INTERVENTION

The Baby-Friendly Hospital Initiative at Boston Medical Center

Baby-Friendly USA, Inc.
Boston Medical Center, Boston, Massachusetts

INTENT OF THE INTERVENTION

The Baby-Friendly Hospital Initiative (BFHI) at Boston Medical Center (BMC) is a research-tested intervention designed to implement hospital policies and procedures that support optimal breastfeeding practices.

BFHI at BMC addresses three levels of the socioecologic model: 1) *individual* through written education materials and lactation support services; 2) *interpersonal* through the establishment of breastfeeding support groups, peer counselor relationships, and telephone support lines; and 3) *organizational* through written policies that support successful breastfeeding and through trainings inclusive of all hospital staff.

OVERVIEW

The Baby-Friendly Hospital Initiative (BFHI) was created by the United Nations Children's Fund and the World Health Organization to recognize hospitals and birth centers around the world that offer an environment that is optimal for breastfeeding. In the United States, Baby-Friendly USA, Inc. is a non-governmental, not for profit organization that promotes the Baby-Friendly Hospital Initiative and awards Baby-Friendly status to maternity facilities that fulfill criteria for this designation. In order to be designated Baby-Friendly, maternity facilities must adopt the BFHI's *Ten Steps for Successful Breastfeeding*, a specific set of evidence-based practices that support breastfeeding initiation and sustained breastfeeding over time. Maternity facilities must also purchase infant formula and related products such as bottles and nipples at fair market rates, and discontinue distribution of free gift bags sponsored by formula companies. As of January, 2011, there were 105 Baby-Friendly hospitals in the United States. Boston Medical Center (BMC), an urban academic medical center serving primarily low-income, minority patients, received Baby-Friendly designation in 1999.

Intended Population: Mothers and newborn infants

Setting: Hospitals and birth centers

Length of time in the field: Implementation of Baby-Friendly practices at BMC began in 1997; BMC gained Baby-Friendly designation in 1999.

HEALTH EQUITY CONSIDERATIONS

The Baby-Friendly Hospital Initiative (BFHI) is designed to implement hospital policies and procedures that support optimal breastfeeding practices. Boston Medical Center (BMC) conducted the Baby-Friendly Hospital Initiative in an academic teaching hospital serving primarily minority, poor, and immigrant families living in inner-city Boston, MA. The Center TRT review compared study results of breastfeeding initiation rates at BMC before (1995), during (1998), and after the Baby-Friendly policies were implemented (1999). Demographics for women giving birth during these three years were African American 57%, Hispanic 23%, and White 14%, with 6% identifying as 'other' races.

Results of the Baby-Friendly Initiative demonstrated that successful implementation of Baby-Friendly policies is associated with an increase in breastfeeding rates across all ethnic and socioeconomic groups.

BMC culturally adapted and displayed artwork depicting breastfeeding women and translated program materials into the three most common languages among the patient population: English, Spanish, and French Creole.

CORE ELEMENTS

This section outlines the aspects of an intervention that are central to its theory and logic and that are thought to be responsible for the intervention's effectiveness. Core elements are critical features of the intervention's intent and design and should be kept intact when the intervention is implemented or adapted.

