

Ensuring equitable access to human milk for all infants

A comprehensive approach to essential newborn care



Mothers' Milk Bank Austin

Breastfeeding has long been recognized as an essential part of newborn care and the optimal source of infant nutrition and immune protection.¹ Challenges remain, however, in meeting global targets for early, exclusive, and continued breastfeeding, resulting in too few infants receiving the full benefits of lifesaving human milk for the best start in life. Enhanced policies and programs are needed to effectively protect, promote, and support breastfeeding.² This includes focus on sick and vulnerable newborns who are at greatest risk of negative health outcomes in the absence of human milk, such as those born preterm or low birthweight. Yet, many such vulnerable neonates do not have access to their mother's own milk for a range of reasons, including issues of abandonment, mother's death, baby's illness or inability to suckle, or delay in milk production, resulting in increased rates of morbidity and mortality. In these special cases when

the optimal choice of direct breastfeeding is not a possibility, the World Health Organization (WHO) recommends the use of donor human milk, not formula, as the next best option for ensuring exclusive human milk feeding until mother's own milk becomes readily available via breastfeeding or milk expression. Further, WHO recommends that if donor human milk is needed, then it should be safely provided through a human milk bank (HMB) (Box 1).

BOX 1. 2011 WHO RECOMMENDATIONS ON OPTIMAL FEEDING OF LOW-BIRTHWEIGHT INFANTS

WHAT TO FEED, CHOICE OF MILK:

1. **Low-birthweight (LBW) infants, including those with very low birthweight (VLBW), should be fed mother's own milk.**
2. **LBW infants, including those with VLBW, who cannot be fed mother's own milk, should be fed donor human milk (recommendation relevant for settings where safe and affordable milk-banking facilities are available or can be set up).**
3. **LBW infants, including those VLBW, who cannot be fed mother's own milk or donor human milk, should be fed standard infant formula (recommendation relevant for resource-limited settings).**
VLBW infants, who cannot be fed on mother's own milk or donor human milk, should be given preterm infant formula if they fail to gain weight despite adequate feeding with standard infant formula.
4. **LBW infants, including those with VLBW, who cannot be fed mother's own milk or donor human milk, should be fed standard infant formula from the time of discharge until six months of age (recommendation relevant for resource-limited settings).**

Throughout this brief, the term human milk refers to providing nutrition via breastfeeding, mother's own expressed milk, and, only as necessary, donor human milk. The purpose

Global Breastfeeding Collective

of this policy brief is to increase awareness about (1) the importance of ensuring an exclusive human milk diet, as an element of essential care for all newborns, especially sick and vulnerable newborns at greatest risk of illness and death; (2) global policies and best practices that support increasing access to and intake of donor human milk for newborns who meet criteria due to lack of mother's own milk; and (3) the specific actions countries can take to increase equitable access to human milk for all newborns, including sick and vulnerable newborns. Ultimately, country-level action to increase access to and intake of human milk for all newborns must be comprehensive and should aim to improve optimal breastfeeding practices.

BOX 2. PROTECTING, PROMOTING, AND SUPPORTING BREASTFEEDING

The provision of donor human milk should be an alternative only following comprehensive lactation support and in cases when the mother's own milk is not (yet) available. An integrated approach is needed to ensure exclusive human milk feeding is prioritized for all infants as a strategy for protecting, promoting, and supporting breastfeeding.

BACKGROUND

Despite gains made globally in reducing childhood mortality, 4.5 million babies still die in the first year of life. Nearly 3 million, or 45 percent of all under-five deaths, occur in the first 28 days.³ Additionally, complications of prematurity and infections are leading causes of death in the first month of life.⁴ Many of these deaths are preventable, and yet efforts to implement known strategies to prevent newborn deaths are insufficient. Of all known approaches, feeding babies exclusively with human milk in the first hours, days, and months of life has the greatest potential impact on child survival and development.¹

Efforts to improve the support of mothers to breastfeed and to ensure that all babies have access to human milk need to be strengthened. Similarly, as survival of preterm infants is increasing even in low- and middle-income countries, enhanced measures for optimal neonatal care are needed. Globally, less than half of all newborns (45 percent) receive human milk in the first hour of life.⁵ For sick and vulnerable newborns, evidence shows that those who receive human milk early and exclusively are more likely to survive.⁶ This is especially important for the 20 million babies who are born at a low birthweight, 97 percent of whom are born in low- and middle-income countries.⁷ Yet, anecdotal reports from neonatology wards in a range of countries suggest that between 15 and 40 percent of the sickest babies in neonatal units around the world lack access to their own mother's milk.

