Breastfeeding is recognized as the best source of nutrition for all infants, and the World Health Organization (WHO) recommends exclusive breastfeeding until 6 months of age. 1 Breast milk provides protection against infection, autoimmune disease, and gastrointestinal dysfunction, and promotes cognitive development. 2 The beneficial effects of breast milk can be seen even more clearly in preterm and low birthweight infants being treated in the Neonatal Intensive Care Unit (NICU), where infection and neonatal sepsis are more common. These babies will also benefit from the analgesic properties of breastfeeding during medical procedures. 1 However, studies have shown that breastfeeding rates for low birthweight infants are lower than their normal birthweight counterparts. 3

In order to promote breastfeeding in hospitals around the world, the WHO has developed the “Baby Friendly Hospital Initiative” (BFHI). This initiative provides ten steps that must be achieved before a hospital can be formally accredited with BFHI status. Many successes have been seen since the program’s implementation, including an increase in breastfeeding initiation and duration, and a decrease in incidence of neonatal infection and atopic eczema. 4 In Canada, the rate of breastfeeding at discharge is now at 80%, although exclusive breastfeeding rates remain low. 1

BFHI has shown success in all hospital units, including the NICU. An Australian study showed that, 4 years after implementation, breastfeeding initiation rates in the NICU rose from 35% to 75% and exclusivity at 2 weeks from 10% to 40%. 5 However, there has been trouble implementing all ten steps in the unique NICU environment. For example, the steps include allowing mothers and babies to room together and discouraging the use of artificial pacifiers; these steps are often impossible in the NICU, where there are no individual rooms and pacifiers are used to promote oral motor skills in premature infants. 6 It has been suggested that the WHO develop a subset of BFHI steps specifically for the NICU to provide guidelines for health workers and administrators. 3

Breastfeeding promotion in the NICU faces a unique set of challenges. Because many of the infants are premature, oral motor skills are often poorly developed and these infants may display an inability to latch and suck. 5,6 This means that mothers must often use manual or electronic breast pumps to express milk, which is then fed to the infant by gavage or oral feeds. The lack of direct suckling, combined with the obvious stresses of having a sick infant, cause the mother’s milk supply to quickly decline. 4 To achieve an adequate milk supply, mothers may have to pump for over 2 hours a day, which can itself be stressful and exhausting. 2 As well, the lack of electronic breast pumps and privacy screens in the NICU can discourage mothers from attempting to breastfeed. 3

A 2007 study of factors influencing breastfeeding in the NICU found that a lack of systemic, consistent advice prevented mothers from initiating and maintaining breastfeeding. Women reported that, while many NICU nurses were knowledgeable, they had never discussed breastfeeding with their obstetrician or neonatologist. 7 This was echoed in another study, in which mothers reported that they received great help from lactation consultants, but did not feel that physicians were supportive. 7 Many NICU staff still promote formula feeding, and formula companies still sponsor many of the educational lectures on neonatal care. 5

Another barrier to breastfeeding is the design of NICUs, which do not promote alone time or skin-to-skin contact between mothers and infants. A recent study found that only 16% of infants in the NICU were held skin-to-skin with their mothers, a practice which has been shown to increase breast milk quantity. 3 Because the NICU is more medicalized than other maternity wards, the focus seems to be on breast milk as a product instead of breastfeeding as a natural process beneficial to both mother and infant. 7

Several strategies have been employed to try to counter the inherent challenges of breastfeeding in the NICU. In response to mothers’ complaints that their attempts at breastfeeding were being undermined by the negative attitudes of and inconsistent advice from NICU staff, one hospital implemented an educational intervention designed to improve the breastfeeding knowledge of NICU nurses. 4 After the 8-hour educational session, which covered breastfeeding theory and techniques, an analysis of pre- and post-intervention questionnaires revealed a significant increase in breastfeeding knowledge compared to control nurses from other wards who did not attend the education session. 8 The authors suspected that the increased number of mothers providing breast milk for their infants at the time of discharge from the NICU during the year following the intervention was related to the nurses’ improved knowledge. 8 A series of focus groups with NICU nurses in Australia revealed the perspective that staff education was also the key to improving the confidence of nursing staff so that they could feel more comfortable promoting breastfeeding to both mothers and other colleagues, including doctors. 7

