Call to Action on Breastfeeding in North Carolina:
Review and Rationale

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When one looks at many preventive health practice norms, one might conclude that North Carolina has a unique "health care personality." The norms in North Carolina do not quite fit with regional norms in the southeastern United States, nor do they align with those of the Mid-Atlantic states. North Carolina's attitudes, trends, and practices related to the protection, promotion, and support of breastfeeding are no exception. North Carolina has a special set of issues that affect trends and practices in breastfeeding and vary across the state.

Breastfeeding is sometimes referred to as the "homeless intervention." It has no commercial home. It is neither entirely a women's issue nor entirely a children's issue. Breastfeeding is not a one-time thing, like an immunization or a pill; rather, it demands a 24/7 commitment on the part of new parents who have many things to learn. However, it is a mistake to think of breastfeeding as simply a lifestyle choice. In the United States, we once considered avoidance of smoking, use of a seat belt or a bike helmet, and regular exercise to be lifestyle choices with no real public health impact. However, we have been persuaded by data on health and survival, as well as by the social and health care costs of nonadherence to public health recommendations, to value these preventive health behaviors and to support them with social marketing campaigns, insurance incentives, and even laws to increase acceptance and to promote behavior change.

These considerations also apply to breastfeeding. Breastfeeding is a vital preventive health practice and an issue for all who care about health, whether from a clinical, business, or personal viewpoint. The support, or lack thereof, for breastfeeding has measurable implications in terms of lifelong health and wellness for North Carolinians.

Does Breastfeeding Really Matter for Children's Health?

Breastfeeding guidelines provided by the American Academy of Pediatrics recommend exclusive breastfeeding for the first 6 months of life and continuation of breastfeeding for the first year and beyond as long as mutually desired by mother and child [1]. Human milk contains all the nutrients that infants need for optimal growth and development; infants receive a mix of carbohydrates, fats, proteins,

Table 1.
US, North Carolina, and Southeast Regional Breastfeeding Initiation Rates and Continuation Rates at 6 and 12 Months of Age

Variable	Initiation, %	6 months, %	12 months, %
United States, total	73.4	41.7	21.0
United States			
Hispanic	80.4	45.1	24.0
White, non-Hispanic	74.3	43.2	21.4
Black, non-Hispanic	54.4	26.6	11.7
North Carolina			
Hispanic	84.6	48.1	23.3
White, non-Hispanic	72.4	39.5	20.1
Black, non-Hispanic	49.3	19.5	11.3
Southeast region[a]			
Hispanic	70.8	37.3	17.5
White, non-Hispanic	66.0	32.8	14.9
Black, non-Hispanic[b]	43.4	20.1	7.4

Note. Data are from [6].

[a]Unweighted average for Alabama, Georgia, Louisiana, Mississippi, South Carolina, Tennessee, Virginia, and West Virginia.

[b]West Virginia is not included because of small sample size.

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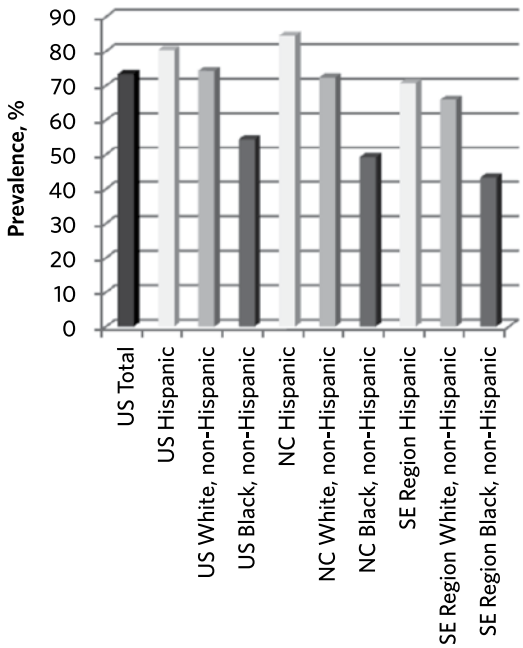
and micronutrients, as well as literally hundreds of different types of cells, immune factors, oligosaccharides, enzymes, hormones, and other factors. However, breastfeeding (ie, feeding directly at the breast) offers even more: the milk composition is continually changing to best satisfy the nutritional and immunologic requirements of the child, which vary according to age and environment [2]. The additional factors in human milk have a profound impact on the health of the child. A recent systematic review and meta-analysis that included data only from the United States and other industrialized countries identified many conditions where the lack of breastfeeding has been associated with adverse health outcomes among infants, including increased mortality and morbidity due to increased sepsis, necrotizing enterocolitis, pneumonia, sudden infant death syndrome, skin reactions, diarrhea, infections, overweight, cardiac risk factors, and diabetes [3]. Lack of breastfeeding has also been associated with lower IQ scores and delayed visual development. Because breastfeeding helps infants overcome environmental problems they might face at birth, optimal breastfeeding can be called the "Great Equalizer" because it has the potential to give every baby the best start in life.