1. **Task Force Formation:** Two years prior to receiving Baby-Friendly status, Boston Medical Center (BMC) formed a Task Force to address low rates of breastfeeding among new mothers before discharge. The Task Force led efforts to implement and modify hospital policies and procedures in order to comply with the Baby-Friendly Hospital Initiative's (BFHI) Ten Steps to Successful Breastfeeding (specifics of the Ten Steps are outlined below.) The Task Force was co-chaired by the Chief of Ambulatory Pediatrics, the Director of the Newborn Nursery, and the Director of Nursing for Maternal and Child Services. The Task Force ultimately included 40 leaders and stakeholders from Pediatrics, Obstetrics and Gynecology, Midwifery, Family Medicine, Nursing, Postpartum, the Neonatal Intensive Care Unit, Prenatal Services, Nutritional Services, the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC), and neighborhood health centers associated with BMC**.** The Task Force met once or twice per month. Task Force members did not have protected time for these activities, and the process relied on a core of committed participants willing to devote time and energy the goal of becoming Baby-Friendly.
2. **Self Assessment:** 200 randomly selected charts from 1995 were reviewed to determine breastfeeding rates. Findings showed very low exclusive breastfeeding rates (6%) among new mothers before discharge, with only 30 percent of mothers giving more breast milk than formula while in the hospital. Further findings of this self-appraisal were that BMC had no lactation staff or facilities, no lactation education programs for staff or patients, and no follow-up services for breastfeeding women.
3. **Organizational Breastfeeding Policy:** The Task Force developed a breastfeeding policy as part of the requirements of the Baby-Friendly designation. The policy was adopted by the hospital and communicated to staff through trainings. Education on the policy was incorporated into nursing competency requirements.
4. **Publicity:** In order to increase the visibility of the BFHI at BMC, the Task Force initiated several efforts, including: opening a breastfeeding and breast milk pumping room in a highly visible location with a celebration and an announcement in the hospital newsletter; displaying signs listing the Ten Steps and artwork depicting breastfeeding women throughout the hospital; and having a notable female figure open the newly created Breastfeeding Center - the Lieutenant Governor of Massachusetts.
5. **Staff Education:** Guidelines from Baby-Friendly USA require that any pediatrician, obstetrician, family practice physician or advanced practice registered nurse that has staff privileges at a Baby-Friendly hospital or birth center receive education on the basics of breastfeeding management. The amount and content of the training offered is tailored

to the needs of the professionals. At BMC, physician education was led by a pediatrician (also an International Board Certified Lactation Consultant) during grand rounds and monthly training sessions. Nurse education was led by two pediatric nurse educators who created a breastfeeding competency as a requirement for all pediatric and obstetric nurses. Other hospital personnel participated in "Reach and Teach" sessions to learn about the benefits of breastfeeding and to discuss ways to address breastfeeding issues specific to employee-patient interactions.

6. **Education and Support for Mothers:** Lactation consultants taught weekly breastfeeding classes, and peer counselors were hired to work with mothers before and after discharge. Peer counselors taught mothers of healthy newborns and neonatal intensive care patients about the benefits of breastfeeding and the importance of skin-to-skin contact between caregiver and infant.
7. **Paying for Formula:** As part of the requirements of the Baby-Friendly designation, a hospital cannot accept free formula from formula manufacturers. **This includes the formula-company sponsored gift bags that are distributed on postpartum floors in most hospitals.** Many United States hospitals find compliance with this step to be the greatest barrier to obtaining Baby-Friendly designation. Paying for formula need not become the rate-limiting step in the process of becoming Baby-Friendly. This issue is addressed in the detail in the next section, "Resources Required," under the heading, "Cost of Formula and Related Supplies."

RESOURCES REQUIRED

Staffing:

- Stakeholders from all departments (Pediatrics, Obstetrics and Gynecology, Midwifery, Family Medicine, Nursing, and others) were invited to participate in the Breastfeeding Task Force. Task Force members were responsible for developing hospital breastfeeding policies and procedures, planning employee training, and coordinating education and publicity. These duties were undertaken as part of extant job descriptions and were not separately compensated. There was no dedicated administrative support for the Task Force.
- Lactation consultants were hired. At BMC, lactation consultants cover inpatients in the newborn nursery and NICU seven days a week and the pediatric outpatient clinic three days a week. Additionally, lactation consultants see patients on the pediatric inpatient service and in other parts of the hospital as needed (for example, a breastfeeding mother is admitted to the surgical service and desires to pump while separated from her infant.) Lactation consultant salaries were initially paid with grant funding; currently salaries are split between the hospital and grant funding.
- Peer counseling may be more cost-effective than using trained nursing professionals to counsel breastfeeding women in uncomplicated issues, though is not a requirement for Baby-Friendly status. BMC peer counselors are paid through grant funding and cover the newborn nursery seven days per week.

Training: Staff training costs differ based on whether training is provided externally or conducted in-house.