More needs to be done to ensure that all newborns, including those sick and vulnerable, have access to and are *receiving*

human milk. This includes efforts foremost to protect, promote, and support breastfeeding, and, importantly, to support mothers at the general and neonatal facility levels in lactation and expression of their milk if their newborn is unable to feed at the breast. For those newborns who do not have access to their mother's own milk, additional efforts are needed to close the gap in the provision of care so that they are not fed formula unnecessarily.

HUMAN MILK IS ESSENTIAL TO NEWBORN CARE

Essential Newborn Care is the basic care required for every baby at birth to ensure survival and healthy development. An important element of Essential Newborn Care is supporting newborn nutrition with human milk. Recommended newborn feeding practices include skin-to-skin contact while feeding, support for immediate and exclusive breastfeeding, and ensuring that the newborn receives a mother's first milk (or colostrum). For sick and vulnerable newborns who may not have access to their mother's own milk, extra support for ensuring optimal nutrition with human milk should be provided.

According to WHO recommendations, every effort should be made to provide mother's own milk to all newborns, including sick and vulnerable newborns, either directly through breastfeeding or by giving their mother's expressed breast milk via cup or spoon feeding.⁸ This requires measures to provide enhanced lactation support, such as in neonatal intensive care settings, through counseling as well as physical provision of options for collection, storage, and tracking of mother's expressed milk. Only when all options are exhausted for provision of mother's own milk should donor human milk from an HMB be considered.⁹ For these babies, donor human milk should be incorporated into other standards of newborn care as needed. This includes using donor human milk as early feedings in order to bridge the gap until breastfeeding can be initiated or mother's own expressed milk is available and safe.

While donor human milk cannot provide the full benefits of direct breastfeeding from a newborn's mother, it is preferable to infant formula due to reduced risk of sepsis, necrotizing enterocolitis, diarrhea, and feeding intolerance, as well as length of stay in critical care.¹⁰⁻¹⁴ Additionally, evidence shows that integrating systems for provision of donor human milk into sick and vulnerable newborn care can lead to increased rates of breastfeeding at discharge from the hospital.¹⁵⁻¹⁹

GLOBAL POLICY THAT SUPPORTS THE PROVISION OF DONOR HUMAN MILK

Recognizing the benefits of using donor human milk over formula for sick and vulnerable newborns, WHO and other global health leaders have recommended the scale-up of HMBs to encourage provision of safe donor human milk as a strategy for improving neonatal health and survival. In 2008, World Health Assembly Resolution 61.20 called on countries

to investigate ways to safely provide donor human milk to vulnerable infants, in particular premature, low-birthweight, and immunocompromised infants, as a risk reduction strategy.

The provision of donor human milk for sick and vulnerable newborns is also included in a number of other globally adopted frameworks and documents that aim to improve newborn health and survival (Box 3).

Currently, more than 40 countries have established systems to provide donor human milk through HMBs, including a number in low- and middle-income countries.²⁰ However, in regions with the greatest burden of sick and vulnerable infants, such as sub-Saharan Africa and South Asia, few HMBs exist. Most countries in the world have yet to establish national policies and programs that support the provision of donor human milk to infants in need.

Strengthening health systems so that they provide donor human milk to all newborns in need has the added benefit of contributing to a country's ability to achieve other health and development commitments, related to human rights, the Sustainable Development Goals, and targets for maternal, infant, and young child nutrition (Box 4).

ACTIONS TO IMPROVE NEWBORN CARE THROUGH THE PROVISION OF HUMAN MILK

The following are actions that policymakers can take to strengthen systems to increase access to and intake of human milk for sick and vulnerable newborns.

- Commit to developing, improving, and enforcing policies and legislation that protect, promote, and support breastfeeding for all infants, including exclusive human milk feeding for sick and vulnerable newborns, through strengthening systems for comprehensive lactation support in critical care facilities.
- Strengthen data tracking systems for inclusion of human milk use within indicators for early initiation of breastfeeding.
- Invest in training and capacity-building in the optimal feeding of premature, sick, and vulnerable newborns.
- Integrate the provision of donor human milk from HMBs into national strategies and policies as part of a comprehensive approach for Essential Newborn Care and improving breastfeeding, infant and child feeding, and nutrition.
- Establish culturally appropriate national standards, guidelines, and systems for establishing HMBs, monitoring distribution and quality control of donor human milk, and ensuring equitable access to donor human milk.
- Ensure that policies and programs to increase access to and intake of donor human milk do not undermine breastfeeding, but are part of a comprehensive strategy to ensure optimal feeding of sick and vulnerable newborns.

