Birth and Beyond California:

Hospital Breastfeeding Quality Improvement and Staff Training Demonstration Project Report

DEVELOPED BY:
Maternal, Child and Adolescent Health Division
Center for Family Health
California Department of Public Health

IN COLLABORATION WITH:
PAC/LAC: the Perinatal Advisory Council: Leadership, Advocacy and Consultation, Tarzana, CA

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BBC Hospitals

Cycle 1 – 8 Hospitals

Sierra View District Hospital
Kaweah Delta Medical Center
Oak Valley Hospital
Torrance Memorial Medical Center
Miller Children's Hospital Long Beach
Providence Holy Cross Hospital
Olive-View UCLA Medical Center
St. Francis Medical Center

Cycle 2 – 11 Hospitals

Bakersfield Memorial Hospital
Los Banos Memorial Hospital
Mercy Hospital Merced
Mercy Hospital Bakersfield
Naval Air Station Lemoore
Tulare District Hospital
California Hospital Medical Center
Good Samaritan Hospital
Huntington Hospital
Northridge Hospital Medical Center
St. Jude Medical Center

Cycle 3 – 4 Hospitals

Henry Mayo Newhall Memorial Hospital
Pomona Valley Hospital Medical Center
Providence St. Joseph Medical Center
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The BBC Project was initially modeled after an earlier successful project, known as "Birth and Beyond." That project was developed by the Perinatal Services Network (PSN) at Loma Linda University under the leadership of Carol Lopez Melcher, and funded by First 5 San Bernardino and Riverside. It was created to assist hospitals to improve "Exclusive" hospital breastfeeding rates and achieve recognition as Baby-Friendly Hospitals (www.babyfriendlyusa.org). It is now called the SOFT © Hospital project, which can be found at carolmelcher.com.

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Acronyms Used in this Document

BBC: Birth and Beyond California: Hospital Breastfeeding Quality Improvement and Staff Training Project
CDPH: California Department of Public Health
IBCLC: International Board Certified Lactation Consultants
MCAH: Maternal, Child and Adolescent Health
NBS: Newborn Screening Program
QI: Quality Improvement
PAC/LAC: Perinatal Advisory Council: Leadership, Advocacy and Consultation
PDCA: Plan, Do, Check, and Act
PSN: Perinatal Services Network
RPPC: Regional Perinatal Programs of California
WIC: Women, Infants and Children Program

EXECUTIVE SUMMARY

Project Overview

Evidence clearly links long-term breastfeeding success to positive mother-infant experiences at birth and in the early post-partum period. In July 2007, the Maternal, Child and Adolescent Health Division of the California Department of Public Health initiated the development of the *Birth and Beyond California: Hospital Breastfeeding Quality Improvement and Staff Training Project* (BBC) to improve maternity care practices that support "Exclusive" breastfeeding, defined as infants fed only human milk. BBC builds upon the success of the Perinatal Services Network's *SOFT© Hospital* Project. Through the Regional Perinatal Programs of California (RPPC), BBC provided support and resources to hospitals in regions with the lowest rates of "Exclusive" breastfeeding to adopt evidence-based policies and practices designed to increase the rate of "Exclusive" breastfeeding.

Primary Activities

BBC activities focused on integrating quality improvement (QI) within the maternity setting by:

1. Educating and engaging hospital administration through Decision-Maker Workshops
2. Assisting administration to create or re-energize a multi-disciplinary QI team to review and revise hospital policies and procedures that support breastfeeding
3. Facilitating monthly Regional Hospital Network meetings among participating hospitals to provide problem-solving and collaboration opportunities
4. Providing staff education and training:
    a. Learner Workshop (16 hours) provided evidence-based education and training to hospital staff. It promoted mother-infant bonding through early skin-to-skin contact and breastfeeding support
    b. Train-the-Trainer Workshop (8-16 hours) prepared hospital staff to become BBC trainers to meet future staff training needs

Project Results

1. Twenty-three hospitals participated
2. Almost 200 hospital administrators participated
3. 685 hospital staff and managers were trained
4. Eighty-seven staff members became trainers and have subsequently trained approximately 2,000 additional staff
5. Hospital QI Teams made progress in implementing evidence-based policies

Lessons Learned

1. Hospital administration must form a multi-disciplinary QI team charged with implementing evidence-based policies and practices that support breastfeeding within the maternity care setting prior to initiating staff training.
2. Hospital networks provide critical opportunities to share strategies and methods to overcome barriers to evidence-based maternity care and initiation of "Exclusive" breastfeeding.
3. Skin-to-skin and maternal-infant attachment are essential components of hospital staff breastfeeding training.
4. Hospitals need to develop internal trainers to sustain staff competency and provide ongoing breastfeeding education to new and current staff.

This report describes BBC implementation, evaluation and lessons learned. Curricula, trainer notes, evaluation tools, and other supportive materials for implementing this project are posted at http://cdph.ca.gov/BBCProject.

INTRODUCTION

This report describes *the Birth and Beyond California: Hospital Breastfeeding Quality Improvement and Staff Training Project* (BBC), a demonstration project initiated by the Maternal, Child and Adolescent Health (MCAH) Division, California Department of Public Health (CDPH). BBC was designed to increase "Exclusive" in-hospital breastfeeding rates. "Exclusive" is defined as infants fed only human milk. This BBC Report includes project development, evaluation findings and lessons learned. It concludes with recommendations for project implementation.

Although 87% of new mothers in California initiated breastfeeding while in the hospital, only 43% did so exclusively (Figure 1). Research has shown that hospital policies and procedures have a powerful impact on "Exclusive" breastfeeding rates (Appendix A). Evidence-based policies have been developed and published to assist hospitals in implementing maternity practices that support breastfeeding. Participants of BBC selected which evidence-based policies they would address.

The Risks of Not Breastfeeding for Mothers and Infants

There is overwhelming scientific evidence that human breast milk is the optimal food for human infants. Many medical and professional organizations, including the American Academy of Pediatrics, the American College of Obstetrics and Gynecology, and the American Public Health Association, have published position papers reporting that optimal infant nutrition is achieved by "Exclusive" breastfeeding for at least the first six months of life.[1-5] These position papers recommend that complimentary foods be introduced at six months, and breastfeeding continue for as long as the mother and child desire. Bartick and Reinhold (2010) published a report in *Pediatrics* stating, "if 90% of US families could comply with medical recommendations to breastfeed exclusively for six months, the United States would save $13 billion per year and prevent in excess of 911 deaths, nearly all of which would be infants."[6] Not breastfeeding increases the risk for acute and chronic disease for mothers and their infants (Table 1).

Table 1 **Risks of Not Breastfeeding**[7,8]

Infant	Mother
1. Diarrhea and gastroenteritis	1. Retention of gestational weight gain
2. Necrotizing enterocolitis in preterm infants	2. Postpartum depression
3. Sudden Infant Death Syndrome	3. Type 2 diabetes
4. Asthma, pneumonia, ear infections, and bacterial infections	4. Premenopausal breast cancer
5. Childhood obesity and type 2 diabetes	5. Ovarian cancer
6. Childhood leukemia	

