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Maternal and Child Survival Program

Comprehensive Breastfeeding Support and Feeding of Small and Sick Newborns in Low- and Middle-Income Countries: Programmatic Considerations

Technical Summary Brief

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Key Messages

This brief provides policy makers and program implementers with a summary of the rationale and implementation considerations for strengthening targeted efforts to promote breast milk feeding for small and sick newborns (SSNBs) in Low- and Middle-Income Countries (LMICs).

The World Health Organization (WHO) recommends breast milk to all infants including SSNBs requiring special care.

The UNICEF/WHO's 2018 Baby-Friendly Hospital Initiative (BFHI) includes updated guiding principles and steps to implement breastfeeding support for all babies.

While BFHI 2018's framework to protect, promote and support breastfeeding provides a holistic health systems approach, gaps remain in the clinical care of SSNBs and guidance for continued support for optimal feeding after discharge.

Breast Milk Feeding and its Importance for SSNBs

Optimal breast milk feeding practice is defined by the WHO[1] as early and uninterrupted skin-to-skin (STS) contact between mothers and infants to facilitate the early initiation of breastfeeding within one hour of birth, exclusive breastfeeding (EBF) for the first six months of life and continued breastfeeding to two years of age or beyond. Globally, only 44% of infants initiate breastfeeding within the first hour after birth and just 41% of all infants under six months of age are exclusively breastfed[2]. The WHO- and UNICEF-led Global Breastfeeding Collective promotes key policy actions which aim to strengthen the promotion, protection and support of breastfeeding. In 2017, the Collective introduced the Global Breastfeeding Scorecard to assist countries in tracking their breastfeeding progress and to help meet specific targets by 2030: 70% of babies breastfed within an hour of birth, 70% of babies under six months old exclusively breastfed (further building upon the WHO's Global Nutrition target of 50% EBF in the first six months by 2025[3]), 80% of children still breastfed at one year of age, and 60% of children still breastfed at two years of age, by 2030[4]. EBF <6 months has the single largest potential impact on newborn, infant and child mortality of any preventive

[1] WHO. Breastfeeding. Geneva; WHO.
[2] WHO, UNICEF, & Global Breastfeeding Collective. 2018. "Global Breastfeeding Scorecard, 2018: Enabling women to breastfeed through better policies and programmes." Geneva: WHO.
[3] WHO. Global Nutrition Targets 2025: Policy Brief Series (WHO/NMH/NHD.14.2). Geneva. WHO. 2014.
[4] WHO, UNICEF, & Global Breastfeeding Collective. 2019. "Increasing commitment to breastfeeding through funding and improved policies and programmes." Geneva. WHO.

intervention[5]. It is known to reduce infant mortality due to common childhood illnesses, such as diarrhea or pneumonia, and the delayed initiation of breastfeeding is associated with an increased risk of neonatal mortality. A 2017 review[6] identified a dose-response relationship between the risk of neonatal mortality and increased delay in breastfeeding initiation, whereby infants who initiated breastfeeding 2–23 hours after birth had a 33% greater risk of neonatal mortality, and infants who initiated breastfeeding ≥24 hours after birth were more than twice as likely to die during the neonatal period than those who initiated breastfeeding within one hour of birth.

Globally, approximately 10% of babies are born preterm (the majority [84%] of which occur between 32 and 36 weeks[7]) and 16% of newborns are LBW[8], with higher rates encountered in LMICs[9] than high income countries (HICs). Though premature infants have widely differing needs for nutrition and immune protection, they receive optimal nutrition from their mother's milk. Breast milk-fed babies have lower mortality and lower incidence of infections and necrotizing enterocolitis than those fed with infant formula[10]. Furthermore, breastfeeding has been demonstrated to have beneficial effects on neurodevelopment, with higher cognitive skills and behavioral scores reported among extremely preterm[11], preterm[12] as well as term[13] infants. The WHO therefore recommends[14] that mothers of SSNBs should be appropriately supported to provide EBF or alternative feeding (expressed breast milk, donor breast milk or formula), and that clinically stable preterm newborns should receive kangaroo mother care (KMC) (a package of early and continuous STS contact, breastfeeding support, timely discharge, and post-discharge follow-up) to encourage breast milk feeding, which contributes to the positive impacts evidenced through nurturing care[15].

Box 1: Definitions

Moderate to Late Preterm: Born 32 to <37 weeks of gestation
Very Preterm: 28 to <32 weeks
Extremely Preterm: <28 weeks
Low Birth Weight (LBW): less than 2,500g
Very Low Birth Weight (VLBW): less than 1,500g

SSNBs often require inpatient care, but neonatal intensive care is consistently associated with lower rates of breastfeeding initiation and duration and more uncertainty and stress[16], which impacts the mother's milk supply[17]. Furthermore, interventions that aid the initiation and establishment of breastfeeding, such as immediate STS, early initiation of EBF and rooming-in, are interrupted during inpatient care, which often separates mothers from their babies. Inpatient care can thereby lessen the opportunities for mothers to learn to breastfeed, express breast milk or recognize responsive feeding, all of which creates a physiological barrier and can lead to the mother to be unable to provide breast milk when needed to[18].

