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Educational Objectives and Skills for the Physician with Respect to Breastfeeding, Revised 2018

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The Academy of Breastfeeding Medicine is a worldwide organization of physicians dedicated to the promotion, protection and support of breastfeeding and human lactation. Our mission is to unite into one association members of the various medical specialties with this common purpose.

Introduction

The science of breastfeeding and human lactation requires that physicians from many different specialties have a collaborative forum to promote progress in physician education. To optimize breastfeeding practices globally, physicians must incorporate the attitudes and skills needed to practice evidence-based breastfeeding medicine. The study of breastfeeding and human lactation is not currently recognized as a medical subspecialty, so the maintenance of a multispecialty organization dedicated to physician education and expansion of knowledge in this field has been vital.

Background

The numerous benefits of breastfeeding for mothers and children have been well documented.[1–3] Physicians (medical doctors) play a key role in supporting breastfeeding, and they interact with women, children, and families throughout the life span. To advocate for breastfeeding, educate families about breastfeeding, and provide optimal clinical management of breastfeeding, these physicians must be educated about and skilled in breastfeeding establishment, maintenance, and support, as well as how to diagnose and treat breastfeeding complications.[4–8] Lack of sufficient education to provide breastfeeding support and guidance by physicians has been well documented in the medical literature.[9,10]

The World Health Organization (WHO) and United Nations Children's Fund (UNICEF) ''Ten Steps to Successful Breastfeeding,'' (Ten Steps), revised in 2018, called for all health care staff to have sufficient knowledge, competence, and skills to support breastfeeding.[11] The *Innocenti Declaration on the Protection, Promotion and Support of Breastfeeding*[12] identified four key goals in breastfeeding support: establishing national committees for oversight, ensuring maternity facilities practice the Ten Steps, enforcing the International Code of Marketing of Breast-milk Substitutes,[13] and enacting legislation that protects the breastfeeding rights of working women. Where national committees exist, many have an objective to educate all health care providers regarding appropriate breastfeeding and lactation support (e.g., the Australian National Breastfeeding Strategy,[14] the German Breastfeeding Committee,[15] Breastfeeding Promotion Network of India,[16] Kenya's National Infant and Young Child Feeding Committee, and the United States Breastfeeding Committee,[17]). The United States Breastfeeding Committee published ''Core Competencies in Breastfeeding Care and Services for All Health Professionals.''[18]

The Academy of Breastfeeding Medicine was founded to promote physician education and has a central goal to develop and disseminate the standard for physician education around breastfeeding and human lactation.[19] Guidance for the integration of breastfeeding medicine throughout the undergraduate, graduate, and postgraduate medical education of physicians is provided in this statement. While this guidance may be applicable to other health care disciplines, the competencies are aimed at physicians specifically. ABM protocols are useful in teaching evidence-based practices throughout the medical education continuum. ABM recognizes that terminology used to describe levels of medical education in various medical education systems around the globe differs. In this statement, the term ''undergraduate medical education'' is used to describe education received before obtaining a medical doctor degree; ''graduate medical education'' refers to clinical education received after the medical degree has been conferred and before the independent practice of medicine (i.e., doctors training during residency and/or fellowship); and ''postgraduate education'' refers to continuing medical education (CME) and maintenance of certification activities completed during ongoing professional development and/or as a requirement to maintain licensure/registration after the training phases have been completed.

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Guidelines

Undergraduate medical education

a. All physicians, regardless of discipline, should have basic knowledge and skills in breastfeeding initiation, maintenance, diagnosis, and treatment.[20] Therefore, the theory and practice of breastfeeding should be incorporated routinely into the medical school curricula.[21]

Medical students should learn the anatomy of the breast, the physiology of lactation (including milk production), hormonal impact on mother and child, fertility changes, and the biochemical and immunological properties of human milk. Students should be able to explain the biological, sociological, and cultural aspects involved in protecting, promoting, and supporting breastfeeding. They should recognize the disparities that exist among different groups,[22] and that structural, institutional, and systemic barriers, as well as exposure to racism and implicit biases, pose challenges to Black, Indigenous, People of Color (BIPOC) receiving equitable breastfeeding and lactation support.[23] They should have opportunities to take a maternal history, obtain a feeding history of a newborn or child, and observe breastfeeding mothers and children in a variety of settings. Students need to recognize the value of breastfeeding and human milk feeding, as well as the risk of less than optimal breastfeeding. Ideally, this education should be integrated longitudinally throughout the curriculum, incorporated into block rotations, systems-based curricula, or case-based learning in the preclinical education, and be reinforced during maternal/child health clinical rotations, including obstetrics and gynecology, pediatrics, and family medicine.[24] All students, regardless of specialty choice, should receive this basic education.

