

NEW JERSEY BABY-FRIENDLY HOSPITAL INITIATIVE EVALUATION REPORT

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American Academy of Pediatrics
DEDICATED TO THE HEALTH OF ALL CHILDREN™
New Jersey Chapter



PCORE
Pediatric Council on Research & Education
Foundation of the American Academy of Pediatrics / NJ Chapter



SHAPINGNJ



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This report is a product of the NJ BFHI Evaluation Group. Each member served the group in a variety of capacities including providing guidance and feedback to the evaluation design and methods, collecting data, analyzing data, writing this report, reviewing the final report and disseminating the report.

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NEW JERSEY BABY-FRIENDLY HOSPITAL INITIATIVE EVALUATION

EXECUTIVE SUMMARY

OVERVIEW

New Jersey has the highest rate of obesity among low-income children ages two through five since 2008. Despite New Jersey being the fourth leanest state in the country with regard to adult obesity, the high rates of obesity among these young children present a growing epidemic. It is critical that evidence-based programs be implemented to stop early childhood obesity and halt this progression. Evidence suggests that breastfeeding, particularly exclusive breastfeeding for six months, can prevent obesity in children and even older adults. The longer the duration a child is breastfed, the less likely the child is to be overweight, be diagnosed with chronic diseases, and to experience infections. A growing body of research also finds that policies and practices in maternity care facilities impact breastfeeding. When hospitals implement policies and practices that support breastfeeding, mothers are more likely to breastfeed and to breastfeed for longer than mothers who deliver their babies in other hospitals without these practices. One such series of policies and practices is the World Health Organization and United Nations Children’s Fund’s 10 Steps to Successful Breastfeeding. Baby-Friendly USA is the US based agency that designates and recognizes hospitals that implement the 10 Steps.

The Ten Steps to Successful Breastfeeding

1. Have a written breastfeeding policy that is routinely communicated to all health staff.
2. Train all health care staff in skills necessary to implement this policy.
3. Inform all pregnant women about the health 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 infants.
6. Give newborn infants no food or drink other than breastmilk 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 clinic.

The New Jersey Baby-Friendly Hospital Initiative (NJ BFHI) is an initiative of the New Jersey Department of Health, Office of Nutrition and Fitness and **ShapingNJ**, the statewide public-private partnership for obesity prevention. It is funded by the Centers for Disease Control and Prevention through the Communities Putting Prevention to Work – State and Territorial Initiative. The American Academy of Pediatrics, New Jersey Chapter and the Pediatric Council on Research and Education (PCORE) coordinated and administered the NJ BFHI.

The NJ BFHI aimed to improve New Jersey maternity care practices and policies in support of breastfeeding with the ultimate goal of reducing obesity. More specifically, the project aimed to:

- Increase from zero to at least two the number of hospitals designated as Baby-Friendly
- Master at least two steps from the 10 Steps to Successful Breastfeeding in all grantee hospitals

PROJECT DESCRIPTION

To accomplish the NJ BFHI objectives, several key project activities occurred.

Project kick-off and statewide summit “Bringing Baby-Friendly to New Jersey: A Challenge to Change”

Multi-disciplinary teams, including administrative decision-makers, physicians, nurses, and lactation support professionals, from 46 out of 52 New Jersey hospitals attended the summit.



\$10,000 mini-grant request for applications

All New Jersey maternity care hospitals were eligible to apply for the mini-grant opportunity. Sixteen hospitals submitted completed applications. Ten hospitals were awarded the mini-grants based on the socio-demographic factors in the population they served, differences in health outcomes among their delivery population and hospital readiness to implement the 10 Steps.

Grantee hospital leadership training

The 10 grantee hospitals attended a leadership training session during which they each presented a story board about the status of breastfeeding policies, practices and rates. The hospitals also received training about the 10 Steps, expectations of their participation in the NJ BFHI, and quality improvement methodology to carry out environmental changes required for designation.



Ongoing technical assistance

Each hospital prioritized two steps to implement and master during the project. Hospitals applied a quality improvement method – Plan, Do, Study, Act Cycle – to these steps. PCORE-led monthly technical assistance teleconferences for action period support and guidance, as well as collaborative sharing between hospitals as they implemented these steps and others.

Hospital site visits

Project staff visited all of the hospitals soon after launch and provided education and guidance to the hospital grantees. For hospitals that were close to assessment by Baby-Friendly USA for designation, project staff conducted additional on-site “mock assessments” to prepare the hospitals for their inspections.

Project end summit, “Teaming Up to Shape Our Region: A Pathway to Baby-Friendly”

A multi-state summit concluded formal activities for the NJ BFHI. Representatives from New Jersey, New York, Connecticut, and Pennsylvania attended and shared their ongoing efforts around the 10 Steps. New Jersey grantee hospitals highlighted their project accomplishments and also shared their lessons

learned with hospitals from New Jersey and the region.

The NJ BFHI has two target groups. The short-term target of the project was maternity care hospitals in New Jersey and this project reached 10 of the 52 hospitals (19 percent). The long-term target of NJ BFHI is infants born in maternity hospitals. The NJ BFHI will potentially reach 17,309 births in the 10 hospital grantees each year. This represents approximately 20 percent of births in New Jersey, based on data from 2009.

EVALUATION FOCUS AND METHODS

The NJ BFHI evaluation addresses both processes and outcomes of the NJ BFHI. Five evaluation questions guide this evaluation:

1. What barriers and facilitators did hospitals experience implementing the 10 Steps?
2. To what extent did hospitals master at least two steps?
3. How did the grantee delivery facilities move along the 4-D Pathway toward achieving Baby-Friendly designation?
4. How many hospitals achieved Baby-Friendly status?
5. To what extent, and under what conditions, did breastfeeding rates in grantee hospitals change?

The evaluation follows a collaborative evaluation approach by which the focus, questions, methods, analyses, and interpretations are conducted by a group of stakeholders critical to implementing recommendations from the evaluation.

The NJ BFHI evaluation employs a mixed method, non-experimental design and uses three main data sources.

Technical Assistance Call Notes

Detailed call notes from the monthly technical assistance calls were analyzed to identify similarities about grantee hospitals' barriers and facilitators to implementing the 10 Steps. Information from the call notes was also used to monitor the grantee hospitals' progress through the process to obtain Baby-Friendly designation.

Modified Baby-Friendly Hospital Self-Appraisal Tool

At project beginning and end, grantee hospitals completed a modified Baby-Friendly Hospital Self-Appraisal Tool. The tool breaks down each of the 10 steps into several components and asks hospitals to what extent they mastered each of the components. The number of mastered steps were tallied and compared between project beginning and end.

New Jersey Electronic Birth Certificate

To measure changes in exclusive breastfeeding rates, exclusive breastfeeding rates documented in the New Jersey Electronic Birth Certificate were compared before and at project end. A paired t-test was conducted to determine if the changes were significant.

KEY RESULTS

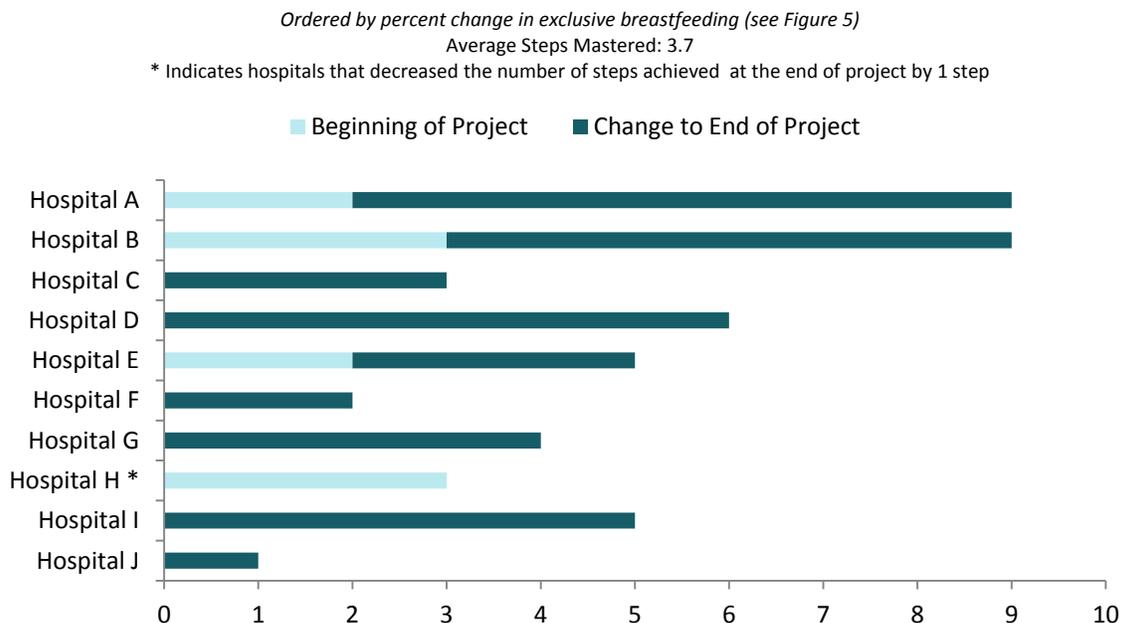
Commonalities in Implementing the 10 Steps

- Consistent and accurate documentation is critical to the process of implementing the 10 Steps.
- As maternity care practices make changes in policies and procedures, staff must also make changes their routine practices.
- Strong steering committees help hospitals implement changes in practices and policies to support breastfeeding.
- Engaging hospital leadership in the process facilitates cultural change around breastfeeding.
- Celebrating accomplishments and brining publicity around the process helps to reenergize employees.
- NJ BFHI formed a collaborative of hospitals that provided peer learning, mentoring, guidance and on-site support to maternity care facilities implementing the 10 Steps.

Mastering the Ten Steps

- Eight out of 10 hospitals mastered at least two steps and on average, grantee hospitals mastered nearly four steps.

Number of Steps Mastered in NJ BFHI



Baby-Friendly Designation

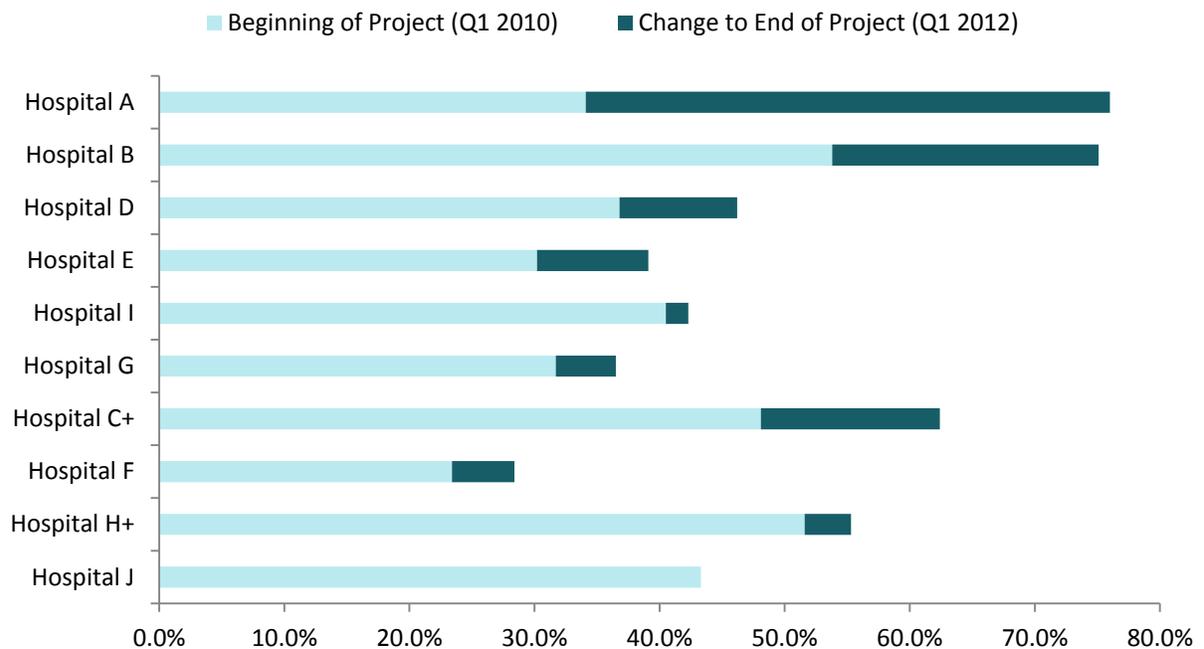
- Three grantees received Baby-Friendly Designation.
- One hospital was designated in March 2012 and two received designation in October 2012.

Changes in Breastfeeding Rates

- Overall, exclusive breastfeeding rates increased over 11 percent during the project in the grantee hospitals.
- Rates increased significantly in eight of the 10 hospitals.
- Exclusive breastfeeding rates in the NICU also increased in some hospitals.
- A correlation existed between the number of steps hospitals mastered and the rate of exclusive breastfeeding at the end of the project.