California In-Hospital Infant Feeding Data

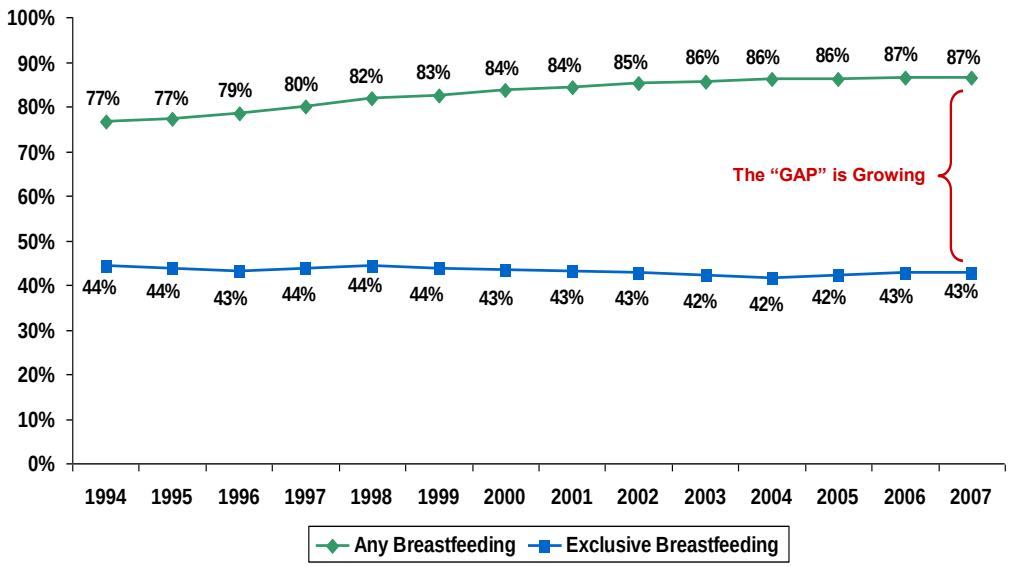
California's in-hospital infant feeding practices are monitored using data collected by the Newborn Screening (NBS) Program administered by the Genetic Disease Screening Program, CDPH. The newborn screening form includes a section for data on infant feeding from birth to the time of the newborn screening specimen collection. In a collaborative effort, the NBS program collects the infant feeding data, which is analyzed by the Maternal, Child and Adolescent Health (MCAH) Division, CDPH. Reports are published at: www.cdph.ca.gov/data/statistics/Pages/BreastfeedingStatistics.aspx.

The data are reported as "*Any*" and "*Exclusive"* breastfeeding.

- *"Any"* breastfeeding includes infants fed 1) human milk (mother's own milk or pasteurized human donor milk) exclusively by whatever means (breast, bottle, tube) or 2) human milk supplemented with formula.
- *"Exclusive"* breastfeeding includes infants fed only human milk either by direct breastfeeding, the mother's own pumped milk, or pasteurized human donor milk.

Between 1994 and 2007, the "Any" breastfeeding rates have steadily climbed in California, from 77% to 87%. The increase indicates that more women are attempting to breastfeed in the hospital, which is a positive sign. However, the data also indicate that while more mothers are choosing to breastfeed, babies continue to receive supplemental formula feedings while in the hospital. During the same time period that "Any" breastfeeding increased, the "Exclusive" breastfeeding rates have remained flat and the gap between "Any" and "Exclusive" breastfeeding rates, which indicates those babies that receive human milk supplemented with formula, has widened (Figure 1).

Figure 1: California Any and Exclusive In-Hospital Breastfeeding: 1994-2007



Data Source: California Department of Public Health, Genetic Disease Screening Program, Newborn Screening Database 1994-2007
Prepared by: California Department of Public Health, Maternal, Child and Adolescent Health Program
Note: Includes cases with feeding marked 'BRO' (Breast Only), 'FOO' (Formula Only), or 'BRF' (Breast & Formula)

In 2007, California Department of Health Services published the Breastfeeding Promotion Committee Report entitled *Breastfeeding: Investing in California's Future*[9]. As described in that report, "large gaps between "Any" and "Exclusive" breastfeeding may result from excessive or routine supplementation practices." [9]

The University of California, Davis, Human Lactation Center published a series of reports highlighting the gap between in-hospital "Any" and "Exclusive" breastfeeding rates reported by the MCAH, CDPH Division for 2004-2007.[10] These reports, which were funded and distributed by the California WIC Association, were highly publicized through major media markets. The attention generated by these publications provided substantial motivation for many hospitals, especially those in the areas targeted by BBC, to seek changes in their breastfeeding policies.

The California Model Hospital Policy Recommendations

With funding from CDPH-MCAH and Loma Linda University Medical Center and Children's Hospital, the Inland Empire Breastfeeding Coalition developed the California Model Hospital Policy Recommendations (Table 2).

Table 2 **CALIFORNIA MODEL HOSPITAL POLICY RECOMMENDATIONS**

1. Hospitals should promote and support breastfeeding.
2. Nurses, certified nurse midwives, physicians and other health professionals with expertise regarding the benefits and management of breastfeeding should educate pregnant and postpartum women when the opportunity for education exists, for example, during prenatal classes, in clinical settings, and at discharge teaching.
3. The hospital will encourage medical staff to perform a breast exam on all pregnant women and provide anticipatory guidance for conditions that could affect breastfeeding. Breastfeeding mothers will have an assessment of the breast prior to discharge and will receive anticipatory guidance regarding conditions that might affect breastfeeding.
4. Hospital perinatal staff should support the mother's choice to breastfeed and encourage "Exclusive" breastfeeding for the first 6 months.
5. Nurses, certified nurse midwives, and physicians should encourage new mothers to hold their newborns skin to skin during the first two hours following birth and as much as possible thereafter, unless contraindicated.
6. Mothers and infants should be assessed for effective breastfeeding. Mothers should be offered instruction in breastfeeding as indicated.
7. Artificial nipples and pacifiers should be discouraged for healthy, breastfeeding infants.
8. Sterile water, glucose water, and artificial milk should not be given to a breastfeeding infant without the mother's informed consent and/or physician's specific order.
9. Mothers and infants should be encouraged to remain together during the hospital stay.
10. At discharge, mothers should be given information regarding community resources for breastfeeding support.

Available at: http://www.cdph.ca.gov/healthinfo/healthyliving/childfamily/Pages/MainPageofBreastfeedingToolkit.aspx

These recommendations strengthen lactation promotion and support and are based on the *Ten Steps to Successful Breastfeeding*, published by the Baby-Friendly Hospital Initiative of the United Nation's International Children's Fund (UNICEF) and the World Health Organization (WHO) [11] (Appendix B). A comparison of these two sets of policies is found in Appendix C. An online toolkit was developed by CDPH-MCAH in 2006 to assist all labor and delivery facilities in implementing the recommendations (available at http://cdph.ca.gov/CAHospitalBFToolkit).

The *Breastfeeding: Investing in California's Future* report detailed the need to maintain and disseminate the California Model Hospital Policy Recommendations and the related toolkit to improve "Exclusive" breastfeeding rates. It recommended that California "facilitate the implementation of a culturally competent and sensitive system of evidence-based care to ensure that all California hospitals and clinics promote "Exclusive" breastfeeding for six months and support 'Any' breastfeeding as part of their general health promotion strategies."[9]

Project Goal and Objectives

The overarching goal of the *Birth and Beyond California Project* is to improve "Exclusive" breastfeeding initiation by enhancing attachment for all new mothers and their infants, preventing separation of mothers and their infants, encouraging skin-to-skin contact, and honoring a mother's decision to breastfeed.

Preliminary project objectives included:

1. Developing an objective process to recruit hospitals
2. Enrolling and retaining hospitals in the project
3. Selecting California Model Hospital Breastfeeding Policy Recommendations to address by each hospital
4. Developing core curricula for use in the BBC Project

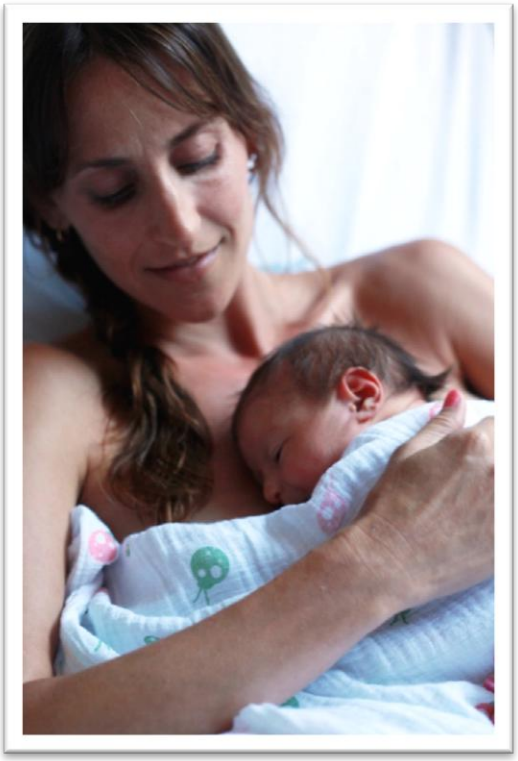
Funding and development of the project began in 2007 and implementation in the first hospitals began in 2008. All of the tools developed for the BBC project are available at the CDPH web site: http://cdph.ca.gov/BBCProject.
Appendix D provides a section of the webpage with an outline of the tools that can be accessed.