All applicable examinations, whether standardized subject matter, written or oral examinations, or observed structured clinical examinations, should assess knowledge base and clinical decision-making skills in breastfeeding. Examinations for licensure or board certification, as applicable, should also include breastfeeding knowledge and skills assessment. At a basic level, all medical students, and therefore, all physicians, should understand the scientific evidence for breastfeeding, evidence-based clinical management of mothers and newborns, and the societal context of lactation to provide health care that supports breastfeeding initiation and maintenance, avoids creating barriers for breastfeeding women, and enables women to meet their breastfeeding goals.[25] Online courses are available for medical student education.[26] Additional resources may be helpful in developing a breastfeeding curriculum.[24,25,27–29]

b. Preclinical medical school training in breastfeeding should address the following objectives[8,20,24,25,30]:

- List the health risks of not breastfeeding for children, mothers, families, and society.
- Recognize that most infants, even those with special health care needs, can breastfeed.
- Diagram anatomy of the mammary gland and supportive breast structures and identify normal and abnormal histology.
- Describe the physiology of milk production and secretion.
- Describe the hormones of lactation and their multiple effects on mother and child.
- Explain the biochemical and immunologic properties of human milk.
- Describe the physiology of lactation-related fertility suppression.
- Discuss the biological, sociological, psychological, and cultural aspects of supporting breastfeeding.
- Identify structural, institutional, and systemic barriers that contribute to disparities in breastfeeding initiation and duration experienced by BIPOC or based on education level and socioeconomic status.
- Identify national and/or international goals for breastfeeding rates and goals for breastfeeding practices, as appropriate.
- Compare latch (attachment) and suckling dynamics of breastfeeding to bottle-feeding mechanics.
- Describe evidence-based practices for maternity care providers shown to increase rates of initiation, duration, and exclusivity of breastfeeding.

c. Clinical training in medical school (clerkship rotations in obstetrics and gynecology, pediatrics, family medicine, maternal/child health, preventive medicine or public health, etc.,) should address relevant objectives related to clinical management of breastfeeding, as follows[8,20,24,25,30]:

- Identify factors that contribute to parental decision-making about breastfeeding.
- Apply the principles of shared decision-making to engage families in discussions about breastfeeding initiation and continuation.
- Obtain a detailed breastfeeding history and perform a breastfeeding-related examination of the mother and infant.
- Describe the association between labor and delivery interventions and initiation of breastfeeding.
- Describe the impact of intrapartum and immediate postpartum procedures and medications on lactation.
- Observe and be prepared to facilitate the first feeding in the delivery room.
- Recognize correct attachment and effective suckling at the breast.
- Counsel mothers about the importance of exclusive breastfeeding.
- Counsel a breastfeeding mother about basic nutritional needs for herself and her child.
- Counsel mothers about establishing and maintaining milk supply during separation due to illness or return to school or employment.
- Provide anticipatory guidance for breastfeeding mothers and children.
- Access evidence-based resources to recommend medications and treatment options that are compatible with lactation.
- Apply the principles of shared decision-making to discuss family planning options with the lactating woman.
- Discuss causes, prevention, and management of common breastfeeding problems (e.g., sore nip-

ples, low milk supply, poor weight gain, and jaundice).
- Describe normal growth patterns for breastfed infants and children.
- Describe appropriate timing, introduction, and selection of complementary foods.
- Coordinate services with, and provide appropriate referral to, other health professionals, laypersons, and community groups to provide support for breastfeeding.
- Support policies and procedures across all specialty services that promote breastfeeding.