NJ BFHI Exclusive Breastfeeding Rates, Non-NICU Discharge

Ordered by total steps mastered (See Figure 3)
 Total Exclusive BF Rate Q1 2010: 38.6%
 Total Exclusive BF Rate Q1 2012: 49.8%
 + Indicates Level 2 NICU nursery



LESSONS LEARNED AND RECOMMENDATIONS

Policy and environmental changes in maternity care practices take time to implement.

Often, there is a delay between the implementation of these changes and measurable changes in behaviors and health outcomes. Changes must be institutionalized and maintained.

Recommendation

- Grantee hospitals should continue to monitor their exclusive breastfeeding rates as well as those of their peers to better understand the long-term impact of this project. Exclusive breastfeeding rates may also be monitored using the NJ DOH's annual report, Breastfeeding and Maternity Hospitals: A Comparative Report.

Implementing staff and patient education at the beginning of the process facilitated the implementation of other steps.

Education is the foundation because it provides knowledge and resources for staff and patients about the need for and importance of breastfeeding. Gaining the support and buy-in of physicians is particularly important to implementing the 10 steps. Those hospitals that were able to overcome the challenge of engaging physicians in education made additional strides in other steps.

Recommendation

- Hospitals and breastfeeding support teams should initially work to engage and obtain the buy-in of physicians. Some hospitals found success including physicians on steering teams, offering continuing education credits or relying on a physician champion to model and promote breastfeeding-related practices.
- Hospitals implementing the 10 Steps to Successful Breastfeeding should first provide staff and patient education around breastfeeding (Steps 2 and 3). More complex changes that depend on staff coordination (such as those required for Step 4: Skin to Skin and Step 6: Supplementation) should be addressed after education and training, once the foundation for breastfeeding support is laid and the cultural shift begins among staff.

Implementing the 10 Steps is amenable to a quality improvement model.

Both the 10 Steps and quality improvement models require taking multiple small steps to implement each larger step. Hospitals are familiar with the quality improvement model as it is used in a variety of other medical areas.

Recommendation

- Hospitals should consider applying a quality improvement model such as the Plan Do Study Act (PDSA) cycle to implement the 10 Steps. These models may be particularly useful when implementing steps that are especially challenging for hospitals and require multiple small changes to occur for the overall step to be achieved. In addition, quality improvement methodology works best for steps that require changes in the way patients are cared for, such as Steps 3-10.

The NJ BFHI collaborative was an effective and helpful structure for the grantee hospitals.

The NJ BFHI collaborative provided hospitals the opportunity to share creative, innovative and successful methods and solutions for overcoming barriers and implementing the steps with other hospitals. The collaborative was also successful in shifting the cultural norms of leadership within hospitals to change practices, such as implementing the International Code of Marketing of Breastmilk Substitutes (distributing industry marketing materials and paying for formula). Overall, this collaborative process allows for peer learning and support to the hospitals while respecting their distinctiveness.

Recommendation

- The NJ BFHI Collaborative should be maintained and expanded to continue to support hospital grantees towards Baby-Friendly designation. The collaborative should also be opened to other maternity hospitals in the state that are implementing the 10 Steps to Successful Breastfeeding to encourage additional peer learning and facilitate their work to support breastfeeding through maternity care policies and practices.
- A BFHI Expert Network should be established and partnered with the NJ BFHI Collaborative. The network should include individuals who are particularly knowledgeable about implementing the individual steps.
- The BFHI Expert Network would provide mentoring and guidance to maternity hospitals who are changing their maternity care policies and practices to better support breastfeeding. These activities would include trouble-shooting with hospitals, making hospital site visits and conducting mock site inspections to hospitals prior to their Baby-Friendly inspections.

Seeking and obtaining Baby-Friendly designation has associated costs, however this initial investment has the opportunity to increase market share and recapture revenue.

Costs begin at \$9,000 register for the four phases of the Baby-Friendly USA 4-D Pathway and include additional costs incurred implementing the 10 Steps, such as procurement of formula and supplies at fair market value. A recently published cost-benefit analysis of the BFHI has demonstrated that these costs are minimal in the overall budget of a hospital and may be offset by improvements in care, reduced morbidity, and increased patient satisfaction.

Recommendation

- Future efforts should consider conducting further cost-benefit analysis of the Baby-Friendly hospital process to determine the impact of Baby-Friendly designation on a hospital's financial bottom line. Further, it may be helpful for hospital administrators to see how the investment relates to increases in breastfeeding rates and ultimately improved health outcomes for their hospital catchment population.
- Statewide agencies should consider providing hospitals with incentives, programs or other initiatives to make implementing the 10 Steps equally possible for all hospitals throughout the state. These programs may provide additional resources to help support hospitals through this process or they may provide benefits for those hospitals that achieve designation.

OVERVIEW OF PROJECT

BACKGROUND AND RATIONALE

Since 2008, New Jersey maintains the highest rate of obesity among low-income children ages two through five.¹ The high rates of obesity among the youngest, most at-risk New Jerseyans suggest that targeted, evidence-based interventions must be implemented to address the growing problem of obesity in the state.

Breastfeeding is known to have multiple positive long term health impacts. Exclusive breastfeeding reduces the risk of being overweight in children, decreases the number of new infectious diseases in infants and protects against chronic diseases and obesity. In a comparison between children who are breastfed and those who are not, breastfeeding confers a four to 24 percent reduction in obesity. Exclusive breastfeeding enhances this reduction. Research suggests there is a 31 percent decrease in obesity in children who are breastfed exclusively for six months compared to other feeding practices.²

Healthy People 2010 and 2020 delineate national objectives for breastfeeding, specifically to increase the rate of breastfeeding initiation to at least 75 percent in the early postpartum period, and to increase the rate of exclusive breastfeeding for six months to nearly 26 percent. In New Jersey, the overall incidence and duration of breastfeeding has increased steadily over the past decade. In 2008, three out of four (75 percent) New Jersey mothers ever breastfed their children, meeting the national standard.

Figure 1 The Ten Steps to Successful Breastfeeding

11. Have a written breastfeeding policy that is routinely communicated to all health staff.
12. Train all health care staff in skills necessary to implement this policy.
13. Inform all pregnant women about the health benefits and management of breastfeeding.
14. Help mothers initiate breastfeeding within one hour of birth.
15. Show mothers how to breastfeed and how to maintain lactation, even if they are separated from infants.
16. Give newborn infants no food or drink other than breastmilk unless *medically* indicated.
17. Practice “rooming in” – allow mothers and infants to remain together 24 hours a day.
18. Encourage breastfeeding on demand.
19. Give no pacifiers or artificial nipples to breastfeeding infants.
20. Foster the establishment of breastfeeding support groups and refer mothers to them on discharge from the hospital or clinic.

Rates of *exclusive* breastfeeding, however, are especially problematic with only 10 percent of mothers breastfeeding their children exclusively for 6 months in 2008.³ Rates of breastfeeding are also lower in women of racially and ethnically diverse communities.

Research demonstrates that hospital policies that specifically support breastfeeding can increase exclusive breastfeeding rates. For example, an article published in 2005 based on New Jersey Electronic Birth Certificate Data found that hospital policies and practices account for about 40 percent of the variation in hospital-specific rates of exclusive breastfeeding.⁴

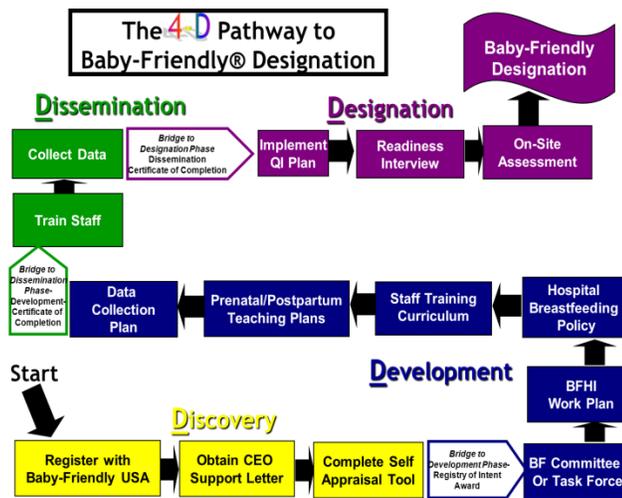
Results from the 2007 Maternity Practices in Infant Nutrition and Care survey ranked New Jersey 34th in the U. S. for breastfeeding care delivered in maternity facilities.⁵ The study suggested multiple areas of improvement including implementing evidence-based programs

within hospital settings to support breastfeeding, integrating maternity care into quality improvement efforts and sponsoring a state-wide summit to highlight best practices.

The 10 Steps is a World Health Organization/United Nations Children’s Fund program that encourages and recognizes hospitals that offer an optimal level of care for lactation, including patient education, maternity department policies and practices and post-discharge support (Figure 1). Data from around the world suggest that implementing the 10 Steps results in increases in breastfeeding initiation, duration, exclusivity, as well as improvements in related child health outcomes.⁶

The Baby-Friendly Hospital Initiative (BFHI) promotes breastfeeding through the 10 Steps to Successful Breastfeeding (Figure 1). Baby-Friendly USA coordinates the BFHI in the U.S. and confers Baby-Friendly designation to hospitals. Prior to 2010, U.S. hospitals who sought Baby-Friendly designation submitted a Certificate of Intent to Baby-Friendly USA. Hospitals then worked towards implementing the 10 Steps with the support of Baby-Friendly. In 2010, Baby-Friendly transitioned from the Certificate of Intent to a more structured, step by step process to guide hospitals through implementing the 10 Steps. This process, the 4-D Pathway includes four phases: Discovery, Development, Dissemination and Designation (Figure 2).

Figure 2 Baby-Friendly USA 4-D



In 2010, no New Jersey hospital was designated Baby-Friendly, as defined by Baby-Friendly USA.

PURPOSE AND GOALS

The overall goal of the NJ BFHI is to improve maternity care policies and practices in support of breastfeeding in New Jersey maternity care facilities. We anticipate that long term impacts of this project will decrease rates of obesity among children and ultimately lead to a healthier NJ.

We sought to achieve two objectives during the 18-month project period from 2010 to 2012:

Objective 1: To increase from zero to at least two the number of hospitals certified as Baby-Friendly

Objective 2: To implement at least two steps from the 10 Steps to Successful Breastfeeding in all hospital grantees

The project targeted hospitals based on several criteria. Grantee hospitals were selected based on:

- geographic representation across the state regionally (North, Central and Southern),
- service to low-income communities and at-risk populations regarding health outcomes and breastfeeding rates (Table 1),

- a range in number of births, and
- hospital readiness (capacity) to undertake on this project.

Table 1 Demographic Profile of New Jersey Baby-Friendly Hospital Initiative Grantee Hospitals (2009)

	Hospital									
	A	B	C	D	E	F	G	H	I	J
Number of births discharged home (2010)	1,629	1,514	748	4,132	963	1,755	1,795	2,043	1,386	1,693
Region	Central	Central	North	North	South	South	Central	South	Central	South
Perinatal risk score*	4	1	0	2	4	4	2	3	2	3
Race/ethnicity										
White (non-Hispanic)	34%	71%	79%	53%	21%	29%	41%	31%	70%	37%
Hispanic	28%	18%	11%	14%	44%	31%	32%	45%	12%	31%
Black	33%	4%	2%	24%	28%	32%	13%	23%	17%	21%
Asian/PI/Other	6%	7%	7%	9%	7%	9%	15%	2%	2%	10%
* Perinatal risk score is an index composed of fetal and neonatal deaths, low birthweight, infant mortality, late prenatal care, and teen birth ratio. It was used in the grant review process to identify hospitals serving at-risk populations. Scores range from 0 to 5 and the higher the score, the higher the index value and the more at-risk the population. For additional explanation, please see: http://www.nj.gov/health/fhs/professional/documents/prareport.pdf										

PROJECT TEAM—MEMBERS AND ROLES

The NJ BFHI project was administered and staffed by several parties. Improving maternity care policies and practices is a key strategy in the New Jersey Obesity Prevention Plan. *ShapingNJ*, a public-private partnership of over 200 agencies with the goal of reducing obesity in New Jersey, developed this plan and works to implement the strategies included in it. The New Jersey Department of Health (NJ DOH) Office of Nutrition and Fitness (ONF) coordinates this partnership and facilitates the implementation of the strategies. It is in this role that the NJ DOH ONF received funding from the Centers for Disease Control and Prevention for the NJ BFHI. ONF staff oversaw the grant along with an outside consultant.

The American Academy of Pediatrics-New Jersey Chapter, Pediatric Council on Research and Education (PCORE) coordinated the project. A project manager and assistant provided support, organized and administered activities, developed materials and coordinated efforts associated with the NJ BFHI.