[5] Jones G, Steketee RW, Black RE, Bhutta ZA, Morris SS. Bellagio Child Survival Study Group. How many child deaths can we prevent this year? Lancet. 2003;362:65–71.
[6] 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.
[7] March of Dimes, PMNCH, Save the Children, WHO. Born Too Soon: The Global Action Report on Preterm Birth. Eds CP Howson, MV Kinney, JE Lawn. World Health Organization. Geneva, 2012.
[8] Beck S1, Wojdyla D, Say L, Betran AP, Merialdi M, Requejo JH, Rubens C, Menon R, Van Look PF. The worldwide incidence of preterm birth: a systematic review of maternal mortality and morbidity: Geneva; WHO. 2010.
[9] WHO. Preterm Factsheet 2016.
[10] WHO. Guidelines on optimal feeding of low birth-weight infants in low- and middle-income countries. Geneva; WHO. 2011.
[11] Vohr BR, Poindexter BB, Dusick AM, et al. Persistent beneficial effects of breast milk ingested in the neonatal intensive care unit on outcomes of extremely low birth weight infants at 30 months of age. Pediatrics 2007;120:e953–9.
[12] Lucas A, Morley R, Cole TJ, et al. Breast milk and subsequent intelligence quotient in children born preterm. Lancet 1992;339:261–4
[13] Lanting CI, Fidler V, Huisman M, et al. Neurological differences between 9-year-old children fed breast-milk or formula-milk as babies. Lancet 1994;344:1319–22
[14] WHO. Standards for improving quality of maternal and newborn care in health facilities. Geneva; WHO. 2016.
[15] WHO, UNICEF, World Bank Group. Nurturing care for early childhood development: a framework for helping children survive and thrive to transform health and human potential. Geneva: WHO; 2018.
[16] Padovani, FH, Duarte, G, Martinez, FE, Linhares, MB. Perceptions of breastfeeding in mothers of babies born preterm in comparison to mothers of full-term babies. Span J Psychol. 2011;14:884-898.
[17] Dewey K. Maternal and Fetal Stress are Associated with Impaired Lactogenesis in Humans. The Journal of Nutrition, Volume 131, Issue 11, November 2001, Pages 3012S-3015S.
[18] Maastrup R., Hansen B., Kronborg H., Bojesen S., Hallum K., Frandsen A., Kyhnaeb A., Svarer I., Hallstrom I. Breastfeeding Progression in Preterm Infants is Influenced by Factors in Infants, Mothers and Clinical Practice: The Results of a National Cohort Study with High Breastfeeding Initiation Rates. PLoS One. 2014. 9(9): e108208.

Optimal feeding for SSNBs has been previously rolled into breastfeeding strategies, approaches and global guidelines for healthy newborns, which often fail to address SSNBs' special situations and requirements. As a result, systems that exist to promote breastfeeding among healthy infants do not always catch those newborns with complications or their mothers, who are particularly needing of support during the inpatient and post-discharge periods. SSNBs and their mothers necessitate specific breastfeeding policies, strategies and implementation guides for all inpatient newborn care areas, including delivery rooms, post-natal wards, inpatient units and for post-discharge care. Additionally, consideration of SSNBs should be integrated into routine newborn and child, as well as SSNB-specific, service delivery platforms. It is critical that policies, strategies and implementation guides require healthcare professionals to have knowledge and competencies in lactation and breastfeeding support specific to neonatal care.

The Baby Friendly Hospital Initiative

WHO and UNICEF published a joint statement on "Protecting, Promoting and Supporting Breastfeeding: The Special Role of Maternity Services" in 1989[19], which introduced the Ten Steps to Successful Breastfeeding (the Ten Steps). The Ten Steps are at the core of the BFHI, which was launched in 1991 and summarizes a package of policies and procedures that health facilities providing maternity and newborn services should implement to support breastfeeding during the immediate postnatal period. Substantial evidence links the implementation of the Ten Steps with improved breastfeeding practices, including exclusive breastfeeding[20,21].

The Ten Steps and BFHI implementation guidelines were revised in 2018 and now include specific guidance for feeding SSNBs (Table 1), acknowledging that: "*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*… [BFHI 2018] *outlines the standards and key steps for breastfeeding and/or the provision of human milk to this group*."