Graduate medical education

a. Residents (postmedical school training) in obstetrics and gynecology, pediatrics, family medicine, and preventive medicine residency training programs report a lack of education in breastfeeding, lack of knowledge and clinical experience in breastfeeding skills, and lack of competence or confidence in providing breastfeeding support to patients.[31–35] Inconsistencies also exist among breastfeeding training received in various training programs in pediatrics.[36] Resident physicians report a need for more direct patient interaction with regard to breastfeeding. Residents also note a lack of experience in counseling breastfeeding mothers and developing problem-solving skills during their training.[37] Residents have demonstrated deficits in interpreting growth patterns of breastfed babies.[38] Program directors also report that training programs do not provide adequate training or experience in breastfeeding.[39]
b. Several specific activities to achieve resident competency in breastfeeding management have resulted in an increase in knowledge of residents and improved breastfeeding management and behaviors. Examples include[40–42]:
    - Didactic presentations and small group discussions about breastfeeding recommendations, benefits, resources, and maternal medication use
    - Role playing of breastfeeding counseling skills.
    - Videos on breastfeeding initiation, assessing latch on, and adequacy of breastfeeding.
    - Panel discussion with breastfeeding mothers and individuals who provide support services.
    - Participation on postpartum rounds with a physician with expertise in breastfeeding support and/or with an international board-certified lactation consultant (IBCLC).
    - Supervised assessment of latch and breastfeeding technique with mother/infant dyads.
    - Supervised management of maternal problems and maintenance of breastfeeding after return to work, including knowledge of applicable legal protections for lactating women in the workplace and training in use of hand expression or breast pumps.
    - Observation of breastfeeding consults.
    - Participation in outpatient breastfeeding or lactation consultant/specialist clinics.
    - Attendance at peer counselor meetings (e.g., La Leche League International) or at peer support provided at other volunteer or government-supported programs (e.g., Australian Breastfeeding Association, National Childbirth Trust [United Kingdom], or Special Supplemental Nutrition Program for Women, Infants, and Children [United States], and hospital-based groups).
c. For primary care disciplines, resident competencies in breastfeeding build on those established for medical students.[8,10,20,24,25,30,32,42–44] The residency competencies are classified below according to the Accreditation Council for Graduate Medical Education[45] (ACGME) competency domains. The ACGME is the organization responsible for the accreditation of postmedical degree medical training programs within the United States and some international sites. The competencies are relevant worldwide.

Medical knowledge.

- Identify risks of not breastfeeding for infants, mothers, and society.
- Identify anatomic structures of the breast.
- Describe physiology of milk production and removal.
- Describe the physiology of lactational fertility suppression and its use and limitations as a method of family planning.
- Describe the hormones of lactation and their multiple effects on mother and child.
- Explain the biochemical and immunologic properties of human milk.
- Describe the importance of breastfeeding in the establishment of microbiome.
- Describe breastfeeding recommendations.
- Discuss the importance of exclusive breastfeeding.
- Describe differences in the rates of breastfeeding initiation and duration based on factors, such as race/ethnicity, socioeconomic status, and maternal education.
- Describe suckling and compare breastfeeding and bottle-feeding mechanics.
- Recognize the impact of intrapartum and postpartum medications and procedures on lactation.
- Describe the importance of skin-to-skin care for the initiation of breastfeeding.
- Describe signs of adequate milk intake by the infant.
- Describe the normal growth pattern of breastfed infants.
- List absolute contraindications to breastfeeding.
- Describe the lactational amenorrhea method of family planning.
- Identify indications for maternal milk expression.
- Describe how to maintain breastfeeding during maternal/infant separation.
- List the specific benefits of human milk for premature infants.
- Identify the late preterm infant as being at higher risk of complications and breastfeeding failure compared with the term infant.
- Describe the interactions between jaundice, breastfeeding, and breast milk with appropriate diagnostic and management strategies.
- Describe the role of human milk banking and the appropriate indications and utilization of donor human milk.

Patient care.

