OVERVIEW

Purpose
This literature review covers recent research related to the Baby-Friendly Hospital Initiative (BFHI) and establishes an evidence base for baby-friendly standards and policies that support breastfeeding.

Background
BFHI is a UNICEF/WHO global initiative. According to Baby-Friendly USA, the organization responsible for baby-friendly designation in the United States, there are currently 251 hospitals and birthing centers in 46 states and the District of Columbia that are baby-friendly. 12% of births now occur in baby-friendly facilities, up from 2.9% in 2007.1 Baby Friendly USA outlines 10 steps for hospitals to follow in order to receive a baby-friendly designation:2

1. Have a written breastfeeding policy that is routinely communicated to all health care staff.
2. Train all health care staff in the skills necessary to implement this policy.
3. Inform all pregnant women about the benefits and management of breastfeeding.
4. Help mothers initiate breastfeeding within one hour of birth.
5. Show mothers how to breastfeed and how to maintain lactation, even if they are separated from their infants.
6. Give infants no food or drink other than breast-milk, unless medically indicated.
7. Practice rooming-in - allow mothers and infants to remain together 24 hours a day.
8. Encourage breastfeeding on demand.
9. Give no pacifiers or artificial nipples to breastfeeding infants.
10. Foster the establishment of breastfeeding support groups and refer mothers to them on discharge from the hospital or birth center.

Several states have laws and model policy language for baby-friendly hospitals. Legislation passed in California in 2013 recognizes the importance of baby-friendly practices and requires that all hospitals with a perinatal unit adopt the above ten steps by 2025.3 New York State provides a model breastfeeding policy based on recommendations by Baby-Friendly USA, including required elements that must be included in order to be in compliance with New York State law.4 New Jersey has created a model infant feeding policy that has been approved by Baby-Friendly USA and is being used and adapted by New Jersey hospitals when applying for baby friendly accreditation.5 Local governments and public health agencies can also play an active role in encouraging baby-friendly standards, and as one study concluded,

“Public health agencies can set quality standards for maternity care and help hospitals achieve Baby-Friendly designation. Because nearly all births in the United States occur in hospitals, improvements in hospital policies and practices could increase rates of exclusive and continued

3 California Senate Bill 402. Signed into law October 9, 2013.
breastfeeding nationwide, contributing to improved child health, including lower rates of obesity.\textsuperscript{6}

As will be discussed in this review, baby-friendly designations increase breastfeeding rates. While the science recognizes that increased breastfeeding reduces childhood obesity, reviewing the research that establishes this connection is beyond the scope of this review.

Methodology
25 articles, reports, and editorials were found, out of over two hundred reviewed in searches using PubMed and Google Scholar. Preference was given to peer-reviewed articles published within the last 5 years as well as to research focusing on BFHI within the United States. Although this is an international program with international standards, different medical and hospital systems as well as populations and cultures make variability between countries likely.

Roadmap
This literature review includes the following sections:
1. Health benefits of baby-friendly hospitals
2. Vulnerable populations
3. Interventions and best practices in implementation
4. Costs associated with becoming baby friendly
5. Barriers to change

### Health Benefits of Baby-Friendly Hospitals

BFHI practices increase breastfeeding rates
- A US study that reviewed supportive hospital practices found that high levels of support increased exclusive breastfeeding rates as well as the likelihood of any breastfeeding. High levels of support were defined as including at least seven practices found in the ten steps.\textsuperscript{7}
- Baby-friendly hospital practices are commonly reported influencers of parents’ decision to breastfeed.\textsuperscript{8}
- A study comparing breastfeeding initiation and continuation among mothers at the Boston Medical Center neonatal intensive care unit in 1999 and 2009 found that breastfeeding initiation increased from 74% in 1999 to 85% in 2009. Rates for any breastfeeding at 2 weeks of age increased from 66% to 80%. The increase in breastfeeding initiation among black mothers was particularly great, increasing from 68% to 86% from 1999 to 2009.\textsuperscript{9}

• Upon becoming baby-friendly, breastfeeding initiation rates at the San Francisco General Hospital & Trauma Center went from 81% in 2002 to 98% in 2010.10

Keeping mothers and babies together after birth increases breastfeeding rates11
• A study at a baby-friendly urban safety net hospital found that delaying newborn baths and placing babies skin-to-skin was associated with increased likelihood of breastfeeding initiation and increased rates of in-hospital breastfeeding.12
• A study in a large, urban, academic medical center striving for BFHI designation found that mothers who breastfed within the first hour of birth were more likely to exclusively breastfeed 2-4 weeks after leaving hospital.13
• A study of mothers from BFHI hospitals found that beginning breastfeeding within one hour of birth and not being given supplemental feeding were associated with achieving exclusive breastfeeding intentions.14

Vulnerable Populations

BFHI hospitals has a particularly strong effect on improving breastfeeding rates among mothers with lower education and contributes to reducing socio-economic disparities in breastfeeding
• A study comparing BFHI hospitals with non-BFHI hospitals in Alaska, Maine, Nebraska, Ohio, and Washington found that breastfeeding initiation increased by 3.8 percent and exclusive breastfeeding increased by 4.5 percent among mothers with lower education who delivered in baby friendly hospitals. These changes were not seen in the overall population of mothers in this study.15
• A study of both BFHI accredited and non-BFHI facilities in Maine found that BFHI facilities increased breastfeeding initiation among mothers with low education by 8.6 percent. Each individual breastfeeding practice was associated with, on average, a 16.2 percent increase in breastfeeding initiation. In this study this change was not seen among all mothers and mothers with higher education.16

Interventions and Best Practices in Implementation

Many articles review individual hospital’s experiences with implementing BFHI, offering best practices. While some of these articles are cited, the focus here is on studies that review numerous BFHI efforts or that draw comparisons between interventions.