Table 1: SSNB-Specific Guidance included within BFHI 2018's Ten Steps of Key Clinical Practice[22]

BFHI Step	Guidance Specific to SSNB Feeding
Step 1: Facility policies 1a. Comply fully with the International Code of Marketing of Breast-milk Substitutes and relevant World Health Assembly resolutions.	*No references are made to preterm babies in BFHI's Step 1, but facilities must have a written infant feeding policy that is routinely communicated to staff that specifically outlines SSNB care and feeding practice, particularly with respect to use of breast-milk substitutes, to be in line with best feeding practice for SSNBs and compliance with the International Code of Marketing of Breast-milk Substitutes.*
1b. Have a written infant feeding policy that is routinely communicated to staff and parents.	
1c. Establish ongoing monitoring and data-management systems.	
Step 2: Staff competency Ensure that staff have sufficient knowledge, competence and skills to support breastfeeding.	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. All staff who help mothers with infant feeding should be assessed on their abilities, including their ability to help a mother to breastfeed a LBW or sick baby.

[19] UNICEF/WHO. Protecting, promoting and supporting breastfeeding: the special role of maternity services. Geneva; WHO 1989.
[20] Pérez-Escamilla R, Martinez JL, Segura-Pérez S. Impact of the Baby-friendly Hospital Initiative on breastfeeding and child health outcomes: a systematic review. Maternal and Child Nutrition. 2016;12(3):402-17.
[21] Kramer MS, Chalmers B, Hodnett ED, Sevkovskaya Z, Dzikovich I, Shapiro S et al. Promotion of Breastfeeding Intervention Trial (PROBIT): a randomized trial in the Republic of Belarus. JAMA. 2001;285:413–20.
[22] UNICEF/WHO. 2018. Implementation guidance: protecting, promoting and supporting breastfeeding in facilities providing maternity and newborn services – the revised Baby-friendly Hospital Initiative. Geneva. World Health Organization.

BFHI Step	Guidance Specific to SSNB Feeding
Step 3: Antenatal information Discuss the importance and management of breastfeeding with pregnant women and their families.	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, LBW or sick baby.
Step 4: Immediate postnatal care Facilitate immediate and uninterrupted STS contact and support mothers to initiate breastfeeding as soon as possible after birth.	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 EBF should be the aim whenever possible and is facilitated by prolonged STS contact.
Step 5: Support with breastfeeding Support mothers to initiate and maintain breastfeeding and manage common difficulties.	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, hypoglycemia and feeding difficulties than full-term infants, and thus require increased vigilance.
Step 6: Supplementation[23] Do not provide breastfed newborns any food or fluids other than breast milk, unless medically indicated.	Infants who cannot be fed their mother's own milk, or who need to be supplemented, especially LBW infants, including those with VLBW 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.
Step 7: Rooming-in Enable mothers and their infants to remain together and to practice rooming-in 24 hours a day.	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.
Step 8: Responsive feeding Support mothers to recognize and respond to their infants' cues for feeding.	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.
Step 9: Feeding bottles, teats and pacifiers Counsel mothers on the use and risks of feeding bottles, teats and pacifiers.	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. 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. Non-nutritive sucking or oral stimulation involves the use of pacifiers, a gloved finger or a breast that is not yet producing milk.
Step 10: Care at discharge Coordinate discharge so that parents and their infants have timely access to ongoing support and care.	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.

Relevant Global Guidelines

In addition to the BFHI, there are multiple global guidelines and resources that include information on the care and feeding of SSNBs. Figure 1 provides a timeline of how the various resources have evolved.

[23] The WHO Guidelines on Optimal Feeding of Low Birth-Weight Infants in Low- and Middle-Income Countries (WHO 2011) provide "weak" recommendations on micronutrient supplementation of VLBW infants. The recommendations are based on "low/very low" quality evidence, and should be considered carefully, based on individual and contextual factors.

- The **WHO's 2003 Kangaroo Mother Care (KMC) Guidelines**[24] present the KMC method for care of stable preterm/LBW infants who can breathe air, have no major health problems, and who need thermal protection and adequate feeding, but the guidelines do not include the management of SSNBs[25].