BOX 3. TECHNICAL AND POLICY GUIDANCE DOCUMENTS THAT INCLUDE AND/OR SUPPORT ACCESS TO AND INTAKE OF DONOR HUMAN MILK FOR NEWBORNS IN NEED

The following documents focus on optimal newborn feeding, nutrition, and growth and incorporate the use of donor human milk through the establishment of human milk banks.

- *Global Strategy for Infant and Young Child Feeding* (United Nations Children's Fund [UNICEF] and World Health Organization [WHO], 2013).
 - World Health Assembly Resolution 61.20 (2008).
 - *Guidelines on optimal feeding of low birth-weight infants in low- and middle-income countries* (WHO, 2011).
 - The Surgeon General's Call to Action to Support Breastfeeding (United States Department of Health and Human Services, 2011).
 - *Donor Human Milk for the High-Risk Infant: Preparation, Safety, and Usage Options in the United States* (American Academy of Pediatrics, 2016).
 - *Breastfeeding and the Use of Human Milk* (Academy of Breastfeeding Medicine, 2005).
 - *Academy of Breastfeeding Medicine Position on Breastfeeding* (2015).
 - *Guide to the quality and safety of tissues and cells for human application* (European Directorate for the Quality of Medicines and Health Care, 3rd ed., 2017).
 - World Health Assembly, 70th Session. "Provisional agenda item 13.2" April 2017. *Principles on the donation and management of blood, blood components and other medical products of human origin*.
 - *Baby-friendly Hospital Initiative: Revised, Updated and Expanded for Integrated Care* (UNICEF and WHO, 2009).
 - *Pocket Book of Hospital Care for Children: Guidelines for the Management of Common Illnesses with Limited Resources* (WHO, 2013).
 - *Every Newborn Action Plan* (UNICEF and WHO, 2014).
 - *Integrated Management of Pregnancy and Childbirth: Pregnancy, Childbirth, Postpartum and Newborn Care: A guide for essential practice* (United Nations Population Fund, UNICEF, WHO and World Bank, 3rd ed., 2015).
 - *Standards for improving quality of maternal and newborn care in health facilities* (WHO, 2016).
-

BOX 4. HOW STRENGTHENING HEALTH SYSTEMS TO PROVIDE HUMAN MILK, INCLUDING DONOR HUMAN MILK, CAN SUPPORT COUNTRY HEALTH AND DEVELOPMENT COMMITMENTS

COUNTRY HEALTH AND DEVELOPMENT COMMITMENTS

Human Rights: Under Articles 6 and 24 of the Convention on the Rights of the Child, every newborn child has the inherent right to life, survival, and development; the highest attainable standard of health; and access to health care services for treatment and rehabilitation.

Sustainable Development Goal 2 (zero hunger) and Goal 3 (good health and wellbeing): Target 2.2 calls for an end to all forms of malnutrition, including achieving, by 2025, the internationally agreed targets on stunting and wasting in children under five years of age, and addressing the nutritional needs of adolescent girls, pregnant and lactating women, and older persons.

Target 3.2 calls for an end to preventable deaths of newborns and children under five years of age, with all countries aiming to reduce neonatal mortality to at least as low as 12 per 1,000 live births and under-five mortality to at least as low as 25 per 1,000 live births.

World Health Organization (WHO) targets for maternal, infant, and young child nutrition: One of WHO's Global Targets 2025 is to increase the rate of exclusive breastfeeding in the first six months up to at least 50 percent.

PROVIDING HUMAN MILK TO MEET COUNTRY COMMITMENTS

As established in the Every Newborn Action Plan as well as WHO's *Standards for improving quality of maternal and newborn care in health facilities*, providing donor human milk is considered the highest standard of care for newborns when mother's own milk is not available.

Human milk is essential to preventing newborn deaths and is considered the perfect food for newborns. It provides optimal nutrition by meeting a newborn's micronutrient, protein, and energy needs. Meeting newborn nutrition needs through the provision of human milk will help to prevent stunting and wasting.

Human milk also has unique immunological properties and is good for gut health, which reduces a newborn's susceptibility to infections that could lead to death. Strengthening health systems to protect, promote, and support the use of human milk, including donor human milk, will contribute to both of these targets.

Establishing integrated human milk banks and providing donor human milk in neonatal intensive care units can increase breastfeeding rates at discharge, which is an important initial step to establishing exclusive breastfeeding.