Project Background

The BBC Project was initially modeled after an earlier successful project, known as Birth and Beyond. That project was developed by the Perinatal Services Network (PSN) at Loma Linda University under the leadership of Carol Lopez Melcher, and funded by First 5 San Bernardino and Riverside. It was created to assist hospitals to improve "Exclusive" hospital breastfeeding rates and achieve recognition as *Baby-Friendly Hospitals* (www.babyfriendlyusa.org). It is now called the *SOFT* © *Hospital* project, which can be found at carolmelcher.com.

The SOFT acronym denotes:

Skin to skin contact immediately after birth.
Open eye to eye. Both mother and baby have eyes open and are making eye contact with each other.
Finger tip touch. Both parents are encouraged to gently stroke, rub and touch their baby. This occurs spontaneously and without interruption.
Time together. Mother is given time to hold her unwrapped baby in an unhurried and uninterrupted environment for the first hours after birth. If the baby is stable and healthy, routine procedures such as bathing, weighing, dressing and medications can be delayed.



The BBC Project is built upon the five steps of the *SOFT© Hospital* Project that include:

1. Identification of a "sparkplug," a strong breastfeeding advocate, among the staff
2. Formation of an interdisciplinary QI team
3. Mandatory nurse competency
4. Engagement of a physician champion
5. Policy revision

The educational component entitled "Birth and Beyond" focused on:

1. Supporting infant and maternal attachment for all mothers, not just those who decide to breastfeed
2. Behaviors in the normal newborn that assist breastfeeding initiation

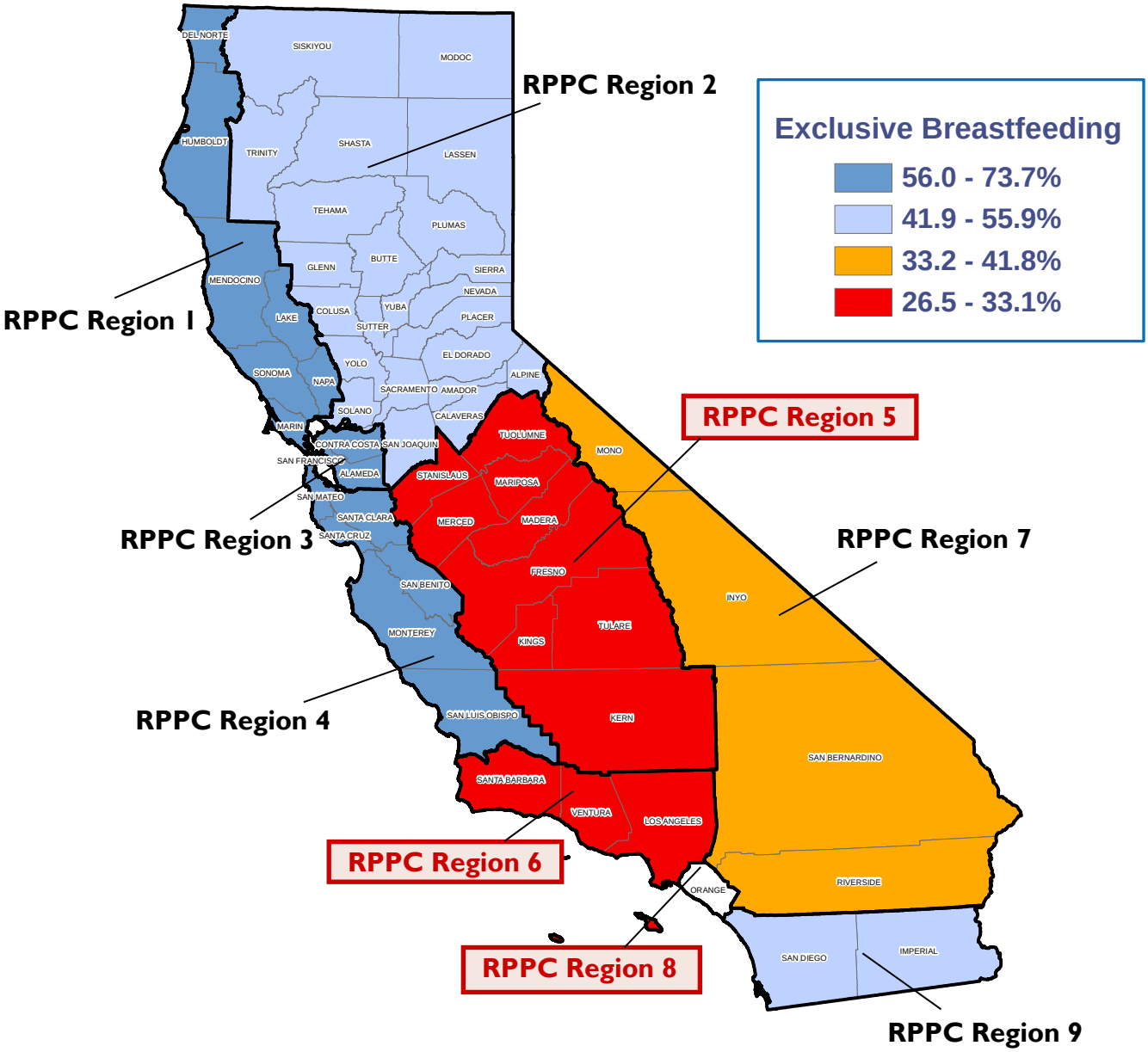
The BBC Pilot Project was an adaptation of the *SOFT© Hospital* Project and the Miller Children's Hospital Long Beach's Gentle Transition Training. The BBC Project was designed to implement quality improvement in maternity care over a four year period.

The Role of Regional Perinatal Programs of California

The RPPC is funded by the Title V Block Grant through CDPH-MCAH. The regional program representatives promote access to appropriate perinatal care to pregnant women and their infants to reduce maternal and infant morbidity and mortality. Due to their continuous review of hospital birth data, in-patient policies and evidence-based practices, RPPC is uniquely qualified to provide QI technical assistance for hospitals.

The 2006 California hospital "Exclusive" breastfeeding data clearly show that there are significant disparities among geographic regions of the state in "Exclusive" breastfeeding initiation. The three RPPC regions with the lowest "Exclusive" breastfeeding rates were identified as Los Angeles, Ventura and Santa Barbara counties (Region 6), Orange County (Region 8) and much of the Central Valley (Region 5). These three RPPC regions account for approximately half of the 500,000 plus California births and thus were targeted for the BBC project (Figure 2).

Figure 2 **Exclusive In-Hospital Breastfeeding**
By Regional Perinatal Programs of California (RPPC) Region, 2006



The regions in RED account for half of all births and were the target areas for the BBC Pilot Project.

Note: Data excludes Not Reported, TPN and Other Feedings

Data Source: California Department of Public Health; Genetic Disease Newborn Screening Program, Data

The Perinatal Advisory Council: Leadership, Advocacy and Consultation (PAC/LAC), Region 6, was given primary responsibility to oversee and administer the BBC Project, develop standardized trainings and information sessions, coordinate purchasing of educational resource materials in order to create a local library for the participating hospitals and trainers, and design an evaluation plan for the project.

The Role of International Board Certified Lactation Consultants

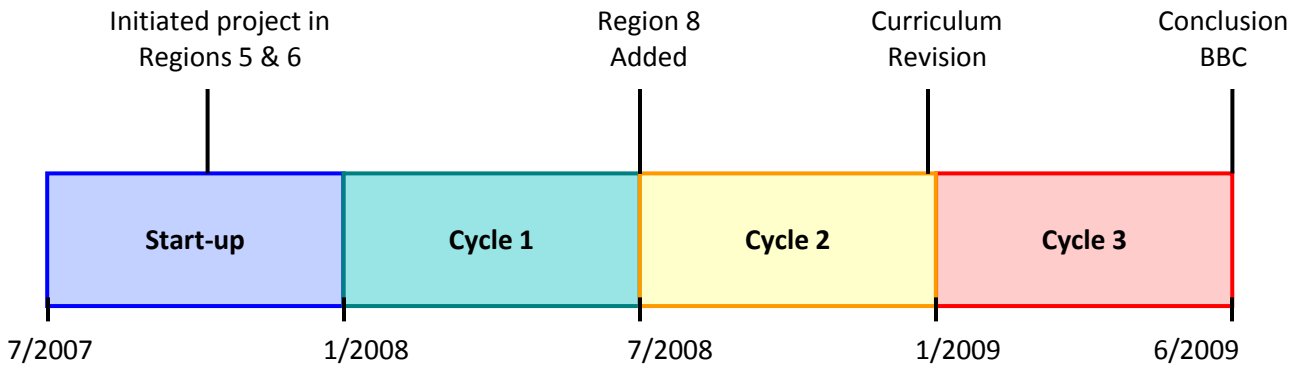
International Board Certified Lactation Consultants (IBCLCs) worked with CDPH and RPPC staff to develop the core curricula. The IBCLCs provided technical support, by phone and on-site, for hospitals that were implementing the project. Many of the IBCLCs had prior experience as members of the Breastfeeding Taskforce of Greater Los Angeles in offering the *Gentle Transitions Program* trainings also based on the PSN *Birth and Beyond* training.