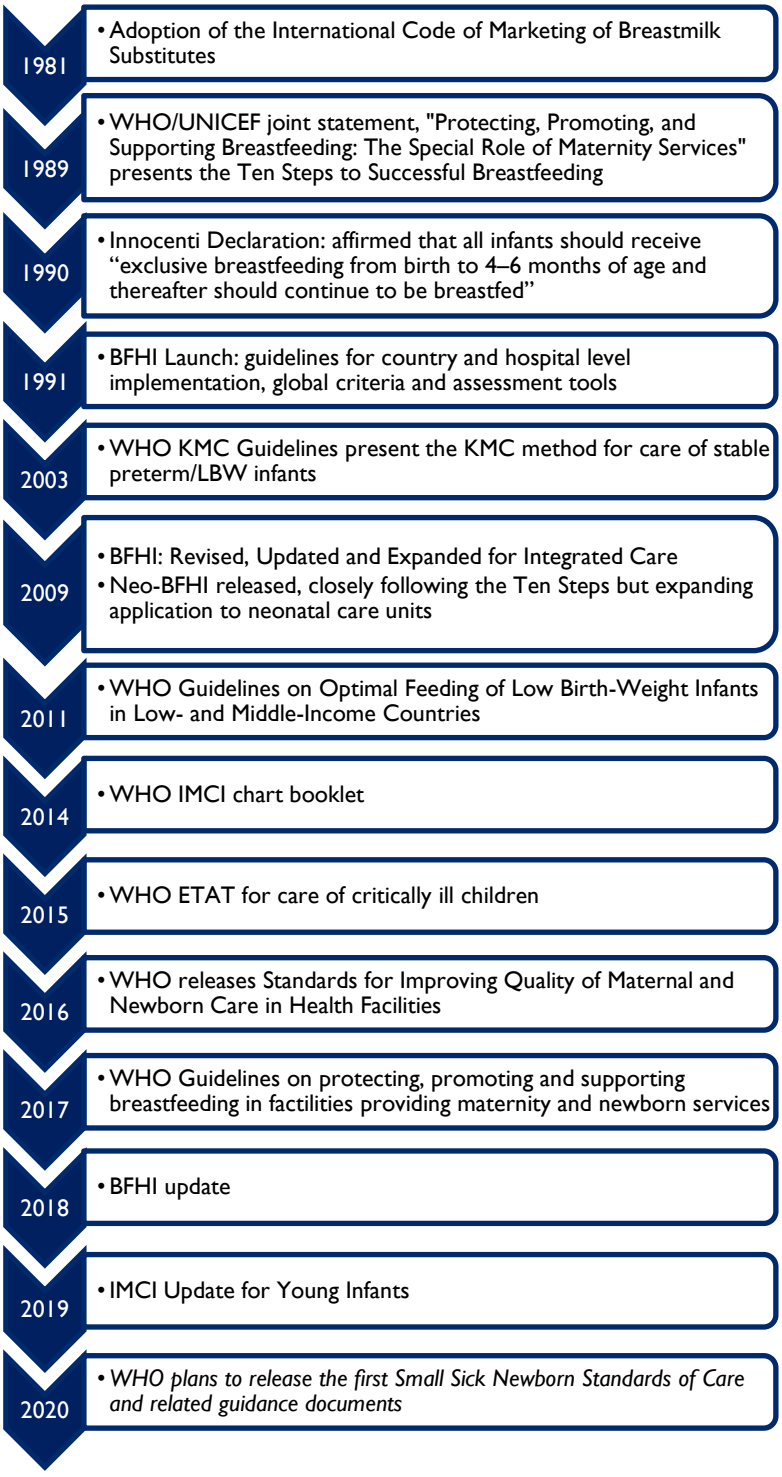
- Specific guidance on the feeding of SSNBs has been available since 2009 in the Nordic and Quebec Working Group's **Neo-BFHI**[26], which remains consistent with BFHI 2009 guidance but extends the Ten Steps to neonatal wards. Neo-BFHI is limited in its usefulness to LMICs.

- Guidelines for the optimal feeding of LBW and VLBW infants in LMICs are available in **WHO's 2011 Guidelines on Optimal Feeding of Low Birth-Weight Infants in LMICs**[27].

- **2014 Integrated Management of Childhood Illness**[28]**:** WHO's chart booklet describing the assessment, classification and treatment of sick children two months to five years old and, separately, sick young infants (SYI) up to two months old.

- **2015 WHO Update of Pediatric Emergency Triage, Assessment and Treatment (ETAT) for Care of Critically Ill Children**[29]**:** provides clinical guidance to

Figure 1: Timeline of BFHI evolution and supporting guidelines for neonatal ward feeding



[24] WHO. Kangaroo Mother Care: A Practical Guide. WHO. Geneva 2003.
[25] At the time of writing, the KMC Guidelines are under review by WHO pending the release of an update.
[26] Nyqvist KH, Maastrup R, Hansen MN, Haggkvist AP, Hannula L, Ezeonodo A, Kylberg E, Frandsen AL, Haiek LN. Neo-BFHI: The Baby-friendly Hospital Initiative for Neonatal Wards. Core document with recommended standards and criteria. Nordic and Quebec Working Group; 2015.
[27] WHO. Guidelines on optimal feeding of low birth-weight infants in low- and middle-income countries. Geneva. 2011.
[28] WHO. Integrated Management of Childhood Illness. Geneva. 2014.
[29] WHO. Updated guideline: paediatric emergency triage, assessment and treatment. Geneva: World Health Organization; 2016.

health workers in low resource settings to manage infants and children presenting with signs of severe illness.