Fees[1]: Maternity facilities intending to become Baby-Friendly must pay a fee to Baby-Friendly USA at several points during the application process (details in "Implementation" section below.) There is no fee to enter the Discovery phase; however, for hospitals and birth centers with 500 or more births annually, cost of entrance into the Development phase is $2,000; cost of entrance into the Dissemination phase is $2,000; and cost of entrance into the Designation phase is $2,000. The cost of Development, Dissemination, and Designation phases is $1,200 each for birth centers and hospitals with fewer than 500 births annually. This fee includes technical support, review of materials, and access to a discussion list. Once a hospital receives Baby-Friendly designation, an annual fee ranging from $550 to $900, depending on number of births per year, is assessed.

Optional Services: Support materials and videos are available from Baby-Friendly USA for a charge.

Breastfeeding Rooms: BMC created four breastfeeding/expressing rooms at a cost of $1000-$2,000 each. Costs were covered by The Kids Fund, a children's charity associated with Boston Medical Center.

Cost of formula and related supplies: The potential costs of purchasing formula at fair market rates (rather than receiving it free from formula manufacturers as most hospitals do) can present a daunting obstacle. Surprisingly, formula companies usually do not want to receive payment for formula and can resist this step as hospitals enter the Baby-Friendly process. This is a testament to the efficacy of the BFHI, which increases breastfeeding rates and decreases the use of formula. Formula companies often quote a price for formula that inflates the actual cost of purchasing formula. Alternatively, formula companies may offer to continue to supply formula for a nominal fee (or example, one dollar per year) as an attempt to satisfy the Baby-Friendly requirement for purchasing formula. In addition, hospitals that receive free formula also typically receive free bottles and nipples; under Baby-Friendly guidelines, these also need to be purchased. The cost of formula, bottles, and nipples need not be prohibitive. At BMC, with an average of fewer than 2500 births per year, formula costs after becoming Baby-Friendly totaled approximately $1400 per month, or $16,800 per year. For a detailed discussion of this issue, please refer to Merewood and Philipp article, "Becoming Baby-Friendly: Overcoming the Issue of Accepting Free Formula."[2]

IMPLEMENTATION

The 4-D Pathway to Baby-Friendly Designation[3]

[1] In 2010, Baby-Friendly USA implemented the 4-D Pathway for becoming Baby-Friendly. When BMC became Baby-Friendly in 1999, the 4-D Pathway did not yet exist, and the process was slightly different in structure and cost though not in overall content or goals. Institutions initiating the process of becoming Baby-Friendly now would follow the 4-D Pathway as explained in detail in the following section.

[2] Merewood A, Philipp BL. Becoming Baby-Friendly: overcoming the issue of accepting free formula. J Hum Lact. 2000 Nov;16(4):279-82.

[3] An excellent introductory packet with FAQs is available from Baby-Friendly USA and can be accessed at http://www.babyfriendlyusa.org/eng/docs/2010%20Intro%20Packet.pdf. A simple schematic of the 4-D Pathway is also available at: http://www.babyfriendlyusa.org/eng/docs/The%204-D%20Designation%20Pathway.pdf. As noted above, BMC became Baby-Friendly in 1999, prior to the creation of the 4-D Pathway process. At that time, the process of becoming Baby-Friendly was similar,

1. **Discovery Phase:**
    - *Register with Baby-Friendly USA* in order to receive more information about the process.
    - *Obtain CEO letter of support.*
    - *Complete the self appraisal tool* to determine the hospital practices and policies that need to be addressed in order to meet the requirements of the Baby-Friendly Designation. The tool can be found at http://www.babyfriendlyusa.org/eng/docs/2010%20SelfApprTool.pdf
      Most maternity facilities will have already completed the mPINC (Maternity Practices in Infant Nutrition and Care) survey, which is an excellent gauge of adherence to Baby-Friendly practices. The mPINC survey is administered by the Centers for Disease Control and Prevention (CDC) and is an assessment of maternity best practices. All U. S. maternity facilities are asked to complete the mPINC assessment on an every other yearly basis. A facility's mPINC score is an excellent indicator of its readiness to become a Baby-Friendly. More information on the mPINC survey can be found at:
      http://www.cdc.gov/breastfeeding/data/mpinc/index.htm