BIRTH AND BEYOND CALIFORNIA PROJECT IMPLEMENTATION

CDPH and the three participating RPPC regions developed the logic model to provide clarity and direction for the project and to lay the foundation for ongoing monitoring and evaluation of the project. Creation of the logic model helped to develop a common language, build consensus among collaborative partners, foster communication, and delineate roles and expectations (Appendix E).

The initial development of the project took six months. This was followed by three six-month cycles of implementation, during which improvements were incorporated as lessons were learned and applied. BBC was initially designated to be a four year demonstration project; however, due to state budget cuts, MCAH was forced to end the project after two years. A Project Timeline and Key Events are included in Table 3.

Table 3 **Birth and Beyond California Project Timeline and Key Events**



- July 2007: funding was allocated to establish the BBC Pilot Project. The original intent was to accept at least four hospitals from each region into the project semi-annually for four years.
- October 2007 – December 2007: preparatory measures were identified and initiated. These included a Request for Application (RFA) which was publicized throughout RPPC Regions 5 and 6.
- January 2008 – June 2008: hospitals were accepted and participated in the initial cycle of the project.
- April 2008: in collaboration with Regions 5 and 6, Region 8 began publicizing the project to potential hospital applicants.
- July 2008: RPPC Region 8 was added to the BBC Project.
- December 2008 – Curriculum was revised due to workshop evaluation and participant feedback.
- July 2009: due to California's budget shortfall and the need to use these funds to preserve established MCAH Programs, the three RPPC regions were notified that funding for their BBC Project was ending.

Recruitment and Hospital Selection Process

RPPC directors in the targeted regions promoted the project by building on established relationships with regional hospitals. They utilized e-mail communication, postcards and fliers to inform hospital administrators, community partners, and breastfeeding coalitions about the project.

Each participating RPPC organizes and facilitates regular hospital-specific and regional meetings to review birth data and determine QI projects. As part of the BBC Project, RPPC staff gave presentations at these meetings to publicize the project and followed up with hospital administrators who expressed interest in participating in BBC.

Region 8 – The Orange County Experience

By July 2008, the BBC Project expanded to Region 8, which encompasses Orange County. In preparation, RPPC staff began approaching area hospitals about the opportunity to participate in the Project. However, unlike the other regions, interest from area hospitals was minimal with only one hospital administrator expressing interest in the project. That hospital had an active education director who had previously used a 16-hour breastfeeding curriculum. Hospital administration wanted to achieve Baby-Friendly status and the prior training did not fully meet the requirements of the Baby-Friendly Hospital Initiative. BBC staff assisted the hospital in meeting the educational needs required for Baby-Friendly status.

The lack of interest from other Region 8 hospital administrators required RPPC staff to pursue a different approach to improve hospital "Exclusive" breastfeeding rates. They accomplished this by enlisting the support of Orange County's Maternal Child Health Director and targeting the four hospitals in the region with the lowest breastfeeding rates for QI activities. The Orange County Model consists of six monthly meetings that provided basic QI education to hospital administrators and nurse managers from those targeted hospitals. Additional content was determined by the participating hospitals based on their needs assessed during the monthly meetings.

This Orange County Model proved successful and provided the project with tools that could be used by all hospitals engaged in QI activities. As a result of this effort, three hospitals pursued a second wave of BBC trainings. Region 8 RPPC received supplemental funding to replace Title V budget cuts. The supplemental funding came primarily through the Children and Families Commission of Orange County, which is the Orange County First 5 Agency for dissemination of tobacco funds, and a grant from the Hospital Association of Southern California.

Birth and Beyond California Primary Activities

Primary activities of the Birth and Beyond California Project are included in Table 4.

Table 4 **BIRTH AND BEYOND CALIFORNIA (BBC) PRIMARY ACTIVITIES**

1. Project Promotion and Requirements
    a. Decision-Maker Workshop (2 hours)

2. Quality Improvement
    a. Develop Effective Hospital Maternity Multi-disciplinary Quality Improvement (QI) Teams
    b. Policy and Procedure Review and Revision
    c. Technical assistance and tools for data collection and analysis

3. BBC Regional QI Network
    a. Monthly meetings or teleconferences

4. Training
    a. Learner Workshop (16 hour)
    b. Train-the-Trainer (8-16 hour)

Project Promotion and Requirements

Decision Maker Workshop

A Decision Maker Workshop was developed to promote BBC and gain the confidence and support of hospital administrators as partners in the project. Incorporating recent research, the two-hour Decision Maker Workshop was adapted from the SOFT © Hospital project.

Recognizing that successful institutional change requires both a "top-down" and "bottom-up" approach, the BBC Decision Maker Workshop was designed to generate administrative and management support of breastfeeding QI efforts. The primary motivation for the two-hour Decision Maker Workshop was to capture the attention of hospital leaders who have the power to direct and support breastfeeding QI initiatives from the boardroom to the patient's room.

One of the most important benefits of the BBC Decision Maker Workshop was to inform hospital administrators about the barriers to breastfeeding within their institutions and to develop feasible strategies to improve "Exclusive" breastfeeding initiation rates. Hospitals applying to participate in BBC identified individual policies they intended to implement. Once hospitals were accepted into the BBC Project, administrators were encouraged to work with maternity and nursery staff to create an "Action Plan."

Quality Improvement

Develop Effective Hospital Maternity Quality Improvement Teams

Due to frequent, close contact with maternity services, BBC staff and evaluation teams observed that, other than patient satisfaction surveys, some hospitals did not include maternity care in their overall QI efforts.

It became evident that in many hospitals, the established interdisciplinary teams who were working on maternity care did not address infant feeding QI activities.

Shortly after initiating the first cycle, it became evident that in many hospitals, the established interdisciplinary teams who were working on maternity care did not address infant feeding QI activities. By the second cycle, hospitals were required to demonstrate commitment to developing a strong interdisciplinary maternal-infant QI team.

Policy Procedure Review and Revision

To participate in BBC, hospital interdisciplinary teams had to address policies and procedures that impact breastfeeding or infant feeding. The interdisciplinary team performed hospital breastfeeding policy evaluation, addressed institutional barriers to breastfeeding, and committed to ongoing breastfeeding staff education.

Technical Assistance and Tools for Data Collection and Analysis

BBC staff attended interdisciplinary team meetings and provided technical assistance at all participating hospitals to assist them in QI development. BBC staff made suggestions and supported efforts to collect and analyze data related to breastfeeding policies and practices. The data provided a baseline from which hospitals could measure changes to breastfeeding policies and practices.

Birth and Beyond California Regional Quality Improvement Networks

Monthly Meetings or Teleconferences

BBC Regional QI Network Meetings, either face-to-face or via teleconferences, were designed for managers and leaders from participating hospitals to share ideas and strategies to overcome barriers to "Exclusive" breastfeeding. Network participants included hospital leaders, nurses and lactation educators, collectively providing support to implement breastfeeding QI activities.

BBC Regional QI Network provided an opportunity to evaluate the impact of QI data collection and analysis and offered additional education and training. These meetings expanded the vision and resources of individual hospital teams and established a forum to share, problem-solve and learn from successes and challenges.