- **WHO's 2016 Quality of Care (QOC) Framework**[30] includes standards and quality statements to drive measurable improvements in the QOC around childbirth. In addition to promoting routine care of newborns immediately after birth, (drying, STS, clamping of the umbilical cord and breastfeeding within the first hour), the framework includes some specific feeding guidance for SSNBs, including supporting the mother to breastfeed or identify alternative feeding, and to initiate early KMC as appropriate.

- In 2015, WHO and UNICEF revised the 2009 BFHI guidance and the resulting, **2017 WHO Guidelines: Protecting, Promoting and Supporting Breastfeeding in Facilities Providing Maternity and Newborn Services**[31] informed the BFHI 2018 Implementation Guidance. The update strengthens the health systems approach, proposing less vertical implementation, proposing key considerations for national implementation ranging from national standards to advocacy, and requiring fewer dedicated resources.

- **2019 IMCI Update for Young Infants**[32]**:** This update of the 2014 IMCI reflects guidelines on managing possible serious bacterial infection (PSBI) in young infants when referral is not feasible, including assessment, classification and referral of SYI with PSBI; and outpatient treatment of SYI with local infection or fast breathing (pneumonia) in infants 7-59 days old. It also has a new section on identifying infants less than seven days old for KMC.

Feeding of SSNBs: The Enabling Environment and Key Approaches

Transforming the quality of services to protect, promote and support breastfeeding for healthy and SSNBs requires a health systems approach. Activities at each of the six core components ("building blocks") of WHO's Health Systems Framework[33] (Box 2) are necessary to ensure adequate coverage of BFHI and to influence change at the health system, facility, and community levels in a collaborative, coordinated and country-led way.

Box 2: WHO Health System Building Blocks

1. Service delivery
2. Health workforce
3. Health information systems
4. Access to essential medicines
5. Financing
6. Leadership/governance

BFHI 2018 encourages efforts to address all components of the enabling environment in a way that is both supportive of breastfeeding for all infants and inclusive of SSNBs. Specific actions to be conducted at each health system building block are included in BFHI 2018's list of recommendations, which are designed to achieve the Ten Steps[34] and work collectively to protect, promote and support breastfeeding. In addition to Steps 1a, 1c and 7 (see Table 1), which ensure compliance with the Code, describe quality monitoring and data management systems, and encourage keeping mothers and infants together by rooming-in, the following four recommendations are particularly valuable in establishing an enabling environment:

1. Facilities should have a clearly written breastfeeding policy that is routinely communicated to staff and parents.
2. Health facility staff who provide infant feeding services, including breastfeeding support, should have sufficient knowledge, competence and skills to support women to breastfeed.
3. Where facilities provide antenatal care, pregnant women and their families should be counselled about the benefits and management of breastfeeding.

[30] WHO. Standards for improving quality of maternal and newborn care in health facilities. Geneva. 2016.
[31] UNICEF/WHO. Implementation guidance: protecting, promoting and supporting breastfeeding in facilities providing maternity and newborn services – the revised Baby-friendly Hospital Initiative. Geneva: World Health Organization; 2018.
[32] WHO. Management of the sick young infant aged up to 2 months: participant manual. Geneva: World Health Organization; 2019.
[33] WHO. Everybody's business: strengthening health systems to improve health outcomes: WHO's framework for action. Geneva. 2007.)
[34] WHO. Guideline: protecting, promoting and supporting breastfeeding in facilities providing maternity and newborn services. Geneva: World Health Organization; 2017.

4. 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 at the community level.

Active support is crucial for establishing and sustaining appropriate breastfeeding practices. A systematic review determining barriers to EBF in LMICs showed that active support (including promotion, counselling and education on EBF) both in the health facility *and* community led to a 152% increase in EBF[35], highlighting the importance of ongoing community-level activities in addition to the support received in health facilities. This is particularly true for the mothers of preterm infants who require significant and ongoing support to establish adequate milk supply, including time spent STS with the premature infant[36].

Commonly identified bottlenecks that compromise facility/community support and impede adequate care of SSNBs (Table 2) can be addressed through approaches that establish an enabling environment for successful breast milk feeding. Such approaches include:

- **Continuum of Care**[37]**:** Targeting improved practices and services from pre-conception through postnatal care, including: breastfeeding counseling during prenatal care; essential newborn care with immediate STS and early breastfeeding in the hour after delivery; breastfeeding counseling and support during postnatal care; and specialized lactation support for mothers with SSNBs at the facility level with continued community-based follow-up care post-discharge.

- **Family-Centered Care (FCC):** Recognizing family as partners in health care promotes collaboration between health professionals and families[38], leading to better health and developmental outcomes, improved patient and family experiences of care, enhanced clinician and staff satisfaction, and wiser allocation of resources[39].

- **Nurturing Care**[40]**:** Facilitated by STS contact, breastfeeding and the presence of a companion to support the mother, nurturing care builds a foundation for optimal nutrition, quality interactions and care. It is particularly beneficial to SSNBs since their challenging circumstances often mean they receive less attention, which puts them at greater risk of poor neuro- and behavioral development[41]. Mothers of SSNBs must receive optimal support to exclusively feed their babies' breast milk from birth.