2. **Development Phase:**
    - *Apply for Certificate of Intent.*
    - *Form a Baby-Friendly Task Force.*
    - *Develop a BFHI work plan*. One of the functions of the Task Force should be to develop a comprehensive work plan to implement the *Ten Steps to Successful Breastfeeding*. Technical assistance is available from Baby-Friendly USA, which will review all plans before the facility moves to the Dissemination Phase.
    - *Develop a hospital breastfeeding policy.* In 2010, the Academy of Breastfeeding Medicine has published a Model Breastfeeding Policy that can be used as a starting point. This protocol is the one used at Boston Medical Center and can be found at: http://www.bfmed.org/Resources/Protocols.aspx; scroll down to Protocol 7.
    - *Develop a staff training curriculum.* Guidelines from Baby-Friendly USA suggest a minimum of 18 hours of training for all nursing staff who work closely with newborns and require that physicians be educated in the basics of breastfeeding management. A guideline for curriculum content is available on the Baby-Friendly USA website at
      http://www.babyfriendlyusa.org/eng/docs/Topics%20for%20Staff%20Training.pdf
      *S*everal excellent resources are available so that facilities do not have to develop their own training materials. These include:
      http://breastfeedingbasics.org
      http://www.evergreenperinataleducation.com/programs/lactation/healthcare
    - *Develop prenatal/postpartum teaching plans.* Breastfeeding education should be included in routine prenatal and postpartum care for mothers eligible to breastfeed, and teaching should be documented in the medical record.
    - *Develop a data collection plan.* This requires that all infant feedings be charted, which is an essential first step towards being able to measure a facility's breastfeeding rates. Charting infant feedings can be accomplished in a variety of ways depending on the availability of electronic medical record (EMR). If EMR is

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but not identical to, the process that a candidate maternity facility would undertake today. The requirements for Baby-Friendly designation have not changed.

available, it may be possible to collect information about how each patient was fed if daily feeding information is entered in the EMR in real time or if this data is recorded in an electronic discharge summary. If charting is still done on paper, then initial data collection must be manual. Facilities with paper charts need to decide whether to collect data on breastfeeding at discharge for every patient in a centralized database, or to do regular retrospective data collection on a sample of charts. The new Perinatal Core Measures implemented by the Joint Commission in April 2010 require that maternity facilities collect information on exclusive breastfeeding rates at discharge; hence, collecting breastfeeding data satisfies JCAHO requirements. More information is available at: http://www.jointcommission.org/core_measure_sets.aspx.

3. **Dissemination Phase:** Facilities implement the plans they developed during the prior phase.
    - *Train staff.* All hospital staff (medical and non-medical) require training on how to implement the breastfeeding policies established as a part of the BFHI.
    - *Collect data on breastfeeding rates.* Implement plan for collecting data on infant feedings as above so that breastfeeding rates can be calculated.
4. **Designation Phase:**
    - *Implement quality assurance program.* Regular review of policies and breastfeeding rates is essential to maintaining compliance with Baby-Friendly practice.
    - *Participate in readiness interview with Baby-Friendly USA staff.*
    - *Participate in on-site assessment with Baby-Friendly USA staff.*
    - *Receive Baby-Friendly designation.* If a facility does not pass on its first assessment, it may apply for re-assessment once the identified problems have been resolved.

Boston Medical Center's Implementation of the *Ten Steps to Successful Breastfeeding*

1. ***Have a written breastfeeding policy that is routinely communicated to all health care staff.*** The Task Force modified its original breastfeeding policy in order to comply with the Baby-Friendly requirements. In addition, a new policy was developed to eliminate routine distribution of pacifiers on the postpartum unit in order to comply with Step 9 of the Ten Steps. The policy was communicated to staff through trainings and was incorporated into nursing competency requirements. BMC's Breastfeeding Policy was adopted as an official hospital policy and is available on the hospital website.