Training

Learner Workshop

The BBC 16-hour Learner Workshop evolved from the Perinatal Services Network's *Birth and Beyond*, the Breastfeeding Taskforce of Greater Los Angeles' *Gentle Transitions* and the *Baby-Friendly USA Ten Steps Curriculum*. The Learner Workshop was only provided after hospitals had a multi-disciplinary QI team established within maternity care. Within each participating BBC hospital, BBC trainers provided a Learner Workshop for an average of 20 staff members. The BBC course is divided into two eight-hour days usually separated by two weeks.

Early emphasis on skin-to-skin practices in the first hours after birth for all mothers and babies, not just breastfeeding couplets, is an important part of the initial BBC training. Nurses intuitively recognized the first hours after birth as an important bonding time. The Learner Workshop provided an opportunity for experiential learning by observing and supporting early maternal-infant bonding through skin-to-skin contact. The two-week hiatus between the two Learner Workshops was built in to allow staff to explore and observe skin-to-skin interaction between the newborn and his or her parents.

Train-the-Trainer Workshops

Sustainability was built into BBC. Hospital administrators selected staff from those who attended the BBC Learner Workshop to receive additional training and gain experience in teaching the BBC curricula by attending a Train-the-Trainer Workshop. These Workshops were held region-wide, once each cycle, to develop a training team for each hospital. The Train-the-Trainer Workshops were divided into two eight-hour days, usually separated by at least two weeks. The first day emphasized adult learning theory and the rationale for utilizing different modalities when providing adult staff education. During the second training day, each team taught a section of the Learner Workshop and received feedback on their presentation.

Feedback from Cycles 1 and 2 participants and those providing the training highlighted the need to revise the Train-the-Trainer curriculum. Participants had a strong grasp of the Learner Workshop material; however, they did not grasp the adult education theories and strategies. As a result, the curriculum and delivery methods were revised in Cycle 3 to improve trainer preparation.

MONITORING AND EVALUATION

This demonstration project sought to improve "Exclusive" breastfeeding rates in hospitals across California counties. BBC encouraged hospitals to implement hospital-selected California Model Hospital Breastfeeding Policy Recommendations by developing ongoing QI practices in the maternity setting.

The BBC Evaluation Toolkit includes tools to monitor progress toward implementing model hospital breastfeeding policies and practices. The tools assist staff in implementing the Plan, Do, Check and Act (PDCA)[12] quality improvement process.

Figure 3 illustrates the implementation and evaluation of BBC in relation to the PDCA model.

Figure 3 **The Birth and Beyond California Project's PDCA* Model**

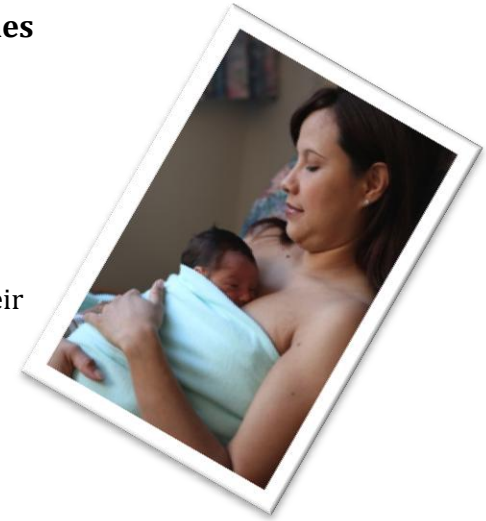
*PDCA stands for Plan, Do, Check, and Act

EVALUATION FINDINGS

The project and its evaluation components were still under development at the time funding ceased. Preliminary findings, though limited, were suggestive of increased participant knowledge and feelings of self-efficacy. Overall, the impact of the BBC Project on participants' ability to improve breastfeeding policies and practices was positive. Twenty-three hospitals participated in the project and 685 hospital staff, including administrators, physicians, nurses, lactation consultants, registered dietitians and other ancillary staff received training from BBC staff (Table 5). Participants actively engaged in practice changes that would influence breastfeeding practices in the maternity setting. The BBC project assisted participating hospitals to implement California's Model Hospital Breastfeeding Recommendations. The self-efficacy of participants regarding their ability to make improvements in hospital policies and practices that influence breastfeeding was high after participating in BBC activities.

Table 5 **Birth and Beyond California Outcomes**

- ✓ 23 hospitals participated
- ✓ 200 administrators participated
- ✓ 685 hospital staff were trained
- ✓ 87 staff became BBC trainers who went on to train their co-workers
- ✓ Over 2,000 healthcare workers received BBC training from the new BBC hospital trainers
- ✓ Hospital QI teams made progress in implementing evidence-based policies



Project Promotion and Requirements

Decision Maker Workshop

Almost 200 hospital leaders attended the Decision Maker Workshops; all identified and agreed to address the following five primary barriers to breastfeeding QI initiatives:

1. Routine formula feeding
2. Lack of staff breastfeeding education and training
3. Separation of mother and baby
4. Lack of physician and staff "buy-in" to breastfeeding QI
5. Lack of ability to address the language and culture of patients

Quality Improvement

Policy and Procedure Review and Revision

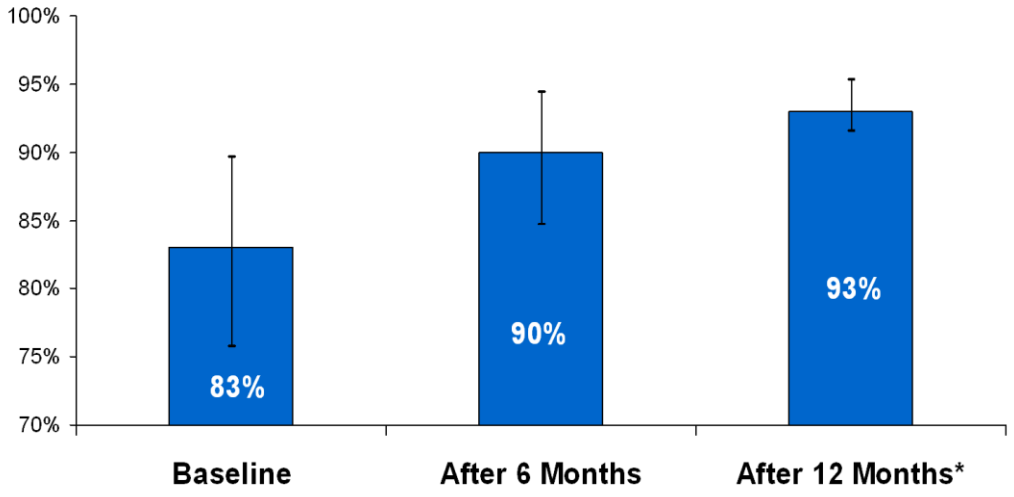
California's Model Hospital Breastfeeding Policies Self-Appraisal Questionnaire is the primary tool used by participating hospitals to track their progress in implementing evidence-based maternity care that supports breastfeeding. This questionnaire lists ten hospital policies and appropriate practices. Hospital administrators were asked to rate hospital performance on each individual item as "yes," "no," or "in process" at baseline and again at six month intervals. Positive responses are defined as "yes" or "in process." Completion of the *Self-Appraisal Questionnaire* was a requirement for participation in the BBC project. Every six months, hospital administrators were asked to reevaluate their progress towards implementation of the California Model Hospital Breastfeeding Policy Recommendations by updating their response to the *Self-Appraisal Questionnaire*.

Once hospitals established the infrastructure for quality improvement in maternity care, they made progress in implementing evidence-based breastfeeding policies and practices, and maintained positive results over time.

Eleven of 23 participating hospitals completed *California's Model Hospital Breastfeeding Policies Self-Appraisal Questionnaire* assessments at three different time periods, baseline, six months and one year. At the beginning of the BBC project (baseline measure), these hospitals responded positively ("yes" or "in process") to 83% of all items related to successful implementation of model hospital policies and practices that support breastfeeding. Six months later, this increased to 90%. One year after the BBC project began, these hospitals had achieved a mean positive score of 93%, which was a statistically significant ($p<.01$) increase above baseline (Figure 4). It is important to note that many of the first participating hospitals were already engaged in improving hospital breastfeeding practices; thus the high baseline. Even so, these results demonstrate that once hospital administrators established the infrastructure for quality improvement in maternity care, they made additional progress in implementing evidence-based breastfeeding policies and practices, and maintained positive results over time.