In some settings, mothers of NICU infants may benefit from additional support beyond what is provided by staff; one study found that having access to a peer counselor (a woman from the local community with breastfeeding experience who had attended a 5-day breastfeeding course) led to 181% greater odds of breastfeeding at 12 weeks compared to mothers who only received the standard of care (P<0.03). 9 Peer counselors provided verbal advice or physically helped the mothers to breastfeed, pump, and engage in skin-to-skin holding over a 6-week period. 9

One hospital in West Virginia took the opportunity to evaluate the impact on breastfeeding rates when it re-designed its NICU from a more traditional open-bay ward with multiple neonates in a large room to a
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single family room (SFR) unit with a private room for each neonate. After the re-design, 20% more infants were discharged from the NICU breastfeeding, and infants in the SFR received maternal breast milk on 90% of days spent in the NICU compared to 66% of days for neonates who stayed in the open-bay ward. This improvement may have been owing to the more private, tranquil environment of the SFR unit, which should have enabled mothers to spend more time with their infants and engage in more skin-to-skin contact.

Whenever new hospitals are built or NICUs are renovated, designers should attempt to maximize privacy and comfort for mother-infant pairs to promote breastfeeding, pumping, and skin-to-skin contact. However, limited visiting hours and having to travel large distances between home and the hospital many continue to present significant challenges for mothers in some settings. Hospitals should ensure that all mothers with an infant in the NICU have access to a high quality electric breast pump at home to maintain lactation when the mother and infant are separated.

Despite the many barriers to successful breastfeeding that are present in the NICU, it is possible that the prolonged hospital stay may provide an important opportunity for enhanced maternal breastfeeding education compared to other maternity wards where infants are discharged from the hospital soon after birth. This opportunity can be augmented through the strategies discussed above, namely improved staff education and a peer counseling program.

The NICU at London Health Sciences Centre (LHSC) uses a variety of approaches to encourage mothers to breastfeed their infants. The majority of NICU rooms have only two infant beds and curtains that can be drawn for further privacy. Mothers are able to breastfeed, pump, or engage in skin-to-skin contact in their infant’s room, or can choose to go to a separate room where several electric breast pumps are available. Visiting hours do not apply to mothers, who are able to stay with their neonates around the clock. Mothers are able to stay on the hospital grounds or in the NICU itself, eliminating the burden of having to travel large distances between home and the hospital. However, some mothers with other children at home may not be able to spend as much time at LHSC.

In addition to the support and advice that mothers receive from the NICU’s Lactation Consultant, they are provided with several pamphlets with breastfeeding and pumping instructions, as well as charts to record milk volume. These pamphlets and information sheets are available in several languages, and interpreters are also available if necessary. Mothers are encouraged to rent hospital-grade electric breast pumps, and a loan program exists for mothers who cannot afford to do so. In an effort to be as inclusive as possible, non-electric foot pedal-operated breast pumps are available for Mennonite mothers who do not have electricity at home.

While the LHSC NICU discharges the vast majority of its neonates breastfeeding, it remains a challenge to get mothers to continue breastfeeding once they return home. This year, the hospital will begin running a post-discharge nutrition clinic so that high-risk infants and their families can return for further support. Despite its many successful practices, LHSC has not yet complied with all of the BFHI requirements. One major barrier to this achievement is that infant formula companies are still allowed to provide their product for free at LHSC (health care facilities must purchase formula to be BFHI-certified).

The importance of breastfeeding for all infants, and NICU infants in particular, has been recognized around the world. The BFHI has provided hospitals with guidelines that can be used to promote breastfeeding to mothers and staff alike. Even though the NICU poses certain challenges, creative solutions have been identified to increase breastfeeding rates and duration in this environment. The use of electronic breast pumps, increased staff education, and single family room design have all been shown to increase the comfort and frequency of breastfeeding in the NICU. Many of these solutions have already been used a LHSC, which has resulted in high rates of breastfeeding on discharge. Hopefully, widespread implementation of some of these solutions can help promote the use of breast milk in all hospital NICUs.

REFERENCES