2. ***Train all health care staff in skills necessary to implement this policy.*** At BMC, physician education was led by the Task Force co-chair, a pediatrician and International Board Certified Lactation Consultant, during grand rounds and monthly training sessions for all residents, interns, and medical students in the postpartum and neonatal intensive care units. Nurse education was led by two pediatric nurse educators who created breastfeeding competency as a requirement for all pediatric and obstetric nurses. Nurses were taught to administer breastfeeding classes. For hospital personnel beyond the "front-line caregivers" (e.g., administrators, maintenance staff, interpreters, telephone operators, unit secretaries), Task Force members created "Reach and Teach" sessions to provide education on the health benefits of breastfeeding. These sessions also provided an overview on the Baby-Friendly Hospital Initiative and offered an opportunity for discussion of breastfeeding issues

specific to employee-patient interactions**.** Training for new staff and house officers is ongoing.

3. ***Inform all pregnant women about the benefits and management of breastfeeding.*** Physicians and nurses inform pregnant women during prenatal visits, on admission, and throughout their hospital stay about the benefits of breastfeeding. In addition, the importance of breastfeeding is highlighted in prenatal classes held at the hospital. Written materials are also distributed; however, verbal communication about the value of breastfeeding is the preferred method of communication.

4. ***Help mothers initiate breastfeeding within one hour of birth.*** Newborn infants are placed skin-to-skin on their mother's chest immediately after birth, instead of being taken away from the mother for initial nursing assessment, physician exam, and other care that can be performed later. Skin-to-skin contact between mother and infant takes advantage of the newborn's alertness and natural instinct to begin breastfeeding immediately after birth. Labor and delivery nurses are trained to offer support for the mother to assist with position and latch and to offer positive reinforcement. Beginning in 2010, the baby's initial bath was delayed until 12 hours after delivery to further reduce separation between mother and infant, promote breastfeeding, and aid in mother-infant bonding. This change has been well-received by parents, who are now able to participate in their infant's first bath in their own room.

5. ***Show mothers how to breastfeed and how to maintain lactation, even when they are separated from their infants.*** This step is very important for infants who are separated from their mothers after birth due to medical complications or who require transfer to the Neonatal Intensive Care Unit (NICU). It can be challenging for new mothers in this situation to establish and maintain their milk supply. All nursing staff, patient care assistants, and breastfeeding peer counselors are trained to assist women in the use of electric breast pumps. The *Pumps for Peanuts* program provides an electric breast pump to mothers with infants in the NICU if their insurance does not cover this expense.

6. ***Give newborn infants no food or drink other than breast milk (unless medically indicated).*** Infants who are given breast milk and nothing else are more likely to breastfeed successfully. A clear policy exists for when a breastfeeding mother requests formula supplementation. The bedside nurse offers education about the benefits of breastfeeding and use of an alternate feeding method such as syringe is encouraged. Expressed breast milk, when available, is used preferentially rather than formula. The request for supplementation is documented in the patient's chart along with the education that was provided. Water and glucose water are never given. Sucrose 24% oral solution is used in small volumes (less than 2 mL) prior to painful procedures such as phlebotomy or circumcision.

7. ***Encourage breastfeeding on demand.*** Mothers are taught to learn and respond to their infant's individual hunger cues, as opposed feeding on a set schedule (e.g., every three hours). Separations between mothers and infants are minimized.

8. ***Practice "rooming-in" to allow mothers and infants to remain together 24 hours a day.*** Rooming-in facilitates feeding on demand. Infants spend almost no time in the nursery, and examinations are routinely performed in the mother's hospital room.

9. ***Give no bottles or pacifiers to breastfeeding infants.*** When needed for breastfeeding infants who have excessive weight loss or who are temporarily separated from their mother, supplementation with expressed breast milk or formula is encouraged via syringe rather than a bottle. As noted above, when a breastfeeding mother elects to give her infant formula or expressed breast milk, an alternate feeding route rather than a bottle is recommended. In addition, pacifiers are not routinely distributed on the postpartum unit. A pacifier protocol was developed, approving pacifier use under the following circumstances: for infants in the Neonatal Intensive Care Unit (NICU); for infants exposed to opiates or other drugs in utero; and for painful procedures such as phlebotomy and circumcisions, after which pacifiers are discarded. If the family chooses to bring a pacifier to the hospital, education is provided regarding the possible interference of pacifiers with breastfeeding.