- **Quality of Care (QOC)**[42]**:** WHO's QOC framework describes both the routine care and management of complications for women and babies, including SSNBs, during labor, childbirth and postnatal care, to encourage the provision of high-quality care throughout pregnancy, childbirth and the postnatal period. Patient-centered care and the patient experience are considered key to the provision of quality healthcare with accepted domains of patient-centered care defined as: respect, emotional support, physical comfort, information and communication, continuity and transition, care coordination, involvement of patients and their family, and access to care[43].

[35] Kavle JA, LaCroix E, Dau H, Engmann C. Addressing barriers to exclusive breast-feeding in low- and middle-income countries: a systematic review and programmatic implications.
[36] Underwood MA. Human Milk for the Premature Infant. Pediatric Clinics of North America. Volume 60, Issue 1, February 2013, Pages 189-207.
[37] de Graft Johnson, J.; Kerber, K.; Tinker, A. et al. The maternal, newborn and child health continuum of care.
[38] Kuo, D.Z.; Houtrow, A.J.; Arango, P.; Kuhlthau, K.A. et al. Family-Centered Care: Current Applications and Future Directions in Pediatric Health Care. Maternal and Child Health Journal. 2012. 16(2): 297-305.
[39] Every Preemie SCALE, USAID, PCI, Gapps, ACNM. Family Participation in the Care of the Inpatient Newborn; Do No Harm Technical Brief. 2018.
[40]WHO, UNICEF, World Bank Group. Nurturing care for early childhood development: a framework for helping children survive and thrive to transform health and human potential. Geneva: WHO; 2018.
[41] Spittle AJ, Treyvaud K, Doyle LW, et al. Early emergence of behavior and social-emotional problems in very preterm infants. Journal of the American Academy of Child & Adolescent Psychiatry. 2009;48(9):909–18.
[42] WHO. Standards for improving quality of maternal and newborn care in health facilities. Geneva. 2016.
[43] Zimlichman E, Rozenblum R, Millenson ML. The road to patient experience of care measurement: lessons from the United States. Isr J Health Policy Res. 2013;2(1):35. Published 2013 Sep 17. doi:10.1186/2045-4015-2-35

- **Respectful Maternal and Newborn Care**[44,45]: RMNC promotes respect for women and newborns' rights to dignity, privacy and confidentiality. It promotes the highest quality care provided in a clean and safe environment with adequate nutrition, clean water, freedom from harm, mistreatment, and arbitrary detention, informed choice and continuous support during labor, childbirth and maternity care. For SSNBs, rooming-in is encouraged wherever possible to prevent separation of women and babies which has been shown to impede EBF[46].

Country Case Study

Comprehensive Breastfeeding Support and Improving Care of SSNBs in Malawi

Malawi has one of the world's highest rates of preterm birth at 18 per 100 live births. Prematurity is the leading cause of under-five deaths in the country[47]. Although Malawi has made impressive strides in reducing childhood mortality, with the under-five mortality falling by 73% from 1992-2015/16, neonatal mortality has been much slower to improve, falling by just 34% during the same time[48].

In 2017, USAID's Maternal and Child Survival Program (MCSP) supported the Ministry of Health (MOH) to integrate the care and feeding of SSNBs into the country's existing BFHI platform by training health providers at eight referral hospitals in Essential Care for Small Babies[49]. In order to better understand the bottlenecks that might affect the application of skills and knowledge learned through these trainings, MCSP conducted a bottleneck analysis (BNA) using an adapted version of the Every Newborn BNA tool. Table 2 presents examples of the key bottlenecks and proposed solutions identified through this exercise[50], presented according to WHO's six health system building blocks.

Table 2: Examples of bottlenecks and proposed solutions identified in Malawi

Building Block	Bottleneck	Proposed Solution
1. Policy, Leadership, & Guidance	Lack mechanisms to enforce supportive supervision and monitoring around SSNBs	Further advocacy for integrating: BFHI into national RMNCHN policies; enforcement mechanisms around supportive supervision and monitoring of feeding/care of SSNBs into RMNCHN policies; and key actions for SSNBs into National Multi-Sector Nutrition Policy.
2. Health Workforce	Lack of skilled staff trained to provide adequate care of the SSNB	Strengthening of pre-service training; Regular in-service trainings and on-site mentoring and supportive supervision.
3. Essential Medical Products & Technologies	Lack of feeding cups	Incorporation of feeding cups into the national ordering system for essential medical products.
4. Health Service Delivery	Limited health facilities that provide adequate care and feeding for SSNBs	Invest in increasing capacity of selected health facilities, including those deemed Centers of Excellence.
5. Health Information Systems	Lack of national monitoring of Baby- Friendly designation	Incorporation of % of births in Baby-Friendly facilities into the Malawi ENAP.