Figure 4 **Progress in Implementation of California Model Breastfeeding Policies**

Mean Percent Positive Responses on Self-Appraisal Questionnaire
Among 11 Participating Hospitals



* Statistically significant ($p<.01$) increase from baseline *California Model Hospital Breastfeeding Policies Self-Appraisal Questionnaire* Assessment.

Birth and Beyond California Regional Quality Improvement Networks

Monthly Meetings or Teleconferences

PAC/LAC collaborated with BBC Network participants to develop an instrument to capture feedback about the Network meetings. Feedback was captured twice a year from Network participants. Overall, feedback was positive with participants reporting that the BBC Network:

- Engaged decision-makers in breastfeeding QI efforts
- Provided opportunities to share knowledge and experiences in conducting breastfeeding QI
- Provided skills and tools to address barriers to breastfeeding QI with innovative solutions
- Improved their ability to implement evidence-based breastfeeding policies and practices

Network participants reported that participating in the Network meetings improved their ability to implement evidence-based breastfeeding policies and practices.

Many of the participants who began attending the BBC Network in the first cycle remained involved throughout the duration of the project. Their knowledge and guidance were valuable to new participants and helped to maintain the quality of the meetings. Members set aside time to regularly attend these meetings which is an indicator of the value of the Network.

Training

Learner Workshop

More than 400 hospital staff attended the Learner Workshops. The majority of professionals trained were registered nurses and lactation consultants, however, physicians, physical and occupational therapists, managers, registered dietitians, health educators and other professionals also participated. The average baseline knowledge of participants was high (average pretest score of 78%, n=386), suggesting that participants had some knowledge about breastfeeding best practices and policies prior to participating in the BBC training. A quick census of participants revealed that many had prior breastfeeding education through other programs such as *Gentle Transitions, SOFT*, certified lactation educator courses and the *Baby-Friendly Hospital* initiative.

Although participant identification data that would allow matching pretest and posttest results was not collected, 337 of the 386 participants with pretest scores also submitted a posttest upon completing the BBC Learner Workshop with an average score of 90%.

A Participant Self-Efficacy Scale was added to the project to measure participants' perceptions of their ability to successfully implement breastfeeding quality improvement initiatives. The scale was designed to capture staff self-confidence to make improvements to maternity care policies and practices that support breastfeeding before and at least six months after participating in the Learner Workshop. At the conclusion of the project, 393 of 428 participants who completed an assessment reported 'fair' or 'total' self-confidence across all domains of the self-efficacy scale: breastfeeding QI, communication with healthcare professionals, communication with patients, access to resources, and overall empowerment.

"Prior to this project I was considering dropping back down to a staff nurse position because of my frustration with our hospital practices – this project has given me a reason and process to become the nurse manager I always wanted to be." – *Nurse Manager*

Train-the-Trainer Workshop

A total of 87 staff participated in the Train-the-Trainer Workshops over the three cycles. Knowledge retained from the Learner Workshop was important because trainers were responsible for teaching this information to other staff in their hospitals. Train-the-Trainer Workshop participants were assessed for knowledge retention by repeating the Learner Workshop posttest. The average score for this re-test was 92%, demonstrating overall knowledge retention.

After completing the Train-the-Trainer Workshop, participants reported feeling "very confident" about their abilities to teach the curriculum, as well as initiating and supporting breastfeeding QI practices and policies in their hospitals.

Over the course of the project, more than 2,000 healthcare professionals received BBC Learner Workshop education from one of the new hospital trainers. Hospital trainers were invited to a trainer reunion one year after conclusion of the project. Feedback gathered from the trainer reunion evaluation revealed that their confidence grew as they continued to teach the BBC curriculum.

LESSONS LEARNED

1. ***Hospital administration must form a multi-disciplinary QI team charged with implementing evidence-based policies and practices that support breastfeeding within the maternity care setting prior to initiating staff training.***

   Obtaining hospital administration support is critical to project initiation and continuation. With administrative encouragement, team leaders are able to pursue diversity within the team, strategize project priorities, set goals, and actively pursue QI activities such as data collection in the maternity care setting. Key administrators must participate in the Decision Maker Workshop; BBC staff found it was best to reschedule a Decision-Maker Workshop rather than provide it to staff without administrative authority.

   An integral factor in the project's success is an active multi-disciplinary QI team in the maternity setting. While many hospital administrations had previously initiated breastfeeding committees, these groups often lacked representation from necessary stakeholders, such as physicians, registered dietitians, facilities management and others with the power to implement changes in hospital practices to support breastfeeding. Without participation of a multidisciplinary team, policy changes were difficult or impossible to implement.

   Many staff members working toward improving hospital breastfeeding rates originally thought that training was the starting point to increase "Exclusive" breastfeeding. The BBC Project identified that policy changes supported by QI activities are required before training. Staff training and education is only effective when supported by strong policies and practices within the maternity setting.

   Staff training and education is only effective when supported by strong policies and practices within the maternity setting.

Successful BBC hospitals embraced QI by:

1. Supporting policy revisions
2. Collecting and analyzing breastfeeding practice data
3. Facilitating clinical training for all staff
4. Stressing physician breastfeeding education

As an example of collecting and analyzing data, one hospital placed a neon green sticker on the infant treatment flow sheet to remind staff to document time spent skin-to-skin and the effectiveness of infant feeding. This both improved practice and strengthened data collection.

2. ***Hospital networks provide critical opportunities to share strategies and methods to overcome barriers to evidence-based maternity care and initiation of "Exclusive" breastfeeding.***

The BBC Network evolved to meet the needs of its members. Network members included hospital decision-makers, maternal child health directors, nurse managers, lactation consultants, BBC trainers and hospital QI team members.

In its first cycle, the primary focus was on education and the approach was didactic. By the second cycle it became apparent that the BBC participating hospitals needed to increase focus on implementing policy and practice changes. The BBC Network strengthened this focus on QI and members identified barriers and set goals for the year. Based on shared expertise, the Network members worked collaboratively to develop strategies, celebrated successes both big and small, and continuously supported each other's efforts.

Each year brought greater focus on QI as BBC Network members utilized the Plan, Do, Check and Act (PDCA)[12] quality improvement process, to address common barriers. They collectively agreed to work on a specific challenge and report their progress at the monthly Network meetings. Network members were held responsible for the goals and tasks they set for themselves.

3. ***Skin-to-skin and maternal-infant attachment are essential components to hospital staff breastfeeding training.***

The learner training provided an opportunity for experiential learning through promotion and observation of early bonding through skin-to-skin. Focusing on skin-to-skin and maternal-infant attachment during the first day of training, with one to two weeks between sessions for participants to observe normal infant behavior, proved to be an important method to increase staff buy-in.

This emphasis on skin-to-skin practices validated nurses who intuitively recognized the first hours after birth as an important bonding time. Many reported prior work experiences where this practice was common. Nurses reported that by offering the skin-to-skin experience to all mothers, many mothers who were ambivalent or had not planned to breastfeed went on to exclusively breastfeed because their infant initiated breastfeeding.

4. ***Hospitals need to develop internal trainers to sustain staff competency and provide ongoing breastfeeding education to new and current staff.***

From its inception, the BBC Project included the premise that hospitals would sustain the project by creating an internal team of trainers at each participating hospital. This was clearly attained by over 2,000 staff being trained by the 87 newly-developed trainers.

CHALLENGES ADDRESSED

The project did encounter and address several challenges during implementation, which included:

1. ***Implementing training with no supplemental funds***
   Many hospitals indicated that the lack of additional funding to compensate for staff coverage during staff training was a significant challenge. However, some hospitals were able to obtain grant funding and others were able to allocate funding by rescheduling education days normally occurring throughout the year.

2. ***Assuring infant safety***
   Nurses' concerns about infant safety were addressed through enhancements to the curriculum early in the project. Maternity and Nursery nurses are required to keep infants and mothers safe during the critical transition time as babies shift from being in-utero to extra-uterine life. Concerns regarding the infant's temperature stability and the mother's ability to care for her infant immediately postpartum were discussed. During the Learner Workshop, the BBC trainers addressed these concerns by providing participants with simulation opportunities and developing plans of care to keep the infants safe.