10. ***Foster the establishment of breastfeeding support groups and refer mothers to them at the time of discharge from the hospital or clinic.*** Breastfeeding classes were initiated. Classes were taught first by lactation consultants and then by staff nurses. A telephone support line was created for new mothers to ask questions about breastfeeding after discharge. In addition, peer counselors (women who have breastfed their own children) were hired and received special training to work with mothers before and after discharge.

Other Requirements of the Baby-Friendly Hospital Initiative:

- **Forgoing free formula.** BMC does not accept free formula from manufacturers and instead pays market price for the formula that it provides to patients who request it and to infants whose mothers are not eligible to breastfeed. BMC also pays fair market price for bottles and nipples that are usually supplied at no charge by formula manufacturers along with free formula. In accordance with the hospital's Conflict of Interest policy, formula company representatives are not allowed in the hospital. Formula company advertising or free items are also banned, **including formula company gift bags that are routinely distributed to new mothers in most hospital postpartum units**. For further information on formula company gift bags, please visit: www.banthebags.org
- **Promoting convenience.** BMC promotes the convenience of breastfeeding through four breastfeeding/breast pumping rooms in different sites around the hospital's inpatient and outpatient facilities.

Keys to Success in Implementing the Ten Steps:

- *Physician leadership in the formation of the task force and commitment to the Baby-Friendly initiative.* It can be difficult to get the support of hospital administration, nurses, and other staff members if physicians are not involved with and supportive of breastfeeding promotion. Identifying champions and allies in all clinical departments is crucial.
- *Representation of prominent staff from all relevant areas of the institution on the Task Force and involved in implementing Baby-Friendly practice.* Identifying and including all stakeholders early in the process is critically important. At BMC, the following departments were involved: Pediatrics, Obstetrics and Gynecology, Midwifery, Family Medicine, Nursing, Postpartum, NICU, Prenatal Services, Nutritional Services, the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC), and local neighborhood health centers. It is especially important to solicit the involvement of

obstetrics and gynecology physicians and staff, as these individuals help to remove barriers at the time of delivery and ensure that newborns are put to the breast within one hour of birth.

- *Publicity of Baby-Friendly efforts* including the opening of the breastfeeding/pumping room in a highly visible location in the hospital by a notable political figure, the female Lieutenant Governor of Massachusetts, with cake and ribbon-cutting and announcement in hospital newsletter.
- *Creation of a hospital environment that supports breastfeeding* by:
    - displaying signs with the *Ten Steps to Successful Breastfeeding* throughout the hospital
    - displaying artwork of breastfeeding mothers throughout the hospital
    - removing formula videos, literature, and other promotional materials from the hospital
    - replacing formula company diaper discharge bags with BMC diaper bags
    - replacing bassinet formula cards with BMC bassinet cards
    - limiting accessibility by storing formula, bottles, and nipples in a centralized location that requires key card entry

Barriers to Implementation of the Ten Steps:

- *Changing established cultural norms of formula feeding.* Baby-Friendly advocates face challenges in promoting breastfeeding due to prevalent cultural norms and the negative influence of infant formula manufacturers on breastfeeding. At BMC, as at other safety-net hospitals serving the urban poor, the expectation that babies will formula feed is difficult to counter. Formula company advertising outside our walls is pervasive, and many mothers arrive to prenatal care with the assumption that they will not breastfeed. Over more than a decade, we have seen great progress in breastfeeding initiation and more and more mothers who are committed to breastfeeding.

- *Difficulty in persuading hospital administrators to pay for formula.* This initial request was met with resistance; however, once the actual formula usage was calculated, the amount that the hospital needed to purchase ended up being far less than originally estimated.[4]

EVIDENCE REVIEW SUMMARY

Underlying Theory: The Baby-Friendly Hospital Initiative (BFHI) at Boston Medical Center (BMC) uses constructs of Social Cognitive Theory including: environment, situation, behavioral capability, expectations, observational learning, self-efficacy, behavioral capability, and reciprocal determinism.

Strategies Used[5]: The BFHI at BMC includes multiple evidence-based breastfeeding strategies that have been adapted to the hospital setting, including:

[4] Merewood A, Philipp BL. Becoming Baby-Friendly: overcoming the issue of accepting free formula. J Hum Lact. 2000 Nov;16(4):279-82.