REFERENCES

1. Victoria C, Bahl R, Barros Aluicio JD, et al. Breastfeeding in the 21st century: epidemiology, mechanisms, and lifelong effect. *The Lancet*. 2016;387(10017):475-490.
2. United Nations Children's Fund (UNICEF), World Health Organization. *Global Breastfeeding Scorecard, 2017: Tracking Progress for Breastfeeding Policies and Programmes*. New York: UNICEF; 2017. Available at <http://www.who.int/nutrition/publications/infantfeeding/global-bf-scorecard-2017.pdf?ua=1>.
3. United Nations Children's Fund (UNICEF), World Health Organization, World Bank, United Nations Department of Economic and Social Affairs Population Division. *Levels & Trends in Child Mortality: Report 2015*. New York: UNICEF; 2015.
4. Global Burden of Disease 2015 Child Mortality Collaborators. Global, regional, national, and selected subnational levels of stillbirths, neonatal, infant, and under-5 mortality, 1980-2015: a systematic analysis for the Global Burden of Disease Study 2015. *The Lancet*. 2016;388(10053):1725-1774.
5. United Nations Children's Fund (UNICEF). *From the First Hour of Life: Making the case for improved infant and young child feeding everywhere*. New York: UNICEF; 2016.
6. Smith ER, Hurt L, Chowdhury R, Sinha B, Fawzi W, Edmond KM, on behalf of the Neovita Study Group. Delayed breastfeeding initiation and infant survival: a systematic review and meta-analysis. *PLoS ONE*. 2017;12(7):e0180722.
7. United Nations Children's Fund (UNICEF), World Health Organization. *Low Birthweight: Country, regional and global estimates*. New York: UNICEF; 2004.
8. United Nations Children's Fund, World Health Organization (WHO). *Global Strategy for Infant and Young Child Feeding*. Geneva: WHO; 2003.
9. World Health Organization (WHO). *Guidelines on optimal feeding of low birth-weight infants in low- and middle-income countries*. Geneva: WHO; 2011.
10. Rønnestad A, Abrahamsen TG, Medbø S, et al. Late-onset septicemia in a Norwegian national cohort of extremely premature infants receiving very early full human milk feeding. *Pediatrics*. 2005;115(3):269-276.
11. ESPGHAN Committee on Nutrition, Arslanoglu S, Corpeleijn W, Moro D, et al. Donor human milk for preterm infants: current evidence and research directions. *Journal of Pediatric Gastroenterology and Nutrition*. 2013;57(4):535-542.
12. Boyd CA, Quigley MA, Brocklehurst P. Donor breast milk versus infant formula for preterm infants: a systematic review and meta-analysis. *Archives of Disease in Childhood: Fetal and Neonatal Edition*. 2007;92(3):F169-F175.
13. Ganapathy V, Hay JW, Kim JH. Costs of necrotizing enterocolitis and cost-effectiveness of exclusively human milk-based products in feeding extremely premature infants. *Breastfeeding Medicine*. 2012;7(1):29-37.
14. Cacho NT, Parker LA, Neu J. Necrotizing enterocolitis and human milk feeding: a systematic review. *Clinics in Perinatology*. 2017;44(1):49-67.
15. PATH. *Strengthening Human Milk Banking: A Global Implementation Framework*. Version 1.1. Seattle: Bill & Melinda Gates Foundation Grand Challenges initiative and PATH; 2013.
16. DeMarchis A, Israel-Ballard K, Mansen KA, Engmann C. Establishing an integrated human milk banking approach to strengthen newborn care. *Journal of Perinatology*. 2017;37(5):469-474.
17. Landers S, Hartmann BT. Donor human milk banking and the emergence of milk sharing. *Pediatric Clinics of North America*. 2013;60(1):247-260.
18. Williams T, Nair H, Simpson J, Embleton N. Use of donor human milk and maternal breastfeeding rates. *Journal of Human Lactation*. 2016;32(2):212-220.
19. Hartmann B. Ensuring safety in donor human milk banking in neonatal intensive care. *Clinical Perinatology*. 2017;44(1):131-149.
20. Haiden N, Ziegler EE. Human milk banking. *Annals of Nutrition and Metabolism*. 2016;69(suppl 2):8-15.

Copyright© 2017, PATH. All rights reserved. The material in this document may be freely used for educational or noncommercial purposes, provided that the material is accompanied by an acknowledgment line.

Suggested citation: PATH. Policy Brief: *Ensuring equitable access to human milk for all infants: a comprehensive approach to essential newborn care*. Seattle: PATH; 2017. Global Breastfeeding Collective; 2017.