A pediatrician champion, Dr. Lori Feldman-Winter, and Anne Merewood, PhD, a project consultant from Boston Medical Center, also participated in the project. They provided guidance and expertise to the hospitals to implement the 10 Steps as well as support for program development and evaluation.

The NJ BFHI evaluation used a collaborative evaluation approach. The evaluation focus, questions, findings and interpretations are the result of this group, the NJ BFHI Evaluation Group. The group represents a multi-disciplinary gathering of stakeholders. These stakeholders represent individuals and organizations critical to understanding the findings of the project, developing actionable recommendations for program improvement, and being involved in future efforts for the NJ BFHI.

PROJECT DESCRIPTION

The NJ BFHI project activities occurred during an 18-month period from September 2010 through March 2012.

IMPLEMENTING THE 10 STEPS TO SUCCESSFUL BREASTFEEDING

Statewide Summit

To kick-off the project, PCORE planned and convened a statewide summit, *“Bringing Baby-Friendly to New Jersey: A Challenge to Change”*. Multi-disciplinary teams, including administrative decision-makers, physicians, nurses, and lactation support professionals, from 46 of 52 New Jersey maternity hospitals attended the summit. Fifty-four percent of the teams included physicians. Attendees learned about the importance of improving practices to support breastfeeding and how to implement the 10 Steps. They also were informed of an opportunity to apply for a \$10,000 mini-grant.



Mini-Grant Request for Applications

All New Jersey maternity care hospitals were eligible to apply for the \$10,000 mini-grant opportunity. Two conference calls provided information about the application process. Twenty-six hospitals applied for the mini-grant, though only 16 were complete and reviewed. Thirteen of these hospitals attended the kick-off summit. A seven-member site selection committee reviewed the applications blind. Ten hospitals were selected and all attended the kick-off summit. Of the grantees, 80 percent had physicians in their teams that attended the summit.

Grantee Hospital Leadership Training

PCORE coordinated a leadership training and the project team facilitated and staffed the training. Each of the grantee hospitals presented a story board about the status of breastfeeding policies, practices and rates. The hospitals received training from Baby-Friendly USA and the project team about the 10 Steps and expectations of participation in the NJ BFHI.



Following the Leadership Training, all hospitals completed a self-appraisal tool. This tool helped the hospitals to determine what breastfeeding support policies and practices were already in place and provided to hospitals. Each hospital then selected at least two steps to master during the project. Hospitals applied a quality improvement method – Plan, Do, Study, Act Cycle – to these steps.

It is important to note that each of the hospitals was at a different place in implementing the 10 Steps. One hospital was particularly far in the Baby-Friendly process and two other hospitals made several changes to their policies and practices before beginning the project.

Technical Assistance

Grantee hospitals received ongoing technical assistance throughout the project. Lead project personnel from each grantee hospital participated in PCORE-led monthly teleconferences. Twelve calls occurred during the project period. Each hospital presented during the calls and discussed its progress, challenges and novel strategies. Project staff and other hospitals provided support and recommendations to overcome challenges. Project consultants developed a NJ DOH hospital policy on infant feeding based on an existing template from Capital Health and vetted the policy with Baby-Friendly USA. This model policy along with other resources was posted on a statewide portal. This portal enabled the hospitals to share information, discuss issues and other interactive features.

Site Visits

Project staff, led by Dr. Winter and Dr. Merewood, also conducted site visits with each hospital. These half-day site visits included:

- lectures and other educational instruction for the hospital staff
- staff and patient surveys
- breastfeeding task force meetings

Additional site visits also occurred with grantee hospitals that reached the fourth and final phase of the Baby-Friendly 4-D Pathway. These visits prepared the hospitals for the Baby-Friendly USA inspection. Project staff conducted “mock assessments” at three of the 10 grantee hospitals.

Project-End Summit

PCORE organized a multi-state regional Summit “*Teaming Up to Shape Our Region: A Pathway to Baby-Friendly*”. This summit concluded formal activities for the NJ BFHI. Representatives from New Jersey, New York, Connecticut, and Pennsylvania attended and shared their ongoing efforts around the 10 Steps to Successful Breastfeeding. New Jersey grantee hospitals highlighted their project accomplishments and shared their lessons learned.



All grantee hospitals completed a second administration of the modified Baby-Friendly Hospital Self-Appraisal Tool at the end of the project to determine the progress the hospitals made to implement the 10 Steps.

The NJ BFHI reached several different populations. The short-term target of the project was maternity care hospitals in New Jersey and this project reached 10 of the 52 hospitals (19 percent). The long-term target of NJ BFHI is infants born in the maternity hospitals. The NJ BFHI will potentially reach 17,309 births in the 10 hospital grantees each year. This represents approximately 20 percent of births in New Jersey, based on data from 2009.

PROJECT EVALUATION

The goal of the NJ BFHI evaluation is to improve, expand, and sustain the NJ BFHI. Our evaluation addresses both processes and outcomes of the NJ BFHI. Five evaluation questions guide this assessment:

1. What barriers and facilitators did hospitals experience implementing the 10 Steps?
2. To what extent did hospitals implement at least two steps?
3. How did the grantee delivery facilities move along the 4-D Pathway toward achieving Baby-Friendly designation?
4. How many hospitals achieved Baby-Friendly status?
5. To what extent, and under what conditions, did breastfeeding rates in grantee hospitals change?

METHODS

This evaluation uses a mixed methods non-experimental design with both qualitative and quantitative sources. Attempts were made to use pre-existing sources to minimize the burden on hospitals for data collection.

Technical Assistance Calls and Hospital Highlights

Technical Assistance Call Notes. Beginning in March 2011, extensive and detailed notes were recorded from the monthly technical assistance calls conducted with the 10 hospital grantees. During these calls, the designated point person from each grantee hospital discussed the progress made during the prior month as well as any particular challenges and successes experienced. The monthly calls continued until March 2012.

The notes from these calls were used to better understand the process the hospitals went through to implement changes in maternity care policies and practices. The call notes also help document progress through the 4-D pathway. Twelve sets of call notes were analyzed by a subset of the NJ BFHI Evaluation Group, consisting of six members. Initially, the group reviewed the call notes and independently identified common themes, program facilitators and program barriers. Then, the sub-group met to discuss the independent findings and to create a master list that refined the themes. The results of this group analysis focused on each of the Ten Steps and the overall process of implementing the 10 Steps. The sub-group also developed recommendations for implementing each step.

Hospital Highlights. To capture the individual experiences of all of the hospitals, the NJ BFHI leaders from each hospital were asked to complete a Hospital Highlights form at the end of the project. The form collected information about members of their leadership and steering teams for the NJ BFHI. It also obtained the story of the hospitals' NJ BFHI experience. The hospital stories, designed to be mini success stories, included some of the following information:

- Rationale for participation in the NJ BFHI
- Team accomplishments
- Barriers experienced
- Lessons learned
- Plan(s) for continued improvement and sustaining success

ATLANTICARE REGIONAL MEDICAL CENTER

AtlantiCare Regional Medical Center (ARMC) began the Baby-Friendly process to help to fulfill our vision of building a healthy community.

Accomplishments

- Our Breastfeeding task force designed a Baby-Friendly Brochure in English and Spanish and distributed it to all women who preregistered for childbirth.
- We incorporated more information about breastfeeding in our Childbirth Preparation Classes and during our Childbirth Center Tour.
- We removed information about bottle feeding from our Baby Basics Class.
- All of our Labor and Delivery, Maternity and NICU nurses proved their competency in Hand Expression and our nurses help patients initiate pumping as soon as they are separated from their baby.
- We replaced formula with an icepack to keep healthy snacks or breast milk cold and La Leche League brochures in our discharge bags.
- Our Auxiliary began renting and selling breast pumps at a lower rate than retailers
- Our 32 member Breastfeeding Committee and 83% of our night shift nurses completed their 18 hours of education.

Challenges

- It was difficult at first to track and trend our exclusive breastfeeding rates. Our breastfeeding committee was able to update our forms and complete a successful chart audit.
- We decided to implement the Baby-Friendly Policy in stages to gain better consensus and have small tests of changes throughout the year.
- Throughout the year we updated the physicians during our department meetings about our journey and progress. To increase compliance in education, we decided to have two CMEs offered before department meetings in 2012.

Looking Ahead

Over the next year, our group will continue to educate our staff and physicians. We budgeted for the replacement of formula bags. We will continue to work with our OB and Pediatric department chairs on our Baby-Friendly policy.

Nine of ten hospital grantee hospitals submitted the Hospital Highlights form. For the hospital that did not submit, content was used from the end of project summit program that included summaries of each grantee hospital project and accomplishments. Content from all hospitals was reviewed and compared with the findings from the technical assistance call notes to identify any complementary or divergent information. Additionally, these stories were edited for length and included in totality in this report to highlight the unique experiences of each hospital grantee.

Modified Baby-Friendly USA Hospital Self-Appraisal Tool

Baby-Friendly USA requires registered hospitals to complete a Hospital Self-Appraisal during the Discovery Phase of the 4-D Pathway. The tool is a yes or no checklist of key policies and practices that should ideally be in place in a Baby-Friendly hospital. The tool is organized by the 10 Steps and there are several indicators that make up each step. It is designed to provide maternity care facilities a snapshot of the current status of their policies and practices. The results of the appraisal serve as a springboard for developing a plan of action to make improvements in the hospital. Baby-Friendly USA encourages hospitals to complete the tool collaboratively with key management and clinical staff.

The progress each grantee hospital made during the NJ BFHI was monitored using pre and post project administrations of the hospital self-appraisal tool. Because the original tool from Baby-Friendly USA is a dichotomous scale (Yes or No), the NJ BFHI Evaluation Group modified the tool to give hospitals additional answer choices for each of the checklist items. Where appropriate, the yes or no answer options were expanded to indicate if the hospital mastered the item, mastered it with exceptions, implemented it haphazardly or did not consider it a priority.

Baby-Friendly Hospital Self-Appraisal Tool

Are all staff aware of the advantages of breastfeeding and acquainted with the facility's policy and services to protect, promote, and support breastfeeding?

- Yes
- No



Modified Baby-Friendly Hospital Self-Appraisal Tool

Staff are aware of the advantages of breastfeeding and acquainted with the facility's policy and services to protect, promote, and support breastfeeding.

To what extent has your hospital implemented this?

- We've mastered that
- With significant exceptions: _____
- Only haphazardly
- That has not been a priority

Additional modifications included providing a range of hours of training for hospitals to select from and a range of percentages of infants receiving supplements. The modification enabled hospitals to obtain a more detailed picture of the status of the indicators on the self-appraisal and to better reflect the priorities in the hospital (Appendix 1).

Grantee hospitals completed the first self-appraisal at the start of the project in February 2011. After project activities concluded in March 2012, hospital grantees completed a second iteration of the self-appraisal. Hospitals were encouraged to complete the tool with their hospital stakeholders and steering committees, though this was not tracked.

Pre and post data for each hospital was summarized and compared. To determine the extent to which the hospitals progressed, the number of hospitals that responded "Yes" or "We've mastered that" was tallied as well as the number of hospitals that responded "With significant exceptions". This tally was computed for the pre and post administrations of the self-appraisal tool. Hospitals that responded "Yes" or "We've mastered that" to all items within a particular step were considered to have mastered or fully implemented that step. For example, for Step 1: Infant feeding/Breastfeeding policy, there are five items included on the self-appraisal tool. Hospitals that responded "We've mastered that" to all five items were identified as mastering and achieving Step 1.

New Jersey Electronic Birth Certificate

New Jersey's Electronic Birth Certificate (EBC) collects an abstract of the medical records for mother and baby for all live births. The abstract includes one item recording the feeding method in the 24 hours prior to hospital discharge as reported by the mother. The data is electronically submitted by hospitals to the New Jersey Office of Vital Statistics and Registry. Individual records are available to Division staff for a variety of surveillance programs.

To measure behavioral outcomes for the NJ BFHI, we examined rates of exclusive breastfeeding from the EBC in the 10 grantee hospitals. Exclusive breastfeeding rates from the first quarter of 2010 – prior to the start of any project activities — were compared to exclusive breastfeeding rates from the first quarter of 2012, during which the NJ BFHI concluded project activities. A paired t-test was conducted to determine if the changes in exclusive breastfeeding rates in each hospital were statistically significant. Because of the unique circumstances around the treatment and monitoring of infants admitted into the

Neonatal Intensive Care Unit (NICU), separate analyses were conducted for infants discharged directly home and those admitted to the NICU or to another facility.

Analysis

Findings were developed collaboratively by the NJ BFHI Evaluation Group. The group reviewed summary documents, tallies, data tables, figures and other supporting information independently. Next, we convened a meeting to discuss and interpret the data. Participating group members discussed and came to a consensus on how to display the results, what the results indicated, what lessons were learned from the project, and what recommendations should be offered for additional efforts. Following this meeting, this information was organized and expanded to create the Findings section below.