[44] Windau-Melmer, Tamara. 2013. A Guide for Advocating for Respectful Maternity Care. Washington, DC: Futures Group, Health Policy Project.
[45] Respectful Maternity Care Charter: Universal Rights of Women and Newborns (2019) https://www.whiteribbonalliance.org/rmctoolkit
[46] Kavle JA, LaCroix E, Dau H, Engmann C. Addressing barriers to exclusive breast-feeding in low- and middle-income countries: a systematic review and programmatic implications.
[47] WHO. "Preterm birth". 2018.
[48] National Statistical Office – NSO/Malawi and ICF, 2017. Malawi Demographic and Health Survey 2015-2016. Zomba, Malawi: NSO and ICF.
[49] Kavle JA, Welch, PR, Bwanali F, Nyambo K, Guta J, Mapongo N, Straubinger S, Kambale S. (2019) The revitalization and scale-up of the Baby-Friendly Hospital Initiative in Malawi. Maternal and Child Nutrition.
[50] Welch, P., Kavle, JA., Bwanali, F., Nyambo, K., Khadka, N. 2019. A Bottleneck Analysis of Care and Feeding of the Small and Sick Newborn in Malawi: Findings and Considerations for Nutrition-Newborn Integration, Final Report. USAID/MCSP.

Building Block	Bottleneck	Proposed Solution
6. Family and Community Engagement	Lack of linkages from the facility to community levels	Growing community care groups on select aspects of feeding of the SSNB and including community engagement in community-based post-discharge follow-up.

Implementation Considerations for Low- and Middle-Income Countries

Given the health burden and high mortality rates for SSNBs in LMICs,[51,52] there is a need to intentionally integrate the care and feeding of SSNBs within nutrition, newborn and child health programming platforms, while also providing considerations for SSNB service delivery and supportive infrastructure within health system strengthening.

Depending on the country context, extensive changes may be required to ensure that SSNBs can access specialized care, for example, inpatient neonatal care may need to be decentralized and special care baby units established in district hospitals, which would require designated national and district level efforts and funding. Similarly, post-discharge follow-up is a crucial element of service delivery, but is often not clearly articulated or financed for SSNBs, leading to suboptimal implementation in LMICs. As a result, post-discharge care may need to be set up from scratch, requiring formal linkages to be established between facilities and any existing community health worker (CHW) programs.

Efforts to strengthen existing services, as described in BFHI 2018's guidelines on "*Country-level implementation and sustainability*", are described below according to each of the WHO HSS building blocks. For the purposes of this briefer, an additional community component (7) has been added to reflect the importance of the community's role in linking with health systems and supporting follow-up for vulnerable newborns.

1. **Service delivery:** All facilities providing maternity and newborn services are responsible for providing care for mothers and newborns, in line with the Baby-friendly guidelines and national and global evidence-based quality standards. National programs should consider what incentives or sanctions are most appropriate to motivate facilities providing these services to make the necessary changes to fully protect, promote, and support breastfeeding, particularly with regards to the specialized feeding requirements for SSNBs.
2. **Health workforce**: National-level coordination of simplified, training programs to strengthen the competency of health workers serving in maternity/neonatal wards and communities to improve hospitals, health facilities and communities' abilities to manage infection prevention, breast milk feeding, family-centered care for newborns, and knowledge and skills around lactation and counselling.
3. **Health information systems:** Facilities should develop internal monitoring mechanisms to ensure adherence to quality standards, including those specific to the care and feeding of SSNBs. External assessment, including a review of documentation of key clinical practice indicators and indicators of adherence to management procedures, is critical for quality assurance.
4. **Access to essential medicines:** Review national ordering and forecasting systems for essential medical products to ensure they align with global guidelines for SSNB care. Advocate for increased investments from governments/donors if the existing list is inadequate. Assess district-level capacity to maintain and repair equipment and ensure that maintenance plans exist at the facility level to ensure care of SSNB equipment.

[51] Blencowe, H., Cousens, S., Oestergaard, M. Z., Chou, D., Moller, A.-B., Narwal, R., Lawn, J. E. 2012. National, regional, and worldwide estimates of preterm birth rates in the year 2010 with time trends since 1990 for selected countries: a systematic analysis and implications. Lancet, 379(9832), 2162–2172.
[52] Lawn, J. E., Davidge, R., Paul, V. K., Xylander, S. von, de Graft Johnson, J., Costello, A., Molyneux, L. 2013. Born Too Soon: Care for the preterm baby. Reproductive Health, 10 (S1).