- Obtain a relevant medical history of breastfeeding mothers and babies.
- Perform a maternal breast assessment, including nipple configuration and assessment for scars.
- Facilitate skin-to-skin care in the delivery room or operating room.
- Provide assistance with the first feeding after delivery as needed.
- Perform infant oral assessment and general health assessment.
- Evaluate breastfeeding latch and attachment for the breastfeeding mother and infant.
- Evaluate effective nutritive suckling pattern.
- Identify mothers and infants at risk for inadequate milk transfer.
- Weigh the benefits of exclusive breastfeeding against a potential need for supplementation.
- Counsel mothers about the perception of inadequate milk.
- Counsel mothers on techniques for hand expression.[46]
- Counsel mothers about breastfeeding multiples.
- Counsel mothers about maternal nutrition during lactation.
- Recommend supplementation of vitamin D, iron, and other nutrients as appropriate.
- Counsel mothers and families about safe sleep practices for breastfeeding newborns and infants.[47,48]
- Identify common causes, prevention, and treatment of engorgement.[49]
- Develop a differential diagnosis for sore nipples or breast pain.
- Evaluate and manage sore nipples and breast pain.
- Diagnose and treat plugged ducts, mastitis, and abscess.[50]
- Evaluate maternal infections and potential risk of transmission to the breastfed infant.
- Counsel families on the risks and benefits of informal milk sharing.[51]
- Develop a differential diagnosis for neonatal hypoglycemia and manage newborn blood sugars in a manner that supports breastfeeding.[52]
- Evaluate and manage infants with neonatal jaundice in a manner that supports breastfeeding.[53]
- Monitor for inadequate milk production or milk transfer and implement supplementation when medically necessary.[54]
- Identify and manage newborns at risk for excessive weight loss and dehydration.
- Evaluate and manage infants with ankyloglossia.[55]
- Measure, plot, monitor, and interpret infant growth patterns using the WHO growth standards.
- Evaluate and manage infants with poor weight gain.
- Develop management plans that incorporate the use of expressed maternal milk and/or donor human milk when supplementation is necessary.
- Support nontraditional family units in breastfeeding support (e.g., same sex couples, transgender).
- Counsel families about breastfeeding adopted or surrogate children.
- Counsel families about vaccination practices during breastfeeding.
- Counsel families about family planning and the potential impact on breastfeeding.
- Counsel mothers about maintaining breastfeeding during separation from the infant.
- Counsel mothers about storage of expressed human milk.
- Counsel mothers about returning to work or school.
- Evaluate medication risk during lactation by referring to appropriate evidence-based resources (e.g., LactMed).[56]
- Counsel breastfeeding mothers on the use of recreational drugs.
- Evaluate and manage infants born to mothers with substance abuse who desire to breastfeed.[57]
- Support breastfeeding in special circumstances (e.g., prematurity, infant congenital anomalies, cleft lip/palate,[58] congenital heart disease, trisomy 21, maternal diabetes, and delayed lactogenesis stage II).
- Provide appropriate introduction and progression of breastfeeding for premature infants according to gestational age.
- Counsel mothers about introduction of complementary feedings.
- Counsel mothers about weaning.

Communication and interpersonal skills.

- Apply shared decision-making principles to counseling mothers and families about optimal infant feeding decision for health outcomes, child spacing, and nutrition.
- Demonstrate sensitivity to cultural and ethnic differences and practices related to breastfeeding and infant care.
- Demonstrate sensitivity to the spectrum of family configurations and the impact on breastfeeding.

Systems-based practice.

- Identify and help implement policies that support breastfeeding in maternity care facilities (e.g., the Ten Steps),[11] managed by Baby-Friendly USA,[59] in the United States and other appropriate country-specific agencies, such as ministries of health.
- Identify barriers to successful breastfeeding and suggest strategies to overcome them.
- Describe structural, institutional, and systemic barriers that contribute to disparities in breastfeeding initiation and duration experienced by BIPOC, or based on education level and socioeconomic status.
- Describe how exposure to racism and implicit biases pose challenges to families of color receiving equitable breastfeeding and lactation support.
- Identify cultural and psychosocial factors that impact breastfeeding rates.
- Refer breastfeeding mothers and babies for expert assistance as needed.
- List ways in which the community can support breastfeeding.
- Identify community resources to assist breastfeeding mothers, including breastfeeding-friendly prac-

titioners, prenatal or postpartum classes, drop in breastfeeding services, mother-to-mother support, and internet resources.
- Describe the role of IBCLCs, other levels of professional and lay breastfeeding support, as well as other members of the health care team in caring for mothers and babies.
- Be able to identify current laws protecting breastfeeding mothers with regard to maternity leave, breastfeeding or pumping/expressing breast milk at work, and breastfeeding in public.
- Advocate for legislative policies to enable families to meet their breastfeeding goals.
- Facilitate follow-up visits for breastfeeding mothers and babies.