CAPITAL HEALTH – HOPEWELL

Capital Health started working toward Baby-Friendly status over ten years ago and formally began the Baby-Friendly process in 2009. Participating in the NJ BFHI really was the last push we needed to move us along the process.

Accomplishments

- Our Newborn/Infant feeding policy today is a specific reflection of the 10 Steps. We have covered each step clearly to eliminate confusion about the intent and direction of our path.
- We were assessed by Baby-Friendly USA in December of 2011 and were designated Baby-Friendly on March 14, 2012.

Challenges

- Our new hospital had very strict rules about what could be put on the walls. We had to think creatively about how we would display the 10 Steps and settled on easel display and fold-over cards in the rooms.
- Pacifier use and rooming-in was difficult for us as the nurses felt they were not helping the mothers. We locked the pacifiers and decreased nursery staff availability to assist in this process. Once nurses saw that this could work, they embraced it!
- Physician education was a long process with much resistance from those not working directly in the hospital. Completion was accomplished after the hospital administration stepped in requiring providers to finish all requirements.
- The concept of skin to skin was not fully embraced at first and nurses did not understand that there were no real interventions to complete when the baby was placed skin to skin. To clarify the concept, we made specific charting changes.

Looking Ahead

Feedback about the Baby-Friendly process from our committee revealed that the process greatly enhanced teamwork and respect. Many leaders commented on how much work there is to be done and that the 10 Steps require cultural change. One nurse also stated how much more supported she feels and how many tools the Steps have given us. One of the physicians interviewed by the assessors said that he was proud to be a part of the process and that he never knew until now how life changing breastfeeding could be for a mother, especially when she is supported. As one of our team members remarked, “RETHINK Breastfeeding. WE did.”

FINDINGS

KEY THEMES IN IMPLEMENTING THE 10 STEPS

Review and analysis of the Technical Assistance Call notes revealed several themes related to implementing the 10 Steps. These themes reflect both the overall process and implementing the individual steps.

Consistent and accurate documentation is critical to the process of implementing the 10 Steps.

- As changes occur, charts and other sources of documentation must also change to reflect the practices and procedures.
- Documentation can serve as a reminder and prompt for the new practice or procedure and as a method to track and monitor practices.
- Communication among all parties involved in the development of these systems is important.

As maternity care practices make changes in policies and procedures, staff must also make changes in their routine practices.

- It is important to support and provide space for nurses, doctors and other staff to learn and routinize new changes.
- Gaining the support of the physicians and ensuring they practice the changes and model these changes for other staff is critical.

Strong Steering Committees help hospitals implement changes in practices and policies to support breastfeeding.

- These committees provided leadership, organization and support to ensure that the process moved forward.
- They also facilitated communication between departments, specialties and staff.
- Committees that were representative of the different specialties were particularly effective in the process.

Engaging hospital leadership in the process facilitates cultural change around breastfeeding.

- Hospital teams that worked closely with their leadership and administration found that the leadership supported the process of:
 - making changes,
 - funding changes, and
 - sustaining changes made.

Celebrating accomplishments and bringing publicity around the process helps to reenergize employees.

- Implementing policy and environmental changes takes time and effort.
- Over time, the challenges can cause disappointment and frustration.
- Identifying and highlighting achievements – even if small – helped stakeholders see the progress being made.
- Publicity around these successes also helped to maintain the energy and commitment to the process.

The NJ BFHI Collaborative is particularly helpful for hospitals as they implement changes in policies and practices.

- Monthly technical assistance calls encouraged information sharing between hospitals and helped to spark creativity to address challenges.
- The online portal enhanced information sharing as it housed documents and resources.
- The monthly format of the calls catalyzed the hospital's work because the hospitals were accountable for reporting monthly progress.

In addition to factors that impacted the overall process of making changes in maternity care practices, other factors impacted the implementation of individual steps. The sharing of information, resources and challenges among the hospitals in the NJBFHI Collaborative revealed common facilitators and barriers for each step (Table 3).

Table 3: Facilitators, Challenges and Recommendations for Each of the 10 Steps

Step	Facilitators	Challenges	Unanticipated Results & Recommendations
Step 1 Infant feeding/ Breastfeeding Policy	<ul style="list-style-type: none"> ➤ Creating a policy template that could be adapted and used by hospitals ➤ Having Baby-Friendly USA support the template policy ➤ Customizing policy to be consistent with hospital policies ➤ Obtaining buy-in from administration 	<ul style="list-style-type: none"> ➤ Distinguishing between hospital protocols and hospital policies ➤ Selecting the best policy model for the hospital <ul style="list-style-type: none"> ○ One all-encompassing policy related to infant feeding/breastfeeding or separate policies for each step ○ One corporate policy or individual hospital policy 	<ul style="list-style-type: none"> ➤ <u>Recommendation</u>: Include the NJ policy template and an example of a completed policy (from a certified NJ hospital) in tool kit ➤ <u>Recommendation</u>: Include in the policy hospital specific plans for educating staff (step 2) and educating mothers (step 3)
Step 2 Staff Education	<ul style="list-style-type: none"> ➤ Having a staff/doctor champion to encourage other staff ➤ Providing a list of curriculums and trainings that could be used ➤ Offering different types of training opportunities to reflect different learning styles and needs ➤ Retrofitting education to 15 lessons and 4 competencies ➤ Providing assistance with the documentation of staff education 	<ul style="list-style-type: none"> ➤ Tracking who is trained and how many hours of training obtained <ul style="list-style-type: none"> ○ Staff turn-over ➤ Identifying Baby-Friendly USA acceptable trainings and retrofitting curriculums to meet requirements ➤ Providing ongoing trainings ➤ Identifying best method of delivery, time for delivery and curriculum for trainings ➤ Incentivizing trainings <ul style="list-style-type: none"> ○ Tailor message of training importance to specialty 	<ul style="list-style-type: none"> ➤ Effective training formats and incentives vary among hospitals and audience ➤ <u>Recommendation</u>: Develop tool that identifies what staff prefer for training (format) and match the list of curriculum/formats to meet preferences ➤ <u>Recommendation</u>: Hold a regional meeting for MDs/staff that provides required training (consider online options) ➤ <u>Recommendation</u>: Include in the tool kit a list of Baby-Friendly USA approved trainings
Step 3 Prenatal Patient Education	<ul style="list-style-type: none"> ➤ Sharing tools and resources among hospitals in the collaborative ➤ Tailoring education to patient needs <ul style="list-style-type: none"> ○ Cultural sensitivity ○ Know demographics of hospital catchment area 	<ul style="list-style-type: none"> ➤ Developing curriculums that meet Baby-Friendly requirements ➤ Ensuring that prenatal providers follow the curriculum ➤ Translating education and educational materials to meet the language and cultural needs of the community 	<ul style="list-style-type: none"> ➤ <u>Recommendation</u>: Provide flip charts and patient handouts in English and Spanish

Step 4 Skin to skin	<ul style="list-style-type: none"> ➤ Highlighting safety and assessment techniques in staff education ➤ Distributing success stories of skin to skin for the full duration in challenging situations ➤ Using shoulder snap gowns 	<ul style="list-style-type: none"> ➤ Implementing with C-section and special needs deliveries ➤ Staff concerns and resistance about changing the way they do practice <ul style="list-style-type: none"> ○ Staff education helps to ease concerns ➤ Ensuring that mothers have 60 minutes of skin to skin duration within 5 minutes of delivery 	<ul style="list-style-type: none"> ➤ <u>Recommendation</u>: Change documentation forms to ensure that key processes and measures for skin to skin are documented in charts
Step 5 - Show breastfeeding	<ul style="list-style-type: none"> ➤ Demonstrating and educating staff about hand expression, using a cup, and other problem-solving methods 	<ul style="list-style-type: none"> ➤ Assigning and distributing staff in appropriate ways to ensure that mothers whose infants are separated within 3-6 hours receive assistance 	<ul style="list-style-type: none"> ➤ Staff and patient education impacts success of Step 5 ➤ May need to increase the number of lactation consultants on staff – impacts hospital budget
Step 6 Supplementation	<ul style="list-style-type: none"> ➤ Using equipment (i.e. Omnicell) to restrict formula and track how often supplementation is provided ➤ Knowing fair market value of formula ➤ Paying for formula was not as big a challenge as anticipated 	<ul style="list-style-type: none"> ➤ Restricting access by locking up formula <ul style="list-style-type: none"> ○ Staff still had access to formula ➤ Staff and patient concerns about “babies starving” if they do not have supplements readily available 	<ul style="list-style-type: none"> ➤ Importance of documentation ➤ <u>Recommendation</u>: Post visual prompts in the hospital representing the size of a baby’s stomach (teaspoon) ➤ <u>Recommendation</u>: Report success stories for hospitals that pay for formula and restrict access. <ul style="list-style-type: none"> ○ Highlight lack of dehydration, health conditions, re-admittance
Step 7 Rooming In	<ul style="list-style-type: none"> ➤ Collecting data on rooming in rates by time of day – allows for targeted education for night shift ➤ Purchasing exam carts and equipment to allow for room exams ➤ Changing the nursery name to the “Observation Room” 	<ul style="list-style-type: none"> ➤ Being aware of cultural sensitivity and responding to needs of patients if they prefer separation during hospital stay ➤ Calculating the percentage of mothers who room-in requires that all mothers are included and does not allow mothers who request that their infants remain in the nursery ➤ Having appropriate equipment and space to conduct room exams 	<ul style="list-style-type: none"> ➤ <u>Recommendation</u>: Collect baseline data about rooming in at different times and identify reasons for not rooming in <ul style="list-style-type: none"> ○ Target education to shifts where rates are low ➤ <u>Recommendation</u>: Make available to hospitals posters developed to educate about “Baby’s first Sleepover”
Step 8 Breastfeeding on demand	<ul style="list-style-type: none"> ➤ Addressing these concerns in other steps (2,3,6, and 7) <ul style="list-style-type: none"> ○ Efforts build on one another and reinforce success 	<ul style="list-style-type: none"> ➤ Identifying how hospitals are collecting and measuring this information ➤ Ensuring that old language and practices are completely replaced with new, more Baby-Friendly USA language 	

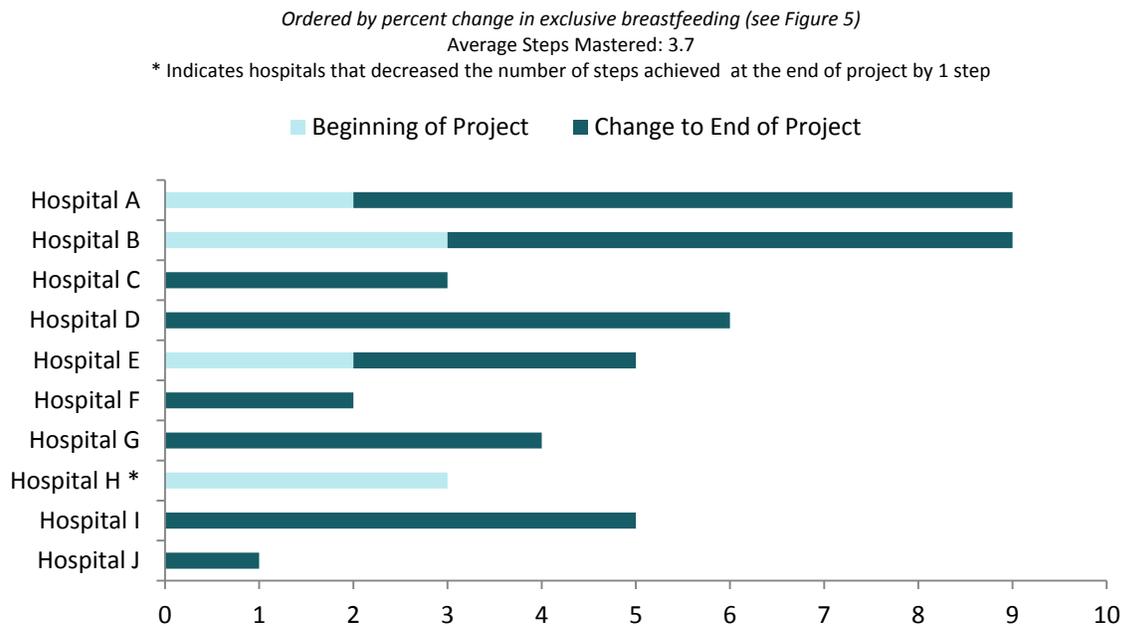
Step 9 Pacifiers	<ul style="list-style-type: none"> ➤ Addressing in staff and patient education modules ➤ Creating policy around pacifiers that allows them only for pain management ➤ Putting them out of sight 	<ul style="list-style-type: none"> ➤ Patient demand and expectations for pacifiers to be provided by the hospital 	<ul style="list-style-type: none"> ➤ Not as great a barrier as other steps ➤ Important to communicate to patients that they have the option to bring pacifiers if they would like them ➤ <u>Recommendation:</u> Address alternative feeding devices for breastfeeding infants requiring EBM or supplement
Step 10 Community Support	<ul style="list-style-type: none"> ➤ Creating partnerships with other organizations (WIC, etc.) ➤ Incorporating EPIC BEST to OB/GYNs and pediatricians 	<ul style="list-style-type: none"> ➤ Feeling somewhat out of control of the services available outside of the hospital ➤ Lacking connection to WIC or other agencies that provide post-partum breastfeeding support and care 	<ul style="list-style-type: none"> ➤ <u>Recommendation:</u> Establish partnerships with local organizations from the start <ul style="list-style-type: none"> ○ Consider adding someone to the Steering Committee (local WIC office) ➤ <u>Recommendation:</u> Talk to local WIC office about efforts ➤ <u>Recommendation:</u> Provide a resource list for mothers upon discharge ➤ <u>Recommendation:</u> Engage breastfeeding consortiums and other community-based organizations for non-WIC population

MASTERING THE TEN STEPS

Based on the comparison of the pre and post project modified Baby-Friendly Hospital Self-Appraisal tool, eight of the 10 grantee hospitals implemented at least two steps. Four hospitals reported that they mastered two or three steps when the project began in 2011. During the project period, many hospitals mastered more than the two steps required in the project (Figure 3).