The ten steps—including policies to not provide formula in gift packs—may not be strictly followed
- Even after receiving BFHI designation, hospitals may still send mothers home with formula in their gift pack. In two baby-friendly hospitals examined in Oregon, 16% and 32% of respondents received infant formula.17
- A New Jersey study found that even when formula was removed from gift packs, mothers still reported receiving formula when leaving hospital.18
- A study of both BFHI and non-BFHI facilities in Maine found that 28.4% of mothers from BFHI facilities reported receiving a gift pack with formula.19
- A study of Iowa hospitals seeking baby-friendly designation found that the most widely adopted baby-friendly policy was encouraging breastfeeding on demand, although many steps and sub-criteria remained unmet. The study also found that urban hospitals had higher implementation rates than rural hospitals.20

Provider education, interventions, and hospital environments improve implementation efficacy
- A study evaluating the implementation of BFHI in a large hospital in New York City serving primarily poor women of color found that expanding provider education, developing additional patient interventions, and enhancing the hospital environment improved program implementation and outcomes.21
- A study of the effectiveness of two 5-day training programs on skin-to-skin care found that education alone was insufficient in changing practices and that an immersion model (in this case: practice, reflection, education, training, and ethnography) was more effective in changing hospital practices to make skin-to-skin the standard for care.22
- A study of eight low-income hospitals in North Carolina participating in an intervention to support the implementation of the ten steps found that increasing commitment, offering skill-

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19 Hawkins et al., “Compliance with the Baby-Friendly Hospital Initiative and Impact on Breastfeeding Rates.”

Prepared by UCSF Family Health Outcomes Project
based and hands-on trainings that highlight the benefits of being baby-friendly, and addressing misconceptions about the steps might strengthen baby-friendly practices.\textsuperscript{23}

**Interdisciplinary and multi-departmental approaches can be a useful in enhancing implementation**

- As part of the Jersey Shore University Medical Center’s effort to become a BFHI hospital, the hospital made one nurse and one pediatrician responsible for educating nursing and physician staff about the initiative and directing the hospital towards baby-friendly goals. These two leaders of the initiative provided education resources and facilitated lectures and discussions to assist with implementation of the ten steps. This led to enhanced implementation as well as over a 100 percent increase in exclusive breastfeeding rates.\textsuperscript{24}
- Interdisciplinary and participatory educational programs that train staff and certify nurses as breastfeeding counselors are highly favored in evaluations of BFHI implementation efforts.\textsuperscript{25}
- Research that examined efforts by Chicag hospitals to become baby-friendly found that involving all levels of hospital staff, offering financial incentives, and tailoring ongoing technical assistance contributed to hospitals’ success.\textsuperscript{26}

<table>
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<tr>
<th>Costs Associated with Becoming Baby-Friendly</th>
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<tr>
<td><strong>Purchasing formula at fair market rates can be a challenge for baby-friendly hospitals</strong></td>
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<tr>
<td>- No longer receiving free formula from manufacturers, baby-friendly hospitals must still purchase formula for cases when formula is needed. Some of the challenges that research has identified include obtaining pricing information from manufacturers. This research has also developed an example for how hospitals can calculate fair market pricing.\textsuperscript{27}</td>
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<td><strong>Estimated costs of implementing baby-friendly standards vary</strong></td>
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<td>- Data from hospitals in 20 states demonstrate that the number of practices that support breastfeeding in a hospital is not significantly associated with higher birth costs. This indicates that higher birth costs should not be a concern for hospitals considering baby-friendly practices.\textsuperscript{28}</td>
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\textsuperscript{24} Rose St Fleur and Joyce McKeever, “The Role of the Nurse-Physician Leadership Dyad in Implementing the Baby-Friendly Hospital Initiative,” *Nursing for Women’s Health* 18, no. 3 (January): 231–35, doi:10.1111/1751-486X.12124.
• A national study of BFHI hospitals and non-BFHI hospitals found that baby-friendly facilities did not have statistically significant higher costs per delivery.\(^{29}\)

• A survey of BFHI hospitals found that added costs associated with becoming baby-friendly approximate to $148 per birth. However, these costs decrease over time as breastfeeding rates increase.\(^{30}\)

### Barriers to Change

#### Lack of concern and understanding surrounding the initiative

• A global review of the baby friendly hospital initiative 20 years after its start found that industrialized countries faced unique barriers to implementation, including opposition from health care establishment, lack of support from national governments, and lack of awareness or acceptance about the importance of the initiative from politicians, the health system, and parents.\(^{31}\)

• An international review of barriers faced by baby-friendly efforts identified several factors that affect the adoption of baby-friendly policies: support from local administrators and government, leadership during the implementation process, health care provider trainings, formula marketing practices, and coordination between hospital and community health services.\(^{32}\)

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