Does Breastfeeding Really Matter for Maternal Health?

Mothers also experience adverse health outcomes if they do not breastfeed. Not every woman is able to breastfeed, and many factors, both social and physical, can come between a woman's decision and the final feeding outcome. Nonetheless, for a woman to make an unbiased informed decision, she must be aware of the impact of breastfeeding on her own health.

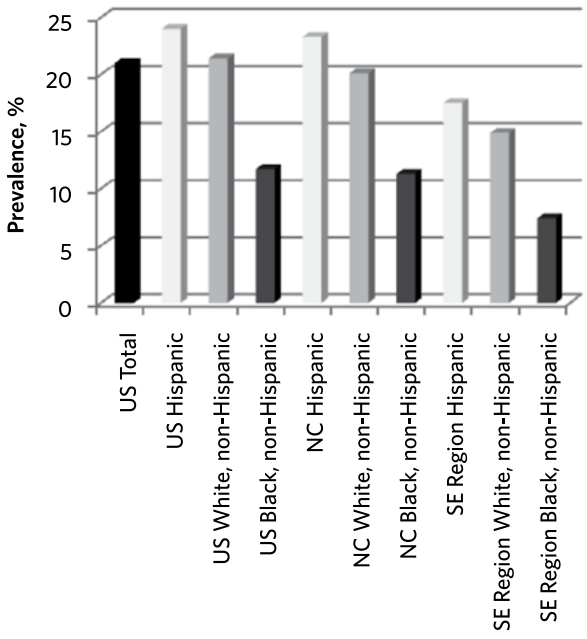
The review by Ip and colleagues [3] found that non-breastfeeding mothers experience slower postpartum recovery, increased maternal stress and postpartum blood loss, slower uterine involution, more rapid return to fertility, and increased risk for diabetes and breast, ovarian, and uterine cancers, as well as possible increased risk for osteoporosis and postpartum depression. Moreover, not breastfeeding increases the financial burden of infant feeding for parents and for the nation [4] and forces parents to purchase infant feeding products. Exclusive breastfeeding, by comparison, is a free, sustainable, and sterile nutritional source for the baby [5].

Figure 1.
US, North Carolina, and Southeast Regional Breastfeeding Initiation Rates, by Race/Ethnicity



Note. Data are from [6]. NC, North Carolina; SE, southeast.

Figure 2.
US, North Carolina, and Southeast Regional Breastfeeding Continuation Rates at 12 Months of Age, by Race/Ethnicity



Note. Data are from [6]. NC, North Carolina; SE, southeast.

What Are the Trends and Disparities in Breastfeeding in North Carolina?

Nationwide, the prevalence of breastfeeding initiation and continuation to infant ages of 6 and 12 months has been reported by state, race, and ethnicity [6]. Table 1 and Figures 1 and 2 present data for the nation and North Carolina, as well as the unweighted average for Alabama, Georgia, Louisiana, Mississippi, South Carolina, Tennessee, Virginia, and West Virginia. The pattern for North Carolina is more

similar to the US pattern than to that of other southeastern states. Rates of exclusive breastfeeding in North Carolina also are more similar to national than to regional rates. Table 2 presents the Healthy People 2010 goals, as well as the rates reported for 2009.