- On average, hospitals mastered 3.7 steps
- One hospital mastered seven steps
- One hospital mastered one step
- One hospital did not master any step

Figure 3 Number of Steps Mastered in NJ BFHI



Based on the results of the PDSA cycles used in the quality improvement model, however, all hospitals made progress in implementing at least two steps (Appendix 2). It is likely that some of the limitations associated with using the self-appraisal tool and the time frame of the project impacted the results (see Limitations).

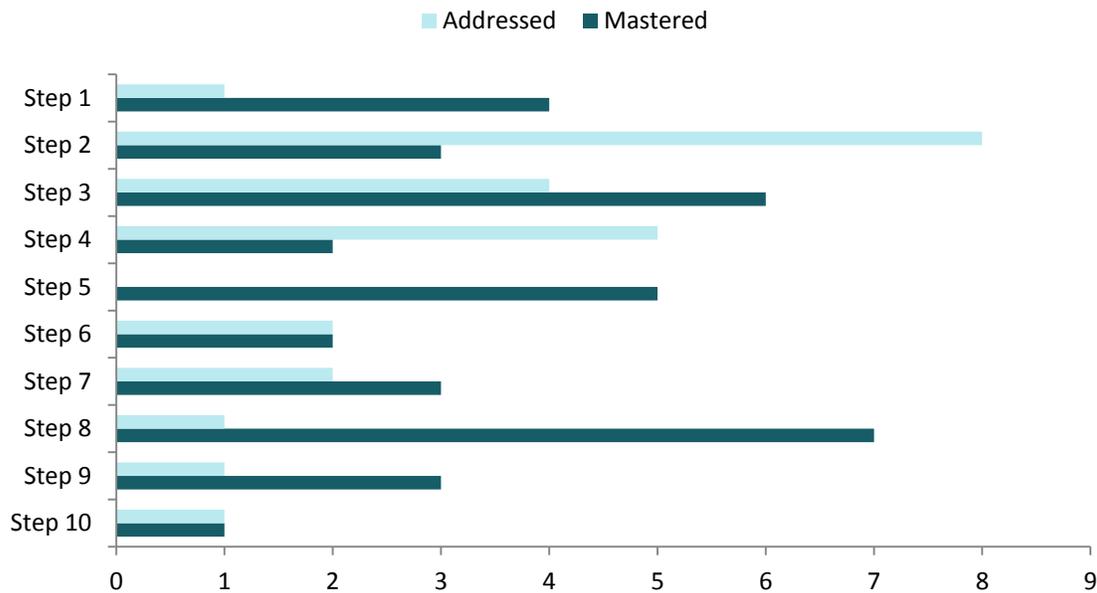
Each grantee hospital in the NJBFHI Collaborative applied the PDSA quality improvement cycle to master at least two of the 10 Steps in their hospital. Although mostly all hospitals mastered at least two steps, they did not necessarily master all steps initially prioritized. In data not shown, nine of 10 hospitals mastered at least one of the steps to which they applied the PDSA cycle and two hospitals mastered both steps.

- Most hospitals (n=8) identified Step 2: Staff Education, though two hospitals demonstrated mastery based on the pre-project modified Hospital Self-Appraisal Tool. During the project, five of the original eight hospitals mastered Step 2: Staff Education. One hospital maintained mastery and one hospital no longer identified that it mastered Step 2, for a net change of 3 hospitals.
- Step 3: Patient Education was addressed by four hospitals with PDSA cycles. Three of four of these hospitals mastered these steps.
- Five hospital grantees selected Step 4: Skin to Skin for PDSA cycles and two (and only one of the original five) mastered it.
- Two prioritized Step 6: Supplementation and none of these hospitals mastered it.
- Step 7: Rooming In was addressed by two hospitals

Two hospitals mastered both of the steps to which they applied PDSA cycles. Hospitals, however, did not limit their success to only those steps on which they applied PDSA cycles. Many of the hospitals mastered additional steps (Figure 4):

- Seven out of the 10 grantees mastered Step 8: Breastfeeding on Demand during the project, although only one hospital initially planned to address this step.
- Six hospitals mastered Step 3: Patient Education while only four initially prioritized the step for the project.
- Half of the grantee hospitals mastered Step 5: Show How to Breastfeed and Maintain Lactation during the project and no hospitals originally prioritized this step for the project.

Figure 4 Number of Steps Initially Targeted and Ultimately Mastered



Hospitals experienced differing levels of success in mastering the steps. *The place the hospitals began in the process of implementing the steps impacted the progress the hospitals made.* Those hospitals already in the Baby-Friendly process or those who already made efforts to implement the 10 Steps were able to make changes faster and see greater improvements in breastfeeding rates. Hospitals just beginning the process during the NJ BFHI project required more time to implement the steps and make changes. *This highlights that cultural change – particularly in institutions - takes time.*

Steps that are more complex and requiring a high level of coordination among hospital staff and departments were most challenging for the hospitals to implement. For example, five hospitals attempted and only two hospitals mastered Step 4: Skin to Skin (Figure 4). To adequately ensure that mothers and babies have skin to skin contact within 30 minutes of birth – or when the mother is able to after a Caesarian Section birth - and that this contact continues for at least an hour, nurses and doctors in various specialties must be knowledgeable about and able to execute assessments and exams on

mother and baby while they are skin to skin. The charting system must also be designed such that medical professionals can document when this contact occurred and for how long.

Similarly, Step 6: Supplementation is particularly challenging for hospitals to address because it requires changes in the purchasing and financial departments of hospitals as well as changes to the way nurses and doctors use supplementation. One grantee reported even changing the way supplements were stored - adding a lock to the storage unit and removing it from eye level - to make it more challenging for staff to access it.

Based on the Technical Assistance calls, *hospitals just beginning the process had success in mastering more complex steps (i.e. Step 4: Skin to Skin, Step 6: Supplementation) towards the end of the journey to Baby-Friendly.* Those that began with Steps 2: Staff Education and Step 3: Patient Education seemed to be able to do the other steps more rapidly. Building staff and patient knowledge about breastfeeding benefits and methods lays the foundation for the importance of and need for breastfeeding policies and practices. It also provides the necessary information and techniques for staff to execute these policies and practices.

PROGRESS THROUGH THE BABY-FRIENDLY 4-D PATHWAY

In general, the grantee hospitals moved consistently through the process to be designated Baby-Friendly during the 18-month project. One hospital was on the Certificate of Intent pathway as they registered with Baby-Friendly in 2009. The nine other hospitals registered with Baby-Friendly after 2010 and thus, were on the 4-D Pathway. Each phase of the 4-D Pathway has specific requirements that hospitals must achieve before they move to the next phase. Movement through these phases suggests progress through the process. Baby-Friendly USA reports that, on average, each phases takes about a year to complete.⁷

CENTRASTATE MEDICAL CENTER

CentraState Medical Center started a formal breastfeeding committee in 2010 and made the decision to begin the process for designation as a Baby-Friendly Hospital due to interest from the medical staff and administration as well as long time interest from the nursing staff.

Accomplishments

- The team successfully implemented the 10 Steps; perhaps more importantly, changed the culture around the support of infant feeding practices.
- We learned that flexibility, willingness to quickly assess, reassess and make the decision to stay on course with an initiative or to abandon and try something new are critical to the process of implementing these types of policy and practice changes in maternity care.
- Patients are noticing and appreciating the changes:

*It was so great to be able to **stay after discharge** since my son was in the special care unit. What a wonderful thing the hospital allows especially when breastfeeding.*

*I loved the **skin to skin bonding** time - it was the most amazing thing to have him on my chest just breathing together.*

*I was **allowed to have my baby with me the entire duration** of my stay. I never waited for someone to answer my call bell...*

Challenges

The greatest challenge we encountered was physician buy-in. Some physicians readily understood our initiatives and went along with changes, though others did not. We continue today to work with a small group of physicians, specifically pediatricians on the importance of breastfeeding.

Looking Ahead

Moving forward, we are linking our eventual Baby-Friendly Hospital designation to strategic initiatives for the medical center and are incorporating performance improvement initiatives specifically related to the Baby-Friendly criteria to ensure we sustain our success.

The grantee hospitals made fairly steady progress through the 4-D pathway during the project period (Table 4). Overall, six hospitals moved through one phase in the 18 month project – the average pace reported by Baby-Friendly USA. Three hospitals moved faster than average with one hospital moving through 2 phases and two hospitals moving through 3 phases during the project period.

Table 4 NJ BFHI Timeline of Hospitals on 4-D Pathway

	June 2010	August 2010	December 2010	February 2011	March-April 2011	June-August 2011	September 2011	November 2011	December 2011
Not Registered with BF USA	9	7	6	1					
Phase 1: Discovery		2	3	8	7				
Phase 2: Development					2	8	6	6	6
Phase 3: Dissemination						1	3	1	1
Phase 4: Designation								2	2
COI Pathway	1	1	1	1	1	1	1	1	1

BABY-FRIENDLY DESIGNATION

As of October 2012, three hospitals achieved Baby-Friendly designation. The first hospital was designated in March 2012 and the other two hospitals received designation in October 2012. These hospitals worked toward designation steadily for several years. One hospital began the process 10 years ago. Feedback from one of the hospital’s staff indicated that the NJ BFHI gave them “the push to move forward more quickly” than they were before the project, thus enabling them to reach designation during the project period.

COOPER UNIVERSITY HOSPITAL

Cooper’s interdisciplinary breastfeeding steering team is committed to the promotion and development of practices that support breastfeeding. Our ultimate goals are to improve our current breastfeeding initiation rate and our exclusive breastfeeding rate.

Accomplishments

- We developed a corporate policy and unit policies and procedures around breastfeeding and infant feeding. We used informal education at unit-based and hospital-based staff meetings and fliers to inform teams of our plan.
- We distributed evidence-based information through grand rounds and simulation-based education.
- We developed a prenatal education program including informational handouts on the benefits of breastfeeding, management of breastfeeding and skin to skin contact.
- We purchased nursing patient gowns to make skin to skin easier.
- We deleted any advertisement or samples of feeding supplements and we give Cooper diaper bags at discharge.
- Infants are now admitted at the bedside of the mother and pediatricians examine newborns at mom’s bedside.
- We renamed the “nurse” to be the Neonatal Observation Center.