3. ***Implementing skin-to-skin for Cesarean births***
   Implementing skin-to-skin following Cesarean births continues to be a challenge for many hospitals, primarily hospitals that do not have surgical services within the maternity unit. A number of hospitals in the BBC Project addressed this issue as a quality improvement initiative. They identified stakeholders, implemented policy changes and trained additional staff.

4. ***Acquiring physician support and buy-in***
   Obtaining physician support was a major hurdle for many hospitals. Physician members of the network offered many suggestions, such as:
   - Provide the Pediatric and Obstetric committees and department chairs with breastfeeding updates
   - Include physician representation in the multi-disciplinary quality improvement team
   - Develop individual hospital breastfeeding physician champions by providing physician-focused breastfeeding continuing medical education opportunities

5. ***Reducing formula supplementation***
   Hospitals identified a number of methods to reduce formula supplementation, including:
   - Perform chart review and collect data focused on formula supplementation
   - Require careful documentation of the medical indication for supplementation
   - Decrease accessibility of infant formula by storing infant formula with medications

6. ***Eliminating free formula bags***
   Distributing formula marketing materials implies endorsement and the expectation that the mother will need to supplement. Several hospitals identified the elimination of free gift bags that included free formula and coupons for its purchase to new mothers as a major challenge. Strategies included engaging hospital auxiliary and/or hospital marketing executives to provide alternate gifts for new mothers such as a hospital-specific bag containing infant shirts decorated with the hospital logo.

Anticipated Challenges That Were Not encountered

As with any project, there were anticipated challenges that never occurred. Examples of these include:

- Physicians were not opposed to mothers and babies having time for skin-to-skin interactions immediately after birth
- Mothers, family and staff did not object to skin-to-skin time before bathing the baby
- Visitors did not object when asked to leave for skin-to-skin and bonding time
- Mothers did not object to not receiving a free formula gift pack at hospital discharge

Rather than a "prohibition" of visitors, time set aside for maternal-infant skin-to-skin and bonding was seen as a "gift." This time, referred to as the "Golden Hour" and/or "Baby-Moon," allows mother and baby to remain together so they can bond and get to know each other during those first hours after birth. Hospitals have used these BBC Project activities to promote their commitment to mother-infant attachment and breastfeeding.

CASE STUDIES

Hospital A

Administration was concerned that the published data showing low "Exclusive" breastfeeding rate did not seem to reflect the number of patients that nurses reported were breastfeeding. Based on the discrepancy, the breastfeeding QI team met to discuss the gap between the recorded infant feeding method on the Newborn Screening Forms and nurses' observations. The team reviewed a sample of the Newborn Screening Forms to identify potential reporting problems. They discovered that the majority of the forms they sampled had combination feedings selected. This finding led the team to review the form completion process, and they found that lab technicians, as opposed to nurses, were completing the forms. The lab technicians were automatically selecting "Combination" feedings on any forms that were incomplete.

By reviewing the process, the hospital also discovered other gaps in the completion of the forms. The QI team has tracked the Newborn Screen Form completion process to assess the impact of QI changes. They found that the recent changes had improved the accuracy of the Newborn Screening Form, and they also found improved "Exclusive" breastfeeding numbers.

Currently, the hospital continues to track skin-to-skin and infant feeding data and utilizes this data to make QI changes. They have also begun collecting information about reasons infants are given formula, as well as physicians who prescribe formula or have standing orders for formula. Each month, hospital administration posts this information on staff bulletin boards to provide the staff feedback about their implementation of quality breastfeeding policies and practices. The QI leader reports positive responses from doctors and nurses. She says, "No one wants to be on the 'naughty list.'"

Hospital B

Staff has utilized breastfeeding QI data to tackle low "Exclusive" breastfeeding rates due to the hospital's high Cesarean Section rate. In utilizing the breastfeeding data collection tool, the hospital found a significant relationship between Cesarean births, lack of skin-to-skin and low "Exclusive" breastfeeding rates.

The QI team is using the findings to inform physicians and staff about the disparity and to encourage development of policies and practices that facilitate skin-to-skin contact between mothers and babies after Cesarean deliveries. The breastfeeding QI team leader says that, "Doctors want hard data, not soft stories - and these data force them to acknowledge opportunities for improvement, and hopefully encourages them to address the problems."

Birth and Beyond California Expansion

Although not part of the BBC Project, members of the San Joaquin Breastfeeding Consortium participated in Los Angeles RPPCs BBC Learner and Train-the-Trainer Workshops. In collaboration with CDPH, the San Joaquin Breastfeeding Consortium offered these trainings to the staff from all six hospitals in San Joaquin County. The Consortium's goal is to improve county-wide breastfeeding rates, and some hospitals are now pursuing Baby-Friendly designation.

While the BBC Project as a whole did not receive funding beyond two years, PAC/LAC received limited funds to provide ongoing BBC technical assistance through June 2011. As a result, more hospitals were trained, including:

- Ventura County Medical Center in Santa Paula participated in the Learner and the Train-the-Trainer Workshop. These workshops assisted the Santa Paula facility in achieving Baby-Friendly designation.
- Ronald Reagan UCLA and Valley Presbyterian Hospitals participated in the Learner and the Train the Trainer Workshops and joined the Los Angeles Network meetings and are now conducting their own trainings.

In addition to the original 23 hospitals that participated in the BBC Project, 13 more hospitals have successfully completed this project without the support of CDPH BBC funding.

The BBC Project has generated national interest as other healthcare systems and hospitals strive to improve the quality of care provided to mothers and babies. *The Joint Commission* included "Exclusive Breast Milk Feeding" as one of five new Perinatal Care Core Measures in 2009. It is expected that more hospitals will choose to utilize BBC materials and resources as one way to improve their breastfeeding outcomes. This project provided the foundation and impetus for several hospitals to submit letters of intent to become Baby-Friendly. The original BBC trainers and some of the hospital staff they trained have moved to other hospitals that were not part of BBC, bringing their experience and expertise with them. New hospital breastfeeding quality improvement projects in California will continue to use the lessons learned from this project.

Table 6

Recommended Steps for Birth and Beyond California Project Implementation

1. Conduct a Decision Maker Workshop to engage hospital administrators and obtain buy-in to begin this project.*
2. Form a multi-disciplinary hospital maternity care Quality Improvement (QI) team that addresses breastfeeding. If a QI Team already exists, ensure it includes staff from various disciplines and sections of the hospital that impact the care of mothers and babies.
3. Identify in-hospital and local breastfeeding experts to assist the hospital staff as they complete the breastfeeding self-appraisal and conduct trainings.
4. Review current hospital "Exclusive" breastfeeding initiation rates and data collection systems and processes.
5. Conduct a hospital self-appraisal by utilizing the California Model Hospital Breastfeeding Policies Self-Appraisal Questionnaire or the Baby-Friendly Self-Appraisal.**
6. Identify current or new data collection methods to obtain baseline data and monitor the impact of policy and procedure changes.
7. Review policies and procedures currently in use. Assess if they need to be modified to fit recommended practices.
8. Participate in a community network to assist leadership in problem-solving and celebrating successes in overcoming barriers to implementing the project.
9. Utilize PDCA QI process to oversee policy and practice changes. Monitor policy implementation with hospital self-appraisals at regular intervals. Every 6 months is recommended.
10. Plan, budget and implement staff education to be accomplished within six to twelve months. Education should include didactic training, supervised clinical practice and measured staff competencies.
11. Acknowledge staff that encourages mother-infant skin-to-skin contact immediately after birth and throughout the hospital stay.
12. Celebrate movement toward meeting project goals and QI advances with staff.
13. Create a team of trainers to maintain project sustainability.
14. Utilize BBC Project successes to promote and market your hospital.

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* The Orange County experience demonstrated that this might not be the first step. A preliminary approach may be needed in order to obtaining administrative buy-in. If a hospital or geographic region is not yet ready to start implementing this project, go to the Perinatal Multidisciplinary Quality Improvement Tutorial for additional resources. http://cdph.ca.gov/BBCProject

** RPPC provided assistance to hospitals to conduct the self-appraisal and/or used the Decision-Maker Workshop to create a team to conduct the self-appraisal.

CONCLUSION

The outcomes of the BBC Project are still being realized.

