel indicators. If the data are regularly collected by the facilities, they can be reviewed by the external review team to assess consistent adherence to the clinical steps. External assessment should include some element of validation of the facility's monitoring data via interviews with staff, pregnant women and mothers, at least for some period of time. A particular threshold (e.g. the 80% target) could be applied to decide whether the facility "passes" on each step.