Looking Ahead

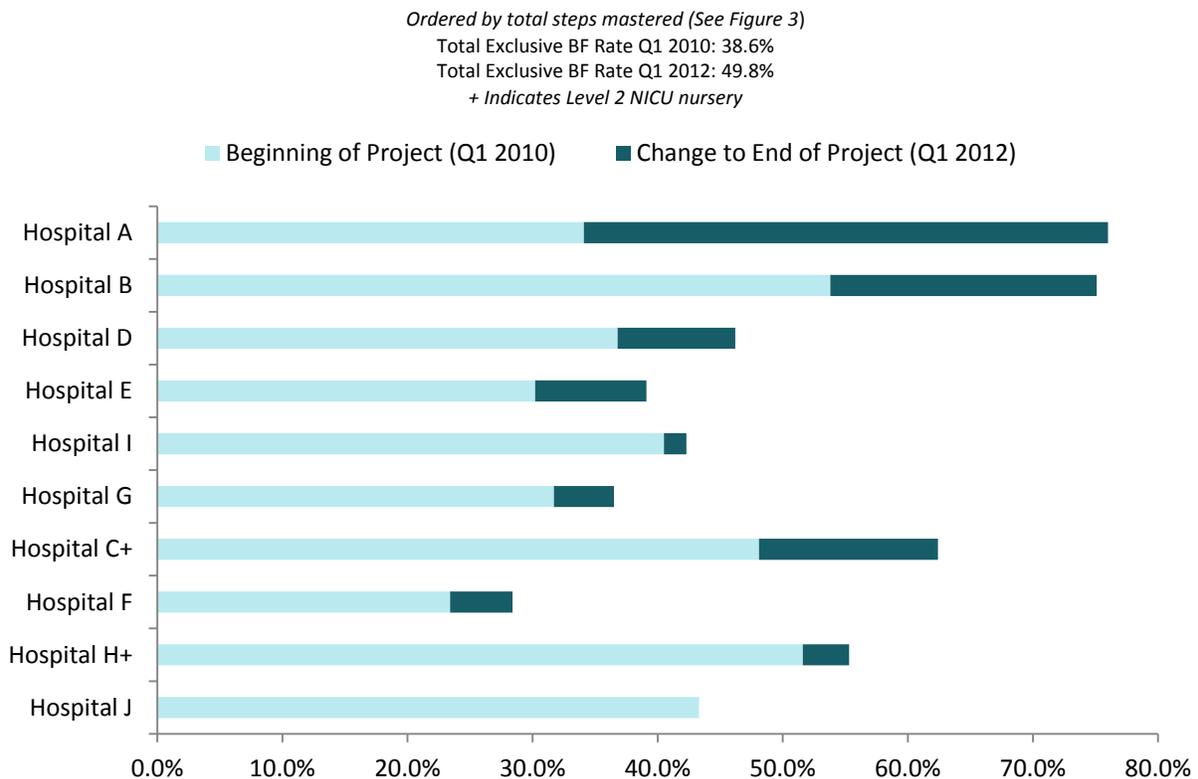
We will continue to improve care that revolves around breastfeeding. Our future activities will focus on using online education for staff, breastfeeding peer counselor training and certification.

CHANGES IN BREASTFEEDING RATES

Overall, exclusive breastfeeding rates in the 10 grantee hospitals increased (Figure 5). The birth certificate abstract records the method of feeding in the 24 hours prior to hospital discharge. In the 10 hospitals:

- 39 percent of mothers were exclusively breastfeeding during the first quarter of 2010 –prior to the start of any NJ BFHI-related activities.
- 50 percent of mothers were exclusively breastfeeding during the first quarter of 2012 – the conclusion of NJ BFHI activities.
- Overall, exclusive breastfeeding rates increased over 11 percentage points.

Figure 5 NJ BFHI Exclusive Breastfeeding Rates, Non-NICU Discharge



Exclusive breastfeeding rates increased in nine out of 10 hospital grantees, and remained relatively stable in one hospital. *In eight grantees, the rate increases were significant.* The largest increase in exclusive breastfeeding rates was in Hospital A, one of the hospitals that achieved Baby-Friendly designation. The rate in that hospital more than doubled, from 34 to 76 percent. Hospital B, also designated Baby-Friendly, experienced the second largest increase in breastfeeding rates, increasing from 54 to 75 percent.

A correlation exists between the number of steps mastered in each hospital and the rate of exclusive breastfeeding at the end of the project ($r=0.68757$). This suggests a dose-response relationship and supports existing evidence that the more steps each hospital mastered, the greater the rates of exclusive breastfeeding.^{8,9}

- By the end of the project, Hospital A mastered a total of nine steps^a - seven of which were mastered during the project - and breastfeeding rates increased nearly 42 percent during the project.
- Hospital B also mastered nine steps and implemented six steps during the project. Exclusive breastfeeding rates increased 21 percent in this hospital.
- Hospital D increased exclusive breastfeeding rates more than 9 percent and mastered six steps, all during the project.

One exception to this trend is Hospital C. Hospital C experienced the third largest increase in breastfeeding rates (14 percent) among the hospital grantees. They reported, however, mastering three steps, namely Step 2: Staff education, Step 4: Skin to skin and Step 6: Supplementation.

Exclusive breastfeeding also increased in some grantees' neonatal intensive care units (NICUs). Overall, exclusive breastfeeding rates in the NICU increased from nearly 19 percent during the first quarter of 2010 to 22 percent in 2012. Exclusive breastfeeding rates in the NICU:

- increased in five grantee hospitals,
- remained relatively the same in one hospital, and
- decreased in four hospitals.

^a The number of steps mastered is based on information obtained from the second hospital self-appraisal. Baby-Friendly designation is based on Baby-Friendly USA inspector assessments that do not use the hospital self-appraisal form and document exceptions or unique circumstances in the hospital. Thus, it is possible that a hospital may be designated Baby-Friendly but only show nine steps mastered on the self-appraisal.

HUNTERDON MEDICAL CENTER

Hunterdon Medical Center began the Baby-Friendly designation process with a small breast feeding task force that met quarterly to discuss breastfeeding issues.

Accomplishments

- We eliminated all formula advertising, bags and formula company lunch and learns.
- Physicians and nurses are coordinating education and ensuring that all providers obtain the required training.
- We developed posters and other teaching materials that staff may use for prenatal education.
- Significant strides were made in increasing percentage of babies that are placed skin to skin immediately after birth, enhanced by changes to our data collection tools.
- Our staff now teaches hand expression to mothers.
- We purchased additional ophthalmoscopes so that doctors can complete their infant assessments in the parents' room.

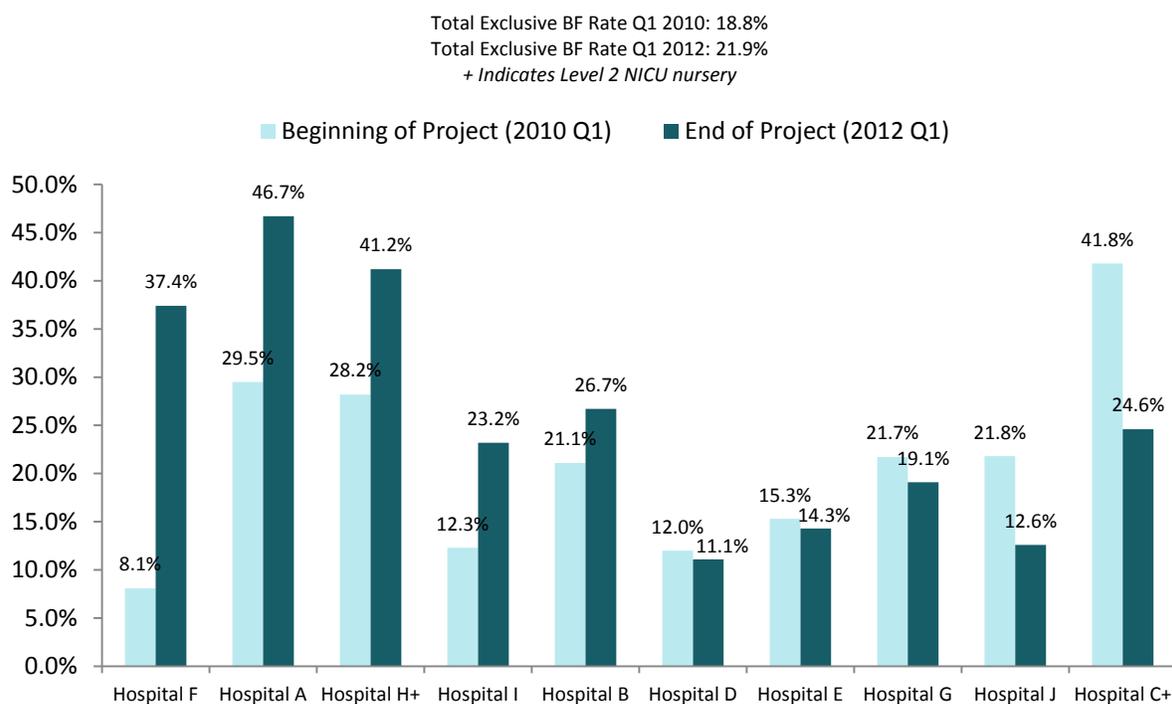
Challenges

- Nursery staff tends to prioritize "getting their work done" over skin to skin contact.
- Pediatric providers are somewhat resistant to conducting their assessments in the Mother's room and prefer these to occur in the nursery.
- Supplementation occurs more often than is medically indicated.
- There is less rooming in at night when many mothers send their infants to the nursery so they can rest.

Looking Ahead

We are committed to completing the journey to Baby-Friendly designation and are hoping to accomplish this goal by 2013. We knew change is challenging, and are finding that to be the case. We are using positive reinforcement and sharing stories of successes to encourage our staff. At times, however, we found success with mandating practices. As we move forward, we plan reorganize our nurses to facilitate infant care at the mother's bedside.

Figure 6 NJ BFHI Exclusive Breastfeeding Rates, NICU Discharge



Hospital F experienced the largest increase from 8 percent in 2010 to just more than 37 percent in 2012 ($p=0.00$). Hospital A also saw a significant increase in NICU exclusive breastfeeding rates, from nearly 30 percent in 2010 to almost 47 percent in 2012 ($p=0.05$) (Figure 6).

While we are unable to establish a causal relationship between the changes made in the hospitals and the increases in breastfeeding in this project, previous studies demonstrate that interventions such as those that implement the 10 Steps to improve maternity care practices effectively improved breastfeeding outcomes.^{8,9,10} These results contribute to a growing body of evidence about the effectiveness of the 10 Steps.

LIMITATIONS

Several limitations should be considered when interpreting the NJ BFHI evaluation. First, this evaluation used a non-experimental design and does not have a comparison group. All hospitals in New Jersey were exposed to the two breastfeeding summits held during this project. Many New Jersey hospitals are also on their own journeys to implementing the 10 Steps, making appropriate strict controlled comparison not feasible. As a result, these findings may not be generalizable to all hospitals in New Jersey. The results, however, may be useful to inform other hospitals' work to implement the 10 Steps to Successful Breastfeeding. In addition, the results provide some limited evidence as the impact of environmental and policy changes in maternity care practices on breast-feeding outcomes.

JERSEY SHORE UNIVERSITY MEDICAL CENTER

As part of the larger healthcare system's strategic decision, we began to incorporate the 10 Steps into the culture and seek Baby-Friendly designation. A new position was created to head the initiative, to build Lactation Services, and to develop comprehensive outpatient lactation services.

Accomplishments

- We created a Breastfeeding Task Force to develop plans for accomplishing the 10 Steps, provide direction and education to the staff and monitor the progress.
- We completely changed our process to implement skin to skin immediately after delivery and within a few months of implementation, we were able to achieve over 80% compliance and have been able to sustain the progress by ingraining it into our culture.
- We reduced supplementation rates for our breastfed babies by requiring a physician's order for supplement and the reason documented in the medical record.
- We changed the role of the "Nursery Nurse" to "Baby Nurse" and now she completes all her tasks in the patient's rooms rather than in the nursery.
- The nursery shades are down and the room is dark to encourage parents to keep the baby in the room with them.

Challenges

- Although we saw a significant reduction in supplementation early in our work, we are struggling to maintain appropriate rates due to cultural norms in our Orthodox community. Many new mothers in this culture tend to prefer supplementation for their babies during the hospital stay, but switch to exclusive breastfeeding upon hospital discharge.
- Providing the evidence and continuous education of the nursing and physician staff helped us overcome some of our barriers as well as ongoing vigilance and monitoring.

Looking Ahead

We plan to continue to monitor the 10 Steps and build the support services that are necessary to sustain the progress. For example, we will be consolidating lactation services across the system to better use resources and creating an outpatient lactation clinic.

To identify and monitor how hospitals moved through the Baby-Friendly process and achieved the steps, we used a modified version of the Baby-Friendly Hospital Self-Appraisal Tool (Appendix 1). This tool relies on self-report by the individual or individuals completing it. It is possible that the person or people completing the tool at each administration may have been different and thus, interpreted the questions differently. Because the tool addresses multiple areas, it is also possible the individual completing the tool may not have had all of the information necessary to complete the tool. Further, a practice effect may have occurred because as people's understanding of each of the steps increased, they may have completed the self-appraisal tool either more critically or with better information the second time.

Each section of the tool corresponds to a step and multiple indicators measure progress on each step. These indicators were collapsed to identify the extent to which each hospital mastered a particular step. Mastery of steps for the purposes of Baby-Friendly designation, however, is based on specific criteria that Baby-Friendly investigators apply during their site visits. These criteria may not match those components included on the self-appraisal tool.

The exclusive breastfeeding rates reported in this report are compiled from the New Jersey Electronic Birth Certificate data and reflect feeding in the 24 hours prior to discharge. It is not a measure of feeding method in the NICU over long stays. Over the years much attention has been paid to the quality of this measure in the EBC; it remains, however, a single report of a process that repeats and changes over time.