5. **Financing:** Funding for the protection, promotion and support of breastfeeding in facilities and communities that provide maternity and newborn services should primarily come from government resources, with regular, multi-year commitments to ensure sustainability.
6. **Leadership/Governance:** National leadership is critical to achieve both high coverage and sustainability, and to ensure that all mothers and newborns receive timely and evidence-based care and services appropriate to their needs, as part of the responsibilities of national BFHI programs. Integration into national policies and standards, improving health-care trainings, external assessment processes, incentivizing change, and providing necessary technical assistance are especially important for achieving coverage of BFHI to include healthy newborns and those who are small or sick. Leadership at the local level is similarly necessary for coverage, involvement and accountability of services that benefit local communities.
7. **Community**: Facilities should strengthen and build links with CHWs to: identify and address any sociocultural barriers to care and feeding of SSNBs at the community level; ensure appropriate handover as part of post-discharge, postnatal care and follow-up with SSNBs in the community; and build CHW capacity to promote EBF as part of community-based postnatal care (including the involvement of community Care Groups[53] where available). Additionally, family-centered care (FCC) can be established using the Every Preemie SCALE family-led care model[54], which provides the necessary materials and tools for facility support staff to teach families how to provide quality care to SSNBs. Coaching and mentoring of CHWs by facility-based health providers—including on proper positioning, STS contact, breast milk feeding, and recognition of danger signs—can help to alleviate the burden of facility staff shortages without sacrificing QOC, and ensures the continuation of appropriate care post-discharge in the community. FCC has the added benefit of encouraging male involvement in pregnancy, delivery, and newborn care.

Implementation Tools

Table 3 presents a selection of implementation tools to integrate the Ten Steps within existing newborn health services. Some of these tools have been used in USAID-supported activities to investigate and strengthen the care and feeding of SSNBs. These tools may be adapted and used to develop and harmonize quality assurance tools for quality assessment in neonatal units.

Table 3: Tools to help assess, design, and develop activities to strengthen feeding support in LMICs

Tool Name and Link	Purpose
The Every Newborn Bottleneck Analysis Tool and MCSP Adaptation	Adaptation of the Every Newborn Bottleneck Analysis Tool to assess barriers across six health system building blocks with increased focus on the care and feeding of SSNBs as well as on the health facility level, in addition to the health system level.
Neo-BFHI self-appraisal tool (2015 edition)	Assess standards and criteria, based on BFHI 2009, Section 4 – for use by managers and staff to determine whether their facilities are ready to apply for external assessment, and – once their facilities are designated Baby-friendly – to monitor continued adherence to the Ten Steps.
Neo-BFHI external assessment tool (2015 edition)	Confidential tool based on BFHI 2009, Section 5.
Every Preemie SCALE Do No Harm Brief: Safe and Effective Human Milk Feeding for Small and Sick Newborns	The brief highlights: how unsafe human milk feeding for SSNBs can cause harm; the current WHO recommendations; current evidence-based best practices; and what actions can be taken to improve their use and health outcomes. Actions are highlighted across policy makers, program planners and implementers, facility managers and administrators, and health care providers.

[53] Perry H., Morrow M., Borger S., Weiss J. et al. 2015. Care Groups I: An Innovative Community-Based Strategy for Improving Maternal, Neonatal, and Child Health in Resource-Constrained Settings Global Health Science and Practice, 3(3): 358-369. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4570011/

[54] Every Preemie SCALE. 2019. Family-led Care for the Small Newborn; Sharing the Malawi Experience.

Tool Name and Link	Purpose
Every Preemie SCALE: Newborn and Young Infant Inpatient Assessment Tools	In 2017, Every Preemie led the development of a protocol and tools for a situation analysis to provide a better understanding of the landscape of inpatient care for SSNBs in LMICs. The aim was to assess service readiness and QOC by examining health system structures, facility processes, national policies and clinical standards and parent/caregiver experience for inpatient care of SSNBs in a range of countries. The protocol and tools, country implementation guides, and tabulation templates are available for download.

Additional References

- Every Preemie SCALE, USAID, PCI, Gapps, ACNM. Multi-Country Situation Analysis Brief: Highlights of Findings for Ghana, Rwanda, Tanzania and Uganda. 2019.
- Every Preemie SCALE, USAID, PCI, Gapps, ACNM. Family Participation in the Care of the Inpatient Newborn; Do No Harm Technical Brief. 2018.
- UNICEF/WHO. 2017. Guideline: protecting, promoting and supporting breastfeeding in facilities providing maternity and newborn services. Geneva. World Health Organization.
- UNICEF/WHO. 2018. Implementation guidance: protecting, promoting and supporting breastfeeding in facilities providing maternity and newborn services – the revised Baby-friendly Hospital Initiative. Geneva. World Health Organization.
- WHO. 2011. Guidelines on optimal feeding of low birth-weight infants in low- and middle-income countries. Geneva. World Health Organization.
- WHO. 2016. Standards for improving quality of maternal and newborn care in health facilities. Geneva. World Health Organization.

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