Despite the encouraging finding that the breastfeeding prevalence in North Carolina stands out in the region and approximates national averages, the state has major issues to address, including significant disparities in prevalence by county and by race/ethnicity. Figures 3 and 4, available only in the online edition of the *NCMJ*, illustrate that although much of North Carolina is achieving the Healthy People 2010 goals for the nation in terms of breastfeeding initiation, much of the state falls behind in terms of continued exclusive breastfeeding.

The non-Hispanic black population in North Carolina has an infant mortality rate that is more than twice that of the white population [8], and many causes of infant death could be prevented by increased breastfeeding. However, non-Hispanic blacks breastfeed at a much lower rate than the white population, even after adjustment for socioeconomic status and for use of the Women, Infants, and Children (WIC) nutritional assistance program. Clearly, this population would benefit from support designed to address their specific needs, culture, sensitivities, and access issues.

Are There Health Care Changes and Practices That Would Enable Women to Breastfeed?

Increasingly, studies are finding that programs that comprehensively address all levels of the socioecologic model offer the best way to support complex behavior changes. Such a comprehensive approach was outlined in 1990 at the Innocenti Meeting in Italy [9] and is reflected in national [10] and North Carolina [11] breastfeeding policy statements. The North Carolina statement provides the following recommendations: (1) encourage the adoption of activities that create breastfeeding-friendly communities; (2) create a breastfeeding-friendly health care system; (3) encourage the adoption of breastfeeding-friendly workplaces; (4) assist child care facilities in promoting, protecting, and supporting breastfeeding; (5) advocate for insurance coverage by all third-party payers for breastfeeding care, services, and, when necessary, equipment; (6) use media, social marketing platforms, and public education programs to promote breastfeeding; (7) promote and enforce new and existing laws, policies, and regulations that support and protect breastfeeding; and (8) encourage research and evaluation on breastfeeding outcomes, trends, quality of care, and best practices.

Table 2.
Healthy People 2010 Goals, US Prevalence, and North Carolina Prevalence of Exclusive Breastfeeding at 3 and 6 Months of Age

Variable	3 months, %	6 months, %
Healthy People 2010, national goal	40	17
United States, 2009	33.1	13.6
North Carolina, 2009	30.2	13.1

Note. Data are from [7].

Figure 3.
Breastfeeding Initiation Rates During 2006-2008, by North Carolina County

This figure is available in its entirety in the online edition of the *NCMJ*.

Note. Data are expressed as percentages (Pediatric Nutrition Surveillance System, unpublished data).

The second recommendation calls for a breastfeeding-friendly health care system. To achieve this, the state must ensure that both system and services address breastfeeding. Hospitals may pursue the Ten Steps for Successful Breastfeeding in maternity settings [12], and health care workers may participate in continuing education opportunities on this subject. Materials to support curricular updates are also available online [13-15]. In addition, an international board-certified lactation consultant can help an institution or a private practice support all mothers in initiating and overcoming issues in breastfeeding, so that all mothers may engage in their desired breastfeeding practices.

Why Would Any Clinician Not Actively Support Breastfeeding?

Let's face it: many of us are still doing what we were taught to do during our training, and that may not be up to date. Breastfeeding rates and breastfeeding research were both rarities from the 1960s through the early 1990s, when most of us, or most of our professors, were trained. The recent research on breastfeeding may seem confusing, and the translation of that research into practice can be difficult. For clinicians, the translation of best practices for feeding infants into support of normative patient behavior is met with many real and perceived barriers on all sides. A recent review of the literature on exclusive breastfeeding emphasized that families' feeding decisions may be influenced by a variety of factors during the preconception period, during pregnancy, during birth, during the postpartum period, during the return home, and thereafter [16]. There is no one health specialist with whom the mother is in contact throughout these periods, and furthermore, media, social, and work pressures may outweigh the best advice from a health care professional [16]. However, research has also found that consistent, supportive prompts and advice from physicians and primary care professionals during prenatal and perinatal care can have a profound influence on a woman's intention to breastfeed and on her breastfeeding success [12, 16, 17].