OUR LADY OF LOURDES MEDICAL CENTER

In 2011, Our Lady of Lourdes Medical Center began the quest to improve breastfeeding support and services. We assembled a multidisciplinary team of inpatient and outpatient clinicians from the prenatal through postpartum and newborn periods.

Accomplishments

- We hosted the 20 hour course, which resulted in many nurses achieving the Certified Breastfeeding Counselor designation.
- “Lunch and Learn” activities were provided, and the committee facilitated access to online courses and posted several learning modules on the Nursing Education intranet site.
- Hands-on breastfeeding education was featured at the annual mandatory nursing education sessions and with the assistance of the NJ BFHI, we hosted on-site educational sessions that were well attended by staff. Grant funding also allowed some nurses to attend a regional breastfeeding conference.
- To help drive change and recognize those who are providing outstanding care in support of the BFHI, a monthly Breastfeeding Champion award was created. The Breastfeeding Champion receives a small gift card and their name is published in the Lourdes newsletter.
- We communicated the Baby-Friendly message through a *Baby-Friendly Hospital Initiative: Information for Hospital Staff* brochure, *Breastfeeding News* to keep staff “abreast” of the changes in practice and a party to celebrate success in improving the exclusive breastfeeding rate.
- Public Relations and Marketing featured breastfeeding in internal and external publications and communications, and they sponsored the patient discharge bags and crib cards when we removed the formula company products.

Looking Ahead

We successfully met our goal of educating the physicians and nurses with the required initial training, though we realize we must provide ongoing education. As a result, we created a plan for ongoing staff education. Education specific to our patient population will continue to focus on normal newborn feeding and tummy size, and avoiding supplementation to improve breastfeeding success.

ROBERT WOOD JOHNSON UNIVERSITY HOSPITAL

Achieving Baby-Friendly designation was often discussed and recognized as being an important health measure to offer our patients at Robert Wood Johnson University Hospital. The NJ BFHI offered us the opportunity to implement additional steps with the guidance and support of nine other hospitals.

Accomplishments

- We gathered baseline data regarding maternal and staff education.
- We were successful in removing pacifiers except for during painful procedures.
- Our team revised the Hospital Breastfeeding Policy so it better reflects the 10 Steps.
- We developed an education plan for nursing staff and physicians.
- To support our improvements such as skin to skin, infant latch scores, and exclusivity data, we revised the electronic medical record to facilitate the documentation needed.
- We developed data collection plans that will help us sustain our improvements. The electronic medical record is very helpful in running reports to show how we are doing.

Challenges

- One of the private obstetrics group resisted some of our efforts in the process. We are working with them in an effort to help assuage their fears that their patients will not be happy with the changes. We included a member of the community as part of our steering committee to provide the point of view that the physician group should find helpful.

Looking Ahead

The NJ BFHI process was especially helpful to us. Initially, we were somewhat delayed in our progress in our project, however we are now making more strides in our journey and are moving into the third phase of the 4-D Pathway. Our goal is to apply for Baby-Friendly designation by the end of 2013 and we developed an 18 month strategic plan to map out our process and monitor our successes.

SAINT BARNABAS MEDICAL CENTER

Saint Barnabas Medical Center (SBMC) is dedicated to providing patients with information, confidence and the support they need to successfully initiate and continue breastfeeding.

Accomplishments

- We developed policies for breastfeeding and breastfeeding related practices.
- We eliminated all diaper bags and promotional items of breast milk substitutes throughout the hospital.
- We also eliminated pacifiers for all breastfeeding infants except for pain management.
- We developed staff training, infant feeding and patient education plans.
- To enhance patient education, we created several informational resources for staff and patients such as *Facts to Know- Hand Expressing Breast Milk* patient fact sheet, formula feeding fact sheet, Baby-Friendly Hospital Initiative *Information for Hospital Staff* pamphlet, and table top signs.
- Changes were made to documentation and communication tools to capture data around skin to skin, first breastfeed, rooming-in, and education.

Challenges

- Our greatest challenge was obtaining buy-in from our physicians in completing the required education. After continued reinforcement of required education, all of our doctors and nurses completed the required education.
- Purchasing formula was another challenge for us, though our discussions were successful in moving us forward to purchasing formula during 2012.
- We are continuing to address inconsistencies in the implementation of skin to skin and rooming-in policies.

Looking Ahead

Moving forward, we will continue to ensure our staff meets education requirements. We will also work to improve compliance with our skin to skin and rooming-in policies. SBMC is dedicated to implementing evidenced-based practices that protect, promote and support all our breastfeeding mothers and infants in our continued journey toward Baby-Friendly designation.

SOUTH JERSEY HEALTHCARE - VINELAND

South Jersey Healthcare began our Baby-Friendly journey several years ago with a commitment that has resulted in many positive changes in the delivery of maternity care services.

Accomplishments

- We instituted a Spanish-only prenatal breastfeeding class and a postpartum support group in collaboration with the Family Success Center of Vineland.
- We implemented prenatal breastfeeding in our Antenatal Testing Unit and with our care provider practices utilizing teaching flipcharts.
- Our staff conducted numerous community health fairs elucidating the maternal, infant, family, and social benefits of breastfeeding.
- Emphasizing professional education resulted in the addition of 25 certified breastfeeding counselors among the nursing staff.
- We developed and will soon launch our own 15-hour online professional staff breastfeeding education program that is consistent with Baby-Friendly USA's curriculum.
- In compliance with International Code of Marketing Breastmilk Substitutes, we discontinued distribution of formula company hospital discharge bags and we are anticipating the purchase of formula in the 2013 budget year.
- A Breastfeeding Performance Improvement Program is formally instituted through the Departments of OB/GYN and Pediatrics.
- SJH established a Workplace Lactation Program to support breastfeeding among hospital employees.

Looking Ahead

We believe that the deliberate and focused effort to promote, protect, and support breastfeeding by embracing the 10 Steps to Baby-Friendly has significantly impacted our hospital's and community breastfeeding initiation rates. Future efforts in our process to achieve Baby-Friendly designation will focus on completing the education requirements for all of the staff and implementing skin-to-skin immediately after birth in healthy newborns.

LESSONS LEARNED AND RECOMMENDATIONS

Policy and environmental changes in maternity care practices take time to implement.

Often, there is a delay between the implementation of these changes and measurable changes in behaviors and health outcomes. Changes must be institutionalized and maintained.

Recommendation

- Grantee hospitals should continue to monitor their exclusive breastfeeding rates as well as those of their peers to better understand the long-term impact of this project. Exclusive breastfeeding rates may also be monitored using the NJ DOH’s annual report, Breastfeeding and Maternity Hospitals: A Comparative Report.

Implementing staff and patient education at the beginning of the process facilitated the implementation of other steps.

Education is the foundation because it provides knowledge and resources for staff and patients about the need for and importance of breastfeeding. Gaining the support and buy-in of physicians is particularly important to implementing the 10 steps. Those hospitals that were able to overcome the challenge of engaging physicians in education made additional strides in other steps.

Recommendation

- Hospitals and breastfeeding support teams should initially work to engage and obtain the buy-in of physicians. Some hospitals found success including physicians on steering teams, offering continuing education credits or relying on a physician champion to model and promote breastfeeding-related practices.
- Hospitals implementing the 10 Steps to Successful Breastfeeding should first provide staff and patient education around breastfeeding (Steps 2 and 3). More complex changes that depend on staff coordination (such as those required for Step 4: Skin to Skin and Step 6: Supplementation) should be addressed after education and training, once the foundation for breastfeeding support is laid and the cultural shift begins among staff.

“More of our staff are in support of our goal to be designated Baby-Friendly and we are nearing the tipping point for cultural change around breastfeeding support”

“The knowledge gained from the educational module is opening staff’s minds to the idea of exclusive breastfeeding.”

Implementing the 10 Steps is amenable to a quality improvement model.

Both the 10 Steps and quality improvement models require taking multiple small steps to implement each larger step. Hospitals are familiar with the quality improvement model as it is used in a variety of other medical areas.

“We learned to take ‘baby steps’ rather than try to accomplish everything all at once and celebrate the successes our hospital was able to make.”

Recommendation

- Hospitals should consider applying a quality improvement model such as the Plan Do Study Act (PDSA) cycle to implement the 10 Steps. These models may be particularly useful when implementing steps that are especially challenging for hospitals and require multiple small changes to occur for the overall step to be achieved. In addition, quality improvement methodology works best for steps that require changes in the way patients are cared for, such as Steps 3-10.

The NJ BFHI collaborative was an effective and helpful structure for the grantee hospitals.

The NJ BFHI collaborative provided hospitals the opportunity to share creative, innovative and successful methods and solutions for overcoming barriers and implementing the steps with other hospitals. The collaborative was also successful in shifting the cultural norms of leadership within hospitals to change practices, such as implementing the International Code of Marketing of Breastmilk Substitutes (distributing industry marketing materials and paying for formula). Overall, this collaborative process allows for peer learning and support to the hospitals while respecting their distinctiveness.

“I can’t emphasize enough how much support and learning occurred during the calls each month. That was a wonderful format for us to learn from each other.”

“The NJ BFHI process was especially helpful to us. We value the support provided to us by the other hospitals in the collaborative, as it facilitated our journey to designation.”

Recommendation

- The NJ BFHI Collaborative should be maintained and expanded to continue to support hospital grantees towards Baby-Friendly designation. The collaborative should also be opened to other maternity hospitals in the state that are implementing the 10 Steps to Successful Breastfeeding to encourage additional peer learning and facilitate their work to support breastfeeding through maternity care policies and practices.
- A BFHI Expert Network should be established and partnered with the NJ BFHI Collaborative. The network should include individuals who are particularly knowledgeable about implementing the individual steps.
- The BFHI Expert Network would provide mentoring and guidance to maternity hospitals that are changing their maternity care policies and practices to better support breastfeeding. These activities would include trouble-shooting with hospitals, making hospital site visits and conducting mock site inspections to hospitals prior to their Baby-Friendly inspections.

Seeking and obtaining Baby-Friendly designation has associated costs; however this initial investment has the opportunity to increase market share and recapture revenue.

Costs begin at \$9,000 to register for the four phases of the Baby-Friendly USA 4-D Pathway and include additional costs incurred implementing the 10 Steps, such as procurement of formula and supplies at fair market value. A recently published cost-benefit analysis of the BFHI has demonstrated that these costs are minimal in the overall budget of a hospital and may be offset by improvements in care, reduced morbidity, and increased patient satisfaction.

Recommendation

- Future efforts should consider conducting further cost-benefit analysis of the Baby-Friendly hospital process to determine the impact of Baby-Friendly designation on a hospital's financial bottom line. Further, it may be helpful for hospital administrators to see how the investment relates to increases in breastfeeding rates and ultimately improved health outcomes for their hospital catchment population.

- Statewide agencies should consider providing hospitals with incentives, programs or other initiatives to make implementing the 10 Steps equally possible for all hospitals throughout the state. These programs may provide additional resources to help support hospitals through this process or they may provide benefits for those hospitals that achieve designation.

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APPENDIX 1 MODIFIED HOSPITAL SELF-APPRAISAL TOOL

Bringing Baby-Friendly to NJ: Facility Self-Appraisal Tool

FACILITY DATA SHEET

Date: _____

Facility Name: _____

STEP 1. Have a written breastfeeding policy that is routinely communicated to all health care staff.

1.1 Does the health facility have an explicit written policy for protecting, promoting, and supporting breastfeeding that addresses all Ten Steps to Successful Breastfeeding in maternity services?

Yes No

1.2 Does the policy protect breastfeeding by prohibiting all promotion of and group instruction for using breast milk substitutes, feeding bottles and nipples?

Yes No

1.3 Is the breastfeeding policy available so all staff who take care of mothers and babies can refer to it?

Yes No

1.4 Is the breastfeeding policy posted or displayed in all areas of the health facility that serve mothers, infants, and/or children?

Yes No

1.5 Is there a mechanism for evaluating the effectiveness of the policy?

Yes No

STEP 2. Train all health care staff in skills necessary to implement this policy.

2.1 Staff are aware of the advantages of breastfeeding and acquainted with the facility's policy and services to protect, promote, and support breastfeeding.

To what extent has your hospital implemented this?

- We've mastered that
- With significant exceptions: _____
- Only haphazardly
- That has not been a priority

2.2 Staff caring for women and infants are oriented to the breastfeeding policy of the hospital on their arrival.

To what extent has your hospital implemented this?

- We've mastered that
- With significant exceptions: _____
- Only haphazardly
- That has not been a priority

2.3 Staff that care for women and infants are trained on breastfeeding and lactation management within six months of hiring.

To what extent has your hospital implemented this?