[5] A full description of the intervention strategies used can be found on the Center TRT website with references to the sources of evidence to support the strategies.

- **Education for mothers about breastfeeding during prenatal and intrapartum periods** by providing breastfeeding classes and resources.

- **Maternity care practices in the hospital setting:** Through written policies and staff training that: promote early breastfeeding initiation immediately following birth, prevent separation of mother and infant, restrict the availability of supplements and pacifiers, provide rooms that accommodate mothers and babies, and ensure follow-up for breastfeeding mothers after discharge.

- **Professional support for breastfeeding by health professionals:** There are multiple ways in which BMC maternity staff supports breastfeeding mothers: 1) Nurses and patient care assistants are specially trained to provide hands-on lactation support at the bedside. 2) Nurses provide breastfeeding education to families and are the front line in encouraging mothers to continue exclusive breastfeeding. 3) Lactation consultants, all of whom are RNs and hold the additional credential of International Board Certified Lactation Consultant (IBCLC), provide specialized evaluation and management of lactation problems, including failure to latch, poor supply, excessive weight loss, nipple pain, and tongue tie.

- **Peer support for breastfeeding:** Peer counselors play a critical role in troubleshooting, educating, and offering hands-on support to breastfeeding mothers. Not every breastfeeding mother will encounter difficulties that require the services of a lactation consultant. Many common issues such as perceived inadequate milk supply, positioning, infant feeding cues, and how to use a breast pump, can be addressed by peer counselors. These early interventions can often prevent breastfeeding problems before they occur. Peer counselors are also an invaluable source of support and encouragement to breastfeeding mothers, and bring a unique perspective as peers rather than medical providers.

Research Findings and Evaluation Outcomes:
The Baby-Friendly Hospital initiative (BFHI) was reviewed as a research-tested intervention in the context of its implementation at Boston Medical Center (BMC). Three peer reviewed articles examined the effect of Baby-Friendly practices on: breastfeeding initiation and exclusivity rates (Philipp et al, 2001); sustained breastfeeding initiation rates (Philipp et al, 2003); and breastfeeding duration rates at six months of age (Merewood et al, 2007).

Intervention Effect (initiation and exclusivity rates): Breastfeeding initiation rates were compared at BMC before (1995), during (1998), and after (1999) the Baby-Friendly policies were implemented. Breastfeeding initiation was defined as an infant receiving any amount of breast milk while in the hospital after birth. Random medical chart review of 200 records showed that the breastfeeding initiation rates increased from 58% (1995) to 77.5% (1998) to 86.5% (1999). Infants exclusively breastfed, defined as receiving no formula while in the hospital, increased among US born, black mothers in this population from 34% (1995) to 64% (1998) to 74% (1999).

Intervention Effect (sustained initiation rates): Breastfeeding initiation rates were again measured in 2000 and 2001 and compared with initiation rates in 1999 (the year that BMC received Baby-Friendly designation) to determine if the increased rates could be sustained over time. Breastfeeding initiation rates remained high: 87% (1999), 82% (2000), and 87% (2001).

Intervention Effect (duration rates): A random selection of 350 medical records of infants born in 2003 at BMC were reviewed, and of the eligible infants who returned for the six-month follow-up visit, 37.1% were still breastfeeding at six months of age. Among a predominantly low-income, black population, breastfeeding rates at 6 months were comparable to the overall US population.

POTENTIAL PUBLIC HEALTH IMPACT

The Baby-Friendly Hospital Initiative (BFHI) implemented at Boston Medical Center (BMC) has a high potential for public health impact.

Reach: As an organizational policy intervention, the BFHI has potential to reach almost all mothers of newborns in hospitals that adopt it.

Effectiveness: During the three-year study period, rates of breast feeding initiation and exclusive breast feeding increased substantially. Breastfeeding initiation during hospitalization increased from 58% (1995) to 77.5% (1998) to 86.5% (1999). Exclusive breastfeeding during hospitalization increased from 5.5% (1995) to 28.5 (1998) to 33.5% (1999). Those increases were sustained over at least two additional years. Of particular note, rates increased substantially among U. S.-born black women.