Practice-based learning and improvement.

- Locate resources for CME.
- Assess current breastfeeding knowledge base and identify gaps in knowledge and clinical skills.
- Perform evidence-based review of breastfeeding educational topics or clinical issues.
- Investigate program or hospital-specific breastfeeding initiation and duration rates.
- Participate in or develop quality improvement plans to improve breastfeeding rates and support in the local clinic, practice, or hospital environment.

d. Lactation education should be integrated longitudinally throughout the curriculum and should occur in a variety of clinical settings: outpatient continuity clinic and practices; inpatient settings (e.g., labor and delivery, newborn nursery, mother/baby units or postpartum units, neonatal intensive care units, inpatient general pediatrics, and adult medical and surgical wards); and community settings such as public health department clinics or government-funded community health centers. In addition, breastfeeding-specific curricula should be presented through a variety of teaching modalities, to include didactics, case presentations and discussions, daily attending rounds, and journal ''clubs'' in which peer-reviewed journal articles are reviewed critically. Residents may attend live presentations or discussions, review online resources (e.g., videos), read breastfeeding textbooks or periodicals (e.g., *Breastfeeding Medicine,* the *Journal of Human Lactation*, or specialty-specific literature), and complete online web-based training modules.[60–62] In the United States, a multidisciplinary, competency-based curriculum in breastfeeding education that provides multiple activities for integration throughout the residency program is available on the American Academy of Pediatrics website.[63] Use of this curriculum has been associated with better care of lactating mothers and infants and improved breastfeeding rates when implemented in residency programs.[64] In each country, resident participation in public clinics would provide an important exposure to common breastfeeding problems in a diverse patient population.
e. The knowledge, skills, and attitudes of residents are important in supporting breastfeeding in patients. It is equally important that residents in training are supported themselves when they are breastfeeding parents. Residents report lack of support for breastfeeding, and their need to express milk after return to work, from their faculty and peer colleagues.[65,66] Residency directors, faculty, deans and department chairs, and administrative support personnel need to advocate for program and human resource policies that support breastfeeding for residents, as well as for medical students, faculty, and staff.
f. The need for physician leadership in residency training to make the human lactation curriculum an ongoing sustainable component of medical education has been described.[24] Physician administrators (e.g., department chairs, residency program directors) either need to identify and support or develop this expertise within the local training program, institution, or hospital.
g. Breastfeeding medicine electives in the form of block rotations devoted to breastfeeding, occurring in a variety of clinical settings, have been described in family medicine and pediatric residency training programs.[37,67] These electives may include more advanced topics (e.g., relactation, induced lactation) and should stimulate more sophisticated clinical problem solving skills and/or provide an experience in clinical research or advocacy. Faculty oversight by individuals with a high degree of knowledge and skills in breastfeeding and human lactation is essential. The ABM has a peer-reviewed process for review of the credentials and background of physicians in breastfeeding with the Fellow of the Academy of Breastfeeding Medicine award.[19] Fellowship in the ABM is one, but not the only, means of identifying those individuals with a high degree of specialization in breastfeeding medicine. The emergence of breastfeeding medicine practices provides an additional opportunity for education of residents in an intensive setting and should assist in encouraging participating residents to make the practice of breastfeeding medicine an integral part of their professional practices.[68]
h. Subspecialty training programs (e.g., fellowship program in subspecialty disciplines, such as maternal/fetal medicine or neonatology) require additionally structured didactic and experiential education, as well as research opportunities, to further the science and advance the understanding of the role and importance of breastfeeding and human milk.

Postgraduate/In-Service/CME

a. Practicing physicians, especially those in the disciplines of obstetrics and gynecology,[69] pediatrics, and family medicine,[70] require ongoing CME in breastfeeding medicine to maintain and enhance their clinical skills and expertise. Key components of ongoing education should encompass the importance of breastfeeding and, especially, the risks of not breastfeeding, lactation management, and counseling skills.[71,72] Practicing physicians acknowledge that they do not understand clearly the health outcomes related to breastfeeding.[73] Patients have reported not receiving