- We've mastered that
- With significant exceptions: _____
- Only haphazardly
- That has not been a priority

2.4 Staff training covers at least eight of the ten steps.

To what extent has your hospital implemented this?

- We've mastered that
- With significant exceptions: _____
- Only haphazardly
- That has not been a priority

2.5 Total hours of training on breastfeeding and lactation management that the staff receives:

- 0-10 hours
- 11-19 hours
- 20 or more

2.5.1 How many of these hours are supervised clinical experience?

- Less than 4 hours
- 4 or more hours

2.6 Has the health care facility arranged for specialized training in lactation management of specific staff members?

- Yes
- No

STEP 3. Inform all pregnant women about the benefits and management of breastfeeding.

3.1 Does the facility include a prenatal care clinic? Yes No

A prenatal inpatient unit? Yes No

3.2 If yes, are most pregnant women attending these prenatal services informed about the benefits and management of breastfeeding?

To what extent has your hospital implemented this?

- We've mastered that
- With significant exceptions: _____
- Only haphazardly
- That has not been a priority

3.3 Prenatal records document that breastfeeding has been discussed with the pregnant woman, including the benefits and management of breastfeeding.

To what extent has your hospital implemented this?

- We've mastered that
- With significant exceptions: _____
- Only haphazardly
- That has not been a priority

3.4 Is a mother's prenatal record available at the time of delivery? Yes No

3.5 Pregnant women are protected from oral or written promotion or group instruction for artificial feeding. Yes No

If Yes, to what extent has your hospital implemented this?

- We've mastered that
- With significant exceptions: _____
- Only haphazardly
- That has not been a priority

STEP 4. Help mothers initiate breastfeeding within an hour of birth.

4.1 Mothers who have had normal, vaginal deliveries are given their babies to hold skin-to-skin within 30 minutes of delivery, and allowed to remain with them for at least an hour.

To what extent has your hospital implemented this?

- We've mastered that
- With significant exceptions: _____
- Only haphazardly
- That has not been a priority

4.2 Mothers are offered help by a staff member to initiate breastfeeding during this first hour.

To what extent has your hospital implemented this?

- We've mastered that
- With significant exceptions: _____
- Only haphazardly
- That has not been a priority

4.3 Mothers who have had cesarean deliveries are given their babies to hold, with skin contact, within a half hour after they are able to respond to their babies.

To what extent has your hospital implemented this?

- We've mastered that
- With significant exceptions: _____

- Only haphazardly
- That has not been a priority

4.4 Babies born by cesarean stay with their mothers, with skin contact, at this time for 60 minutes.

To what extent has your hospital implemented this?

- We've mastered that
- With significant exceptions: _____
- Only haphazardly
- That has not been a priority

STEP 5. Show mothers how to breastfeed and how to maintain lactation, even if they should be separated from their infants.

5.1 Mothers are offered further assistance with breastfeeding by nursing staff within six hours of delivery.

To what extent has your hospital implemented this?

- We've mastered that
- With significant exceptions: _____
- Only haphazardly
- That has not been a priority

5.2 Breastfeeding mothers are able to demonstrate how to correctly position and attach their babies for breastfeeding.

To what extent has your hospital implemented this?

- We've mastered that
- With significant exceptions: _____
- Only haphazardly
- That has not been a priority

5.3 Breastfeeding mothers are shown how to express their milk or given information on expression and/or advised of where they can get help should they need it.

To what extent has your hospital implemented this?

- We've mastered that
- With significant exceptions: _____
- Only haphazardly
- That has not been a priority

5.4 Are staff members or counselors who have specialized training in breastfeeding and lactation management available full-time to advise mothers during their stay in health care facilities and in preparation for discharge?

- Yes No

5.5 Mothers who have never breastfed or who have had previous difficulty breastfeeding receive special attention and support from the staff of the health care facility.

To what extent has your hospital implemented this?

- We've mastered that
- With significant exceptions: _____
- Only haphazardly
- That has not been a priority

5.6 Mothers of babies in special care (NICU) are helped to establish and maintain lactation by frequent expression of milk.

To what extent has your hospital implemented this?

- We've mastered that
- With significant exceptions: _____
- Only haphazardly
- That has not been a priority

STEP 6. Give newborn infants no food or drink other than breast milk, unless medically indicated.

6.1 Staff have a clear understanding of what the few acceptable reasons are for prescribing food or drink other than breast milk for breastfeeding babies .

To what extent has your hospital implemented this?

- We've mastered that
- With significant exceptions: _____
- Only haphazardly
- That has not been a priority

6.2 What percentage of breastfeeding babies receive no other food or drink (than breast milk) unless medically indicated?

- ≤50% 51%-79% ≥80%

6.3 Are any breast milk substitutes, including special formulas, that are used in the facility purchased in the same way as any other foods or medicines?

- Yes No

6.4 Does the health facility and staff refuse free or low-cost supplies of breast milk substitutes, paying close to retail market price for formula?

- Yes No

6.5 Promotion of infant foods or drinks other than breast milk is absent from the facility.
To what extent has your hospital implemented this?

- We've mastered that
- With significant exceptions: _____
- Only haphazardly
- That has not been a priority

STEP 7. Practice rooming-in—allow mothers and infants to remain together—24 hours a day.

7.1 Mother-infant pairs remain together (rooming-in) 24 hours a day, except for periods of up to an hour for hospital procedures or if separation is medically indicated.
To what extent has your hospital implemented this?

- We've mastered that
- With significant exceptions: _____
- Only haphazardly
- That has not been a priority

7.2 Rooming-in starts within an hour of a normal birth.
To what extent has your hospital implemented this?

- We've mastered that
- With significant exceptions: _____
- Only haphazardly
- That has not been a priority

7.3 Mother-infant pairs remain together beginning within one hour of normal vaginal birth.
To what extent has your hospital implemented this?

- We've mastered that
- With significant exceptions: _____
- Only haphazardly
- That has not been a priority

7.4 Rooming-in starts within an hour of when a cesarean mother can respond to her baby.
To what extent has your hospital implemented this?

- We've mastered that
- With significant exceptions: _____

- Only haphazardly
- That has not been a priority

7.5 Mother-infant pairs delivered by cesarean remain together beginning within one hour of when the mother can respond to her baby.

To what extent has your hospital implemented this?

- We've mastered that
- With significant exceptions: _____
- Only haphazardly
- That has not been a priority

STEP 8. Encourage breastfeeding on demand.

8.1 By placing no restrictions on the frequency or length of breast feedings, staff show they are aware of the importance of breastfeeding on demand.

To what extent has your hospital implemented this?

- We've mastered that
- With significant exceptions: _____
- Only haphazardly
- That has not been a priority

8.2 Mothers are advised to breastfeed their babies whenever their babies are hungry and as often as their babies want to breastfeed.

To what extent has your hospital implemented this?

- We've mastered that
- With significant exceptions: _____
- Only haphazardly
- That has not been a priority

STEP 9. Give no artificial teats or pacifiers to breastfeeding infants.

9.1 Babies who have started to breastfeed are cared for without any bottle feedings.

To what extent has your hospital implemented this?

- We've mastered that
- With significant exceptions: _____
- Only haphazardly
- That has not been a priority

9.2 Babies who have started to breastfeed are cared for without using pacifiers.

To what extent has your hospital implemented this?

- We've mastered that
- With significant exceptions: _____
- Only haphazardly
- That has not been a priority

9.3 Breastfeeding mothers learn that they should not give any bottles or pacifiers to their babies. To what extent has your hospital implemented this?

- We've mastered that
- With significant exceptions: _____
- Only haphazardly
- That has not been a priority

9.4 By accepting no free or low-cost feeding bottles, nipples, or pacifiers, does the facility and its staff demonstrate that these should be avoided?

- Yes No

STEP 10. Foster the establishment of breastfeeding support and refer mothers to them on discharge from the facility.

10.1 The facility gives education to key family members so that they can support the breastfeeding mother at home.

To what extent has your hospital implemented this?

- We've mastered that
- With significant exceptions: _____
- Only haphazardly
- That has not been a priority

10.2 Key family members are educated so that they can support the breastfeeding mother at home.

To what extent has your hospital implemented this?

- We've mastered that
- With significant exceptions: _____
- Only haphazardly
- That has not been a priority

10.3 Mothers are referred to breastfeeding support groups.

To what extent has your hospital implemented this?

- We've mastered that
- With significant exceptions: _____
- Only haphazardly
- That has not been a priority

10.4 Does the facility have a system of follow-up support for breastfeeding mothers after they are discharged, such as early postnatal or lactation clinic check-ups, home visits, telephone calls?

Yes No

10.5 The facility encourages and facilitates the formation of mother-to-mother or health care worker-to-mother support groups.

To what extent has your hospital implemented this?

- We've mastered that
- With significant exceptions: _____
- Only haphazardly
- That has not been a priority

10.6 Does the facility allow breastfeeding counseling by trained mother-to-mother support group counselors in its maternity services?

Yes No

APPENDIX 2 SUMMARY OF MODIFIED HOSPITAL SELF-APPRAISAL RESPONSES (N=10)

	Pre		Post	
	# Yes or Mastery	# Significant exceptions	# Yes or Mastery	# Significant exceptions
Step 1				
1.1 Explicit hospital policy addresses all Ten Steps	4		8	
1.2 No group instruction of formula, bottles, nipples	4		9	
1.3 All staff has access to policy	9		9	
1.4 Policy is displayed	6		7	
1.5 There is a mechanism to evaluate effectiveness of the policy	5		9	
Step 2				
2.1 Staff aware of policy and advantages of breastfeeding	2	6	8	2
2.2 All staff oriented to policy upon arrival or hire	3	4	8	2
2.3 Training of staff occur within 6 months of hire	3	2	8	2
2.4 Staff training covers at least 8 of 10 steps	3	2	8	2
2.5 Training is ≥ 20 hours	2		8	
2.5.1 Training with >4 hours clinical	2		8	
2.6 Specialized training for some staff	8		0	
Step 3				
3.1 Is there a prenatal clinic	9		8	
3.1.1 Prenatal care unit	8		7	
3.2 If yes, women receive education on benefits and management of bf	6	1	7	2
3.3 Prenatal records document benefits and management of bf has been discussed	3	2	7	2
3.4 Prenatal record available at time of delivery	9		10	
3.5 Pregnant women protected from oral or written formula promotion	4		10	
Step 4				
4.1 Skin to skin for vaginal birth within 30 min. and stay for >1 hour	2	5	6	4
4.2 Mothers offered help to breastfeed within first hour	4	4	8	2
4.3 Skin to skin for C-Section within 30 minutes of when they are able to hold	3	3	3	6
4.4 Stay skin to skin for 1 hour after C-Section	1	1	2	4
Step 5				

5.1 Mothers offered further assistance within 6 hours of delivery	6	2	8	2
5.2 Breastfeeding mothers can demonstrate how to position and attach for bf	7	3	9	1
5.3 Mothers shown how to express milk (including hand expression)	2	5	9	0
5.4 Lactation specialists available to mothers during stay and upon discharge	7		8	
5.5 Mothers with no experience or with trouble are provided help by specialists	8	1	9	0
5.6 Mothers of babies in NICU are helped to maintain lactation	9	0	9	1
Step 6				
6.1 Staff understands the medical/acceptable reasons for supplementation	0	5	3	6
6.2 Percent exclusively breastfeeding:				
# Hospitals <50%	7		2	
# Hospitals 51-79%	2		6	
# Hospitals ≥80%	1		2	
6.3 Formula is purchased	1		4	
6.4 Free or low cost formula is refused, payment close to retail	1		5	
6.5 Promotion of formula is absent from facility	2	3	8	2
Step 7				
7.1 Mother-infant couplets remain together 24-7 except medical separation	3	3	4	5
7.2 Rooming-in begins within 1 hour of birth	4	3	5	3
7.3 Mother-infant pairs remain together within one hour of vaginal birth	5	1	6	2
7.4 Rooming-in begins within an hour of c-section when mother can respond	2	5	5	3
7.5 Rooming-in continues within one hour when C-section mother can respond	2	5	6	2
Step 8				
8.1 No restrictions placed on the frequency or length of feeds	2	7	9	1
8.2 Mothers informed to breastfeed on demand	5	4	9	1
Step 9				
9.1 BF babies cared for without any bottles	0	6	4	5
9.2 BF babies do not get pacifiers	0	6	6	1
9.3 Mothers learn to avoid bottles and pacifiers	4	3	6	3
9.4 No bottles, nipples or pacifiers accepted by facility; staff know to avoid use	1		5	

Step 10				
10.1 Facility gives key information to family members so they can support bf	4	2	8	1
10.2 Key family members are educated so they can support mom	3	2	7	2
10.3 Moms referred to support groups	6	0	7	3
10.4 System for follow up, clinic or phone calls	9		8	
10.5 System fosters peer support groups	5	2	8	1
10.6 Peer support counselors in maternity unit	4		4	