Why might a clinician not actively support breastfeeding for all clients? The clinician's lack of the basic knowledge or skills to support breastfeeding can play an important negative role. Cognitive dissonance—conflict or anxiety resulting from inconsistencies between one's beliefs and actions—may cause some practitioners to hesitate to actively support breastfeeding. Although most clinicians know that breastfeeding is beneficial, if a practitioner does not have the skills to support breastfeeding, the dissonance between what they believe and what they are able to do can lead to rationalization of inaction or inappropriate action. For example, when asked about breastfeeding, health care practitioners who are unsure of their skills may avoid the issue. A common avoidance tactic is self-relief from responsibility by stating first that "we must not cause guilt" in the mother who cannot breastfeed. This is a rationalization—the vast majority of mothers can produce milk, and clinicians actually often use guilt as a motivator for other healthy practices, such as dieting and exercise. The best way to support clinicians to translate breastfeeding support into practice and to overcome cognitive dissonance on this issue is to ensure that all health care workers have the opportunity, both before service and during service, to gain the knowledge and hands-on skills necessary to support breastfeeding.

What Is Being Done to Enable All New Mothers to Engage in Their Desired Infant Feeding Practices in North Carolina?

North Carolina's public and private health systems are increasingly engaged in breastfeeding support. Health profes−sional organizations in North Carolina have shown an increased interest in this issue; the North Carolina Child Fatality Task Force is actively supporting breastfeeding and will soon prioritize the issue of disparities, opening a door for additional targeted breastfeeding support; and the North Carolina Division of Public Health is implementing the WIC program's new service for exclusively breastfeeding mothers and, along with the North Carolina Hospital Association, initiated the new North Carolina Maternity Center Breastfeeding-Friendly Designation Program (available at: http://www.nutritionnc.com/breastfeeding/breastfeeding-friendly.htm), and offers mini-grants for breastfeeding support. Additional new and ongoing efforts include those of the North Carolina Breastfeeding Coalition (available at: http://ncbfc.org/), which supports the Golden Bow Initiative and the Business Case for Breastfeeding, and the Perinatal Quality Collaborative of North Carolina Human Milk Initiative (available at: http://archive.constantcontact.com/fs084/1000843024260/archive/1103480805140.html), which supports exclusive breast feeding throughout the hospital stay. Also, the Carolina Global Breastfeeding Institute at the University of North Carolina (UNC) Gillings School of Global Public Health initiated the Breastfeeding-Friendly Child Care Project, currently underway in Wake County; the Breastfeeding-Friendly Health Care Project, which is in hospitals across all perinatal care regions of North Carolina; and the Mary Rose Tully Training Initiative, the first clinical training program in lactation and breastfeeding located in a US health sciences center. Elsewhere, ongoing programs include work at YWCAs, such as those in Greensboro and Wake counties; community-engaged research by the UNC-Greensboro Center for Women's Health and Wellness; and the Durham Breastfeeding Education and Support Team Alliance, which involves community-based participatory research on breastfeeding among African American mothers in Durham County [18]. These projects, and the many other clinical, training, and service activities across the state, are expanding. Breastfeeding rates are increasing, but real change will occur only when breastfeeding, especially exclusive breastfeeding, again becomes the accepted and supported norm for healthy infant feeding. NCM

Figure 4.
Exclusive Breastfeeding Rates at 6 Months of Age During 2006-2008, by North Carolina County

This figure is available in its entirety in the online edition of the *NCMJ*.

Note. Data are expressed as percentages (Pediatric Nutrition Surveillance System, unpublished data). *Blue* indicates that insufficient data were available.

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