# 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, promoting and supporting breastfeeding</u>: 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, promotion and support of breastfeeding</u>, 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 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 Breastmilk Substitutes, as 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. 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.

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 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).

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).

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).

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).

<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).

The International Code of Marketing of Breast-milk Substitutes: frequently asked questions 2017 update. Geneva: World Health Organization; 2017 (WHO/NMH/NHD/17.1; <a href="http://apps.who.int/iris/bitstream/10665/254911/1/WHO-NMH-NHD-17.1-eng.pdf?ua=1">http://apps.who.int/iris/bitstream/10665/254911/1/WHO-NMH-NHD-17.1-eng.pdf?ua=1</a>).

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 Marketing of Breast-milk Substitutes</u> and its subsequent related WHA resolutions.

This guideline complements interventions presented in the <u>Essential newborn care course</u>,¹ <u>Kangaroo mother care: a practical guide</u>,² <u>Pregnancy, childbirth, postpartum and newborn care: a guide for essential practice</u>³ and the <u>Standards for improving quality of maternal and newborn care in health facilities</u>⁴ 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 <u>Protecting</u>, 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 infants in low- and middle-income countries</u>.<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>, and implement the <u>Comprehensive implementation plan on maternal, infant and young child nutrition</u>, 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. The latest the theorem in the global strategy for infant and young child feeding.

- 1 Essential newborn care course. Geneva: World Health Organization; 2010 (http://www.who.int/maternal\_child\_adolescent/documents/newborncare\_course/en/).
- 2 Kangaroo mother care: a practical guide. Geneva: World Health Organization; 2003 (http://apps.who.int/iris/bitstream/10665/42587/1/9241590351.pdf).
- 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).
- 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).
- 5 A hospital is defined as any health facility with inpatient beds, supplies and expertise to treat a woman or newborn with complications.
- 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).
- 7 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).
- 8 United Nations Sustainable Development Knowledge Platform. Sustainable Development Goals (https://sustainabledevelopment.un.org/sdgs).
- 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; <a href="http://www.who.int/nutrition/topics/WHA65.6\_resolution\_en.pdf">http://www.who.int/nutrition/topics/WHA65.6\_resolution\_en.pdf</a>).
- 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).
- 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 <u>Baby-friendly Hospital Initiative</u>, the <u>International Code of Marketing of Breast-milk Substitutes</u> or other breastfeeding protection, promotion and support programmes.

# Guideline development methodology

WHO developed the present evidence-informed recommendations using the procedures outlined in the WHO handbook for guideline development.¹ 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 (GRADE)² 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 (DECIDE)³ 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> for systematic reviews of interventions<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 breastfeeding: the special role of maternity services</u>, 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.

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 (GRADE-CERQual)<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

- 1 WHO handbook for guideline development, 2nd ed. Geneva: World Health Organization; 2014 (http://www.who.int/kms/handbook\_2nd\_ed.pdf?ua=1).
- 2 GRADE (http://www.gradeworkinggroup.org/).
- 3 DECIDE 2011–2015. Evidence to Decision (EtD) framework (http://www.decide-collaboration.eu/evidence-decision-etd-framework).
- 4 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/)
- 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).
- 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 that the true 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 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 estimate and the true effect is likely to be substantially different from the estimate of effect.
- 7 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.¹ 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*).

<sup>1</sup> 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</u>: the special role of <u>maternity services</u>. It complements the operational guidance of the <u>Innocenti Declaration on the protection, promotion and support of breastfeeding</u>, adopted in Florence, Italy 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).

### 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 successful 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 <u>International Code of Marketing of Breast-milk Substitutes</u> and its <u>subsequent related WHA resolutions</u>,
  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 <a href="International Code of Marketing of Breast-milk Substitutes">International Code of Marketing of Breast-milk Substitutes</a> 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.¹

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 (<a href="http://www.who.int/kms/handbook\_2nd\_ed.pdf?ua=1">http://www.who.int/kms/handbook\_2nd\_ed.pdf?ua=1</a>).