Adoption: The BFHI had been adopted by 102 maternity facilities nationwide as of December 2010.

Implementation: Becoming Baby-Friendly is a complex process that requires staff time and hospital resources. Once a hospital has become Baby-Friendly, however, policies that were difficult to implement become routine practice. At BMC, the Breastfeeding Task Force no longer exists, as the policies for which it advocated are now standard of care.

Maintenance: BMC has maintained its Baby-Friendly status for over a decade. In the interim, Baby-Friendly practices have increasingly been accepted as best practices. In 2008, the National Quality Forum released 17 measures of quality in maternity care, one of which was rate of exclusive breastfeeding at discharge. In 2010, the Joint Commission adopted exclusive breastfeeding rate at discharge as one of its new Perinatal Core Measures. The identification of exclusive breastfeeding rates as an indicator of quality care has underscored the importance of implementation of Baby-Friendly practices as standard of care.

INTERVENTION MATERIALS

BMC Model Breastfeeding Policies

- Maternal and Child Health Policy and Procedure Manual
- Breast Milk Storage for the Hospitalized Infant
- Referral Guidelines for Inpatient Lactation Consults
- Contrast Administration to Breastfeeding Mothers

The materials listed above can be downloaded in PDF format from the Center TRT website.

TRAINING AND TECHNICAL ASSISTANCE

Training and technical assistance with the Baby-Friendly Hospital Initiative can be accessed at the Baby-Friendly Hospital Initiative USA website, http://www.babyfriendlyusa.org.

PROGRAM INFORMATION AND CONTACT

Baby Friendly USA
http://www.babyfriendlyusa.org

- Overview of Baby-Friendly Hospital Initiative
- List of U. S. Baby-Friendly Hospitals and Birth Centers
- Process for achieving Baby-Friendly designation
- 4-D Pathway to Baby-Friendly designation
- Introductory Packet for Providers

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ADDITIONAL INFORMATION

Academy of Breastfeeding Medicine
http://www.bfmed.org

- International organization of physicians dedicated to the promotion, protection and support of breastfeeding and human lactation.
- Numerous evidence-based, physician-developed protocols for breastfeeding best practice on a broad range of topics from neonatal hypoglycemia to mastitis to breast milk storage. Many protocols are available in languages other than English.

Centers for Disease Control Breastfeeding Data and Statistics
http://www.cdc.gov/breastfeeding/data/mpinc/index.htm

- Results from the mPINC survey
- 2010 Breastfeeding Report Card
- Results of the Infant Feeding Practices Survey II and other breastfeeding data collected by the CDC

Joint Commission Perinatal Core Measures
http://www.jointcommission.org/perinatal_care/

- More information on the new Joint Commission (JCAHO) requirements for exclusive breastfeeding as of April 2010

MotherBaby Summit at Boston Medical Center
http://www.motherbabysummit.com

- Website developed at Boston Medical Center as a resource for maternity facilities seeking to implement nationally recognized best practices for mother-infant care
- Clearinghouse for information on optimal maternity practices as they relate to breastfeeding

United States Breastfeeding Committee

http://www.usbreastfeeding.org

- An independent nonprofit coalition of national professional, educational, and governmental organizations working to protect, promote, and support breastfeeding
- Links to information on breastfeeding policy and legislation, toolkit for JCAHO compliance, and directory of state, territory, and tribal breastfeeding coalitions

PUBLICATIONS

Chamberlain LB, McMahon M, Philipp BL et al. Breast pump access in the inner city: a hospital-based initiative to provide breast pumps for low-income women. J Hum Lact. 2006 Feb;22(1):94-8.

Merewood A, Chamberlain LB, Cook JT et al. The effect of peer counselors on breastfeeding rates in the neonatal intensive care unit: results of a randomized controlled trial. Arch Pediatr Adolesc Med. 2006 Jul;160(7):681-5.

Merewood A, Fonrose R, Singleton M et al. From Maine to Mississippi: hospital distribution of formula sample packs along the Eastern Seaboard. Arch Pediatr Adolesc Med. 2008 Sep;162(9):823-7.

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