routine prenatal or postpartum counseling about breastfeeding by their physicians.[74] Physician attitudes about counseling mothers have been shown to be a significant factor in the mother's infant feeding decisions. Breastfeeding education of physicians can increase breastfeeding initiation rates.[75,76] Physicians' lack of knowledge has led patients to seek guidance elsewhere. Some physicians are not proactive about supporting breastfeeding, are neutral, or may not provide appropriate advice.[77,78] Mothers who report receiving encouragement from their physician are more likely to continue breastfeeding.[79] The role of the physician in encouraging breastfeeding has been shown to be especially important in those patient populations less likely to initiate breastfeeding.[80] Surveys of practicing physicians indicate that many are either not aware of policy statements on breastfeeding or are not following these policies in counseling patients.[6,81–83] Requirements to maintain specialty or subspecialty certification should incorporate breastfeeding-related materials into activities required for ongoing certification.

b. Practicing physicians have the following areas of need in terms of CME regarding breastfeeding:

- Skills in teaching breastfeeding techniques.
- Clinical management and problem solving skills in breastfeeding.[84]
- Awareness about maternal concerns such as weight loss, contraception during lactation, and maternal medications.
- Training in evaluating latch and attachment.[85]
- Identification and treatment of maternal complications such as mastitis and engorgement.[86]
- Evaluating problems with nipple or breast pain.
- Applying evidence-based strategies for assessment and monitoring to support exclusive breastfeeding.
- Addressing maternal perception of not enough breast milk.[79]
- Advising mothers about returning to work and continued breastfeeding.
- Availability of referral services existing for breastfeeding support.[87]
- More practical training and self-study materials.[88]
- Interactive training sessions.[89,90]
- Recognition of the role of family support.[89]
- Importance of avoiding routine provision of infant formula, infant formula samples, or educational materials that bear infant formula logos or product information.[91]

c. The ABM course, ''What Every Physician Needs to Know about Breastfeeding,'' offered annually, provides CME at an introductory level for physicians and other health care practitioners. The ABM also sponsors an annual international conference that provides education for physicians about the current state-of-the-art of breastfeeding knowledge and research.[19] Many national organizations also offer CME in breastfeeding medicine for practicing physicians. A growing number of sources that provide breastfeeding CME for physicians are available, including online resources and web-based seminars.

d. The residency competencies for resident physicians are equally applicable to practicing physicians. Many practicing physicians are in positions of authority and may be able to affect health policy, so additional educational objectives for CME relate to breastfeeding advocacy[6–8]:

- Promote hospital policies and procedures that facilitate breastfeeding.
- Develop the hospital policies indicated in the Ten Steps and implement those policies and practices.
- Collaborate with other primary care disciplines, appropriate subspecialties (e.g., neonatologists, maternal/fetal medicine specialists), and dental health professionals to ensure optimal outcomes.
- Provide space for breastfeeding or milk expression and private lactation areas for all breastfeeding mothers, both patient and staff, in hospital and office settings.
- Develop office practices that promote and support breastfeeding.
- Advocate for reimbursement for breastfeeding services provided by physicians and/or lactation specialists from government payers and third-party health insurance companies.
- Promote governmental policies and legislation that support breastfeeding mothers and children and increase breastfeeding rates.
- Increase availability of lactation consultants and other skilled breastfeeding support personnel in inpatient and outpatient settings.
- Monitor breastfeeding rates in the practice and/or hospital to include initiation and duration, as well as exclusive breastfeeding rates.
- Develop quality improvement practices that have a positive impact on breastfeeding rates.
- Advocate for dismantling of structural, institutional, and systemic barriers and take steps to mitigate racism and implicit biases that contribute to racial inequities in breastfeeding.
- Incorporate practices that acknowledge cultural differences in the local breastfeeding community.
- Achieve a positive image of breastfeeding as normative behavior in the media.
- Encourage support of breastfeeding and the use of expressed milk in childcare settings.
- Implement evidence-based protocols addressing breastfeeding policy and management, such as those available from the ABM.

Summary

The medical community plays a critical role in promoting, protecting, and supporting breastfeeding for optimal outcomes for all families. Implementation of high-quality breastfeeding education throughout the continuum of medical education is critical to ensure that physicians-in-training develop appropriate knowledge, skills, and attitudes and that practicing physicians maintain their skills and competency to protect every parent's human right to breastfeed and the right of every child to be breastfed.[92]

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