- The project was successful in implementing practice changes that support breastfeeding infants and mothers.
- The BBC Project provided leaders with project planning and QI skills to monitor policy implementation through data collection and analysis.
- The project resulted in a culture shift that supported skin-to-skin maternal-infant attachment and "Exclusive" breastfeeding in hospitals.
- Hospital staff embraced this project because it empowered them, acknowledged their dedication to their patients, and increased their ability to support the bond between mothers and infants while improving maternity services.

The BBC Team has developed recommendations to implement this project based on the experiences gained and lessons learned throughout the BBC Project. Table 6 was developed as an implementation guide and with the understanding that birthing facilities will tailor the components to fit the needs of their maternity service. Due to the extensive materials provided, considerable advanced planning is recommended prior to implementation. Materials are available at http://cdph.ca.gov/BBCProject.

We recommend that BBC be replicated yet tailored to the needs of the hospitals and their communities.

Appendix A

WHAT THE RESEARCH TELLS US: EFFECTS OF HOSPITAL POLICIES ON BREASTFEEDING BEHAVIOR

Several hospital practices have been shown to improve "Exclusive" breastfeeding rates. Hospitals can remove barriers to breastfeeding by encouraging and promoting these hospital practices.

Policies Studied	Findings	Study
Hospitals with written policies	Result in better breastfeeding rates at 2 weeks of life. [13]	Rosenberg et al., 2008
Administrative prioritization of breastfeeding supportive policies	Drives the hospital practices that lead to improved breastfeeding rates.[13]	
Hospitals that implemented the *Ten Steps to Successful Breastfeeding* and achieved the Baby-Friendly Hospital designation	Result in high breastfeeding rates, even among populations who do not traditionally breastfeed. [14]	Merewood et al., 2005
1) Infants breastfed in the first hour after birth 2) Infants were fed only breast milk in the hospital 3) Infants stayed in the same room with mother 4) Infants were not given pacifiers 5) The hospital gave the mother a phone number to call for breastfeeding assistance after discharge	When these practices were experienced together, they significantly improved how long mothers breastfed regardless of their socioeconomic status.[15]	Murray, Ricketts and Dellaport, 2007
Practice of placing the mother and infant skin-to-skin following birth	Reduced the likelihood of early breastfeeding cessation for most mothers regardless of their race and ethnicity.[16]	Chiu, Anderson and Burkhammer, 2008
"Exclusive" breastfeeding in the hospital and not receiving a gift pack with formula at hospital discharge	These two hospital practices were associated with improved breastfeeding rates at 6 months of life.[17]	Dabritz, Hinton and Babb, 2008
Skin-to-skin contact for one to fifteen (1 - 15) minutes	Mothers experiencing early skin-to-skin contact had higher "Exclusive" breastfeeding rates than mothers with no early skin-to-skin contact.[18]	Bramson, 2010

Skin-to-skin contact	Improves the infant's ability to establish breastfeeding and triggers instinctive behaviors in both the baby and the mother.[15]	Murray, Ricketts and Dellaport, 2007
Early initiation of "Exclusive" breastfeeding	Increases overall breastfeeding duration, reduces a mother's risk of delayed onset of milk production, and promotes a cascade of breastfeeding successes.[15]	
Frequent, uninterrupted contact between mother and baby in the early days after birth	Enhances parental competence and confidence.[15]	

In 2007, the Centers for Disease Control and Prevention (CDC) completed the first *Maternity Practices in Infant Nutrition and Care Survey* (mPINC). This is a national survey of maternity care feeding practices and policies at all facilities in the United States and territories providing intrapartum care. Results from the 2007 mPINC survey indicate that birth facilities in most states were not providing maternity care that is fully supportive of breastfeeding.[19]

Appendix B

THE TEN STEPS TO SUCCESSFUL BREASTFEEDING

The Baby-Friendly™ Hospital Initiative promotes, protects, and supports breastfeeding through The Ten Steps to Successful Breastfeeding for Hospitals, as outlined by United Nation's International Children's Fund (UNICEF) and the World Health Organization (WHO). The steps for the United States are:

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

The Baby-Friendly™ Hospital Initiative (BFHI), launched in 1991, is an effort by UNICEF and the World Health Organization to ensure that all maternities, whether free standing or in a hospital, become centers of breastfeeding support.

www.unicef.org/programme/breastfeeding/baby.htm

Additional information about the Baby-Friendly™ Hospital Initiative in the United States is available at: http://www.babyfriendlyusa.org/eng/10steps.html

Appendix C

COMPARISON OF CALIFORNIA MODEL HOSPITAL POLICY RECOMMENDATIONS 1 AND THE BABY-FRIENDLY HOSPITAL INITIATIVE-USA 2

Baby Friendly Hospital Initiative-USA > / California Model Hospital Policy Recommendations v	1. Maintain a written breastfeeding policy that is routinely communicated to all health care staff	2. Train all health care staff in the skills necessary to implement this policy	3. Inform all pregnant women about the benefits and management of breastfeeding	4. Help mothers initiate breastfeeding within one hour of birth	5. Show mothers how to breastfeed and how to maintain lactation even if they are separated from their infants	6. Give infants no food and drink other than breastmilk unless medically indicated	7. Practice "rooming-in" - allow mothers and infants to remain together 24 hours a day.	8. Encourage unrestricted breastfeeding	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
1. Hospitals should promote and support breastfeeding (Interdisciplinary group, develop policies and evaluation, staff should have standardized education, support employees who breastfeed)	X	X								
2. Nurses, certified nurse midwives, physicians and other health professionals with expertise regarding the benefits and management of breastfeeding should educate pregnant and postpartum women when the opportunity for education exists, for example, during prenatal classes, in clinical settings, and at discharge teaching.		X	X							
3. The hospital will encourage medical staff to perform a breast exam on all pregnant women and provide anticipatory guidance for conditions that could affect breastfeeding. Breastfeeding mothers will have an assessment of the breast prior to discharge and will receive anticipatory guidance regarding conditions that might affect breastfeeding.			X		X					
4 Hospital prenatal staff should support the mother's choice to breastfeed and encourage exclusive breastfeeding for the first 6 months.	X	X	X		X	X				
5. Nurses, certified nurse midwives, and physicians should encourage new mothers to hold their newborns skin to skin during the first two hours following birth and as much as possible thereafter, unless contraindicated.				BFHI-US = 1 hour / CA MHP =2 hours				X		
6. Mothers and infants should be assessed for effective breastfeeding. Mothers should be offered instruction in breastfeeding as indicated.					X			X		
7. Artificial nipples and pacifiers should be discouraged for healthy, breastfeeding infants.									X	
8. Serile water, glucose water, and artificial milk should not be given to a breastfeeding infant without the mother's informed consent and/or physician's specific order.						X				
9. Mothers and infants should be encouraged to remain together during the hospital stay.							X			
10. At discharge, mothers should be given information regarding community resources for breastfeeding support.										X
		"Colorado 5" Best Practices Found to Increase Breastfeeding Duration								

Available at: www.cdph.ca.gov/HealthInfo/healthyliving/childfamily/Documents/MO-BFP-BabyFriendlyAndModelPoliciesComparison.pdf

Appendix D

1. Decision-Maker Workshop - 2 Hours

Curricular Materials for Trainers:

- Purpose/Description
- Content
  - PowerPoints
  - Handouts
  - Supplementary Material
  - Evaluation

2. Hospital Quality Improvement Teams

Resources for Initiating and Managing Teams:

- Purpose/Description
- Tools
  - QI Team Worksheet
  - Model Hospital Policy Self-appraisal
  - Action Plan

3. Regional Quality Improvement Network

Resources for Initiating and Managing Networks:

- Purpose/Description
- Sample Tools
  - Invitations
  - Agendas
  - Plan, Do, Check Act (PDCA) Cycle
  - PDCA Flow Chart
  - Improving Hospital Rates with BBC and PDCA

4. Staff Training / Learner Workshop - 16 Hour

Curricular Materials for Trainers:

- Purpose/Description
- Staff Training/Learner Workshop Materials
- Evaluation of the Staff Training

5. Train-the-Trainer Workshop - 16 Hours

Curricular Materials for Trainers:

- Purpose/Description
- Train-the-Trainer Manual
- Detailed Session Plans: Key Messages and Rationale, Recommended Tools, Supply List, and Videos for each of the13 Staff Training Modules
- Evaluation of the Train-the-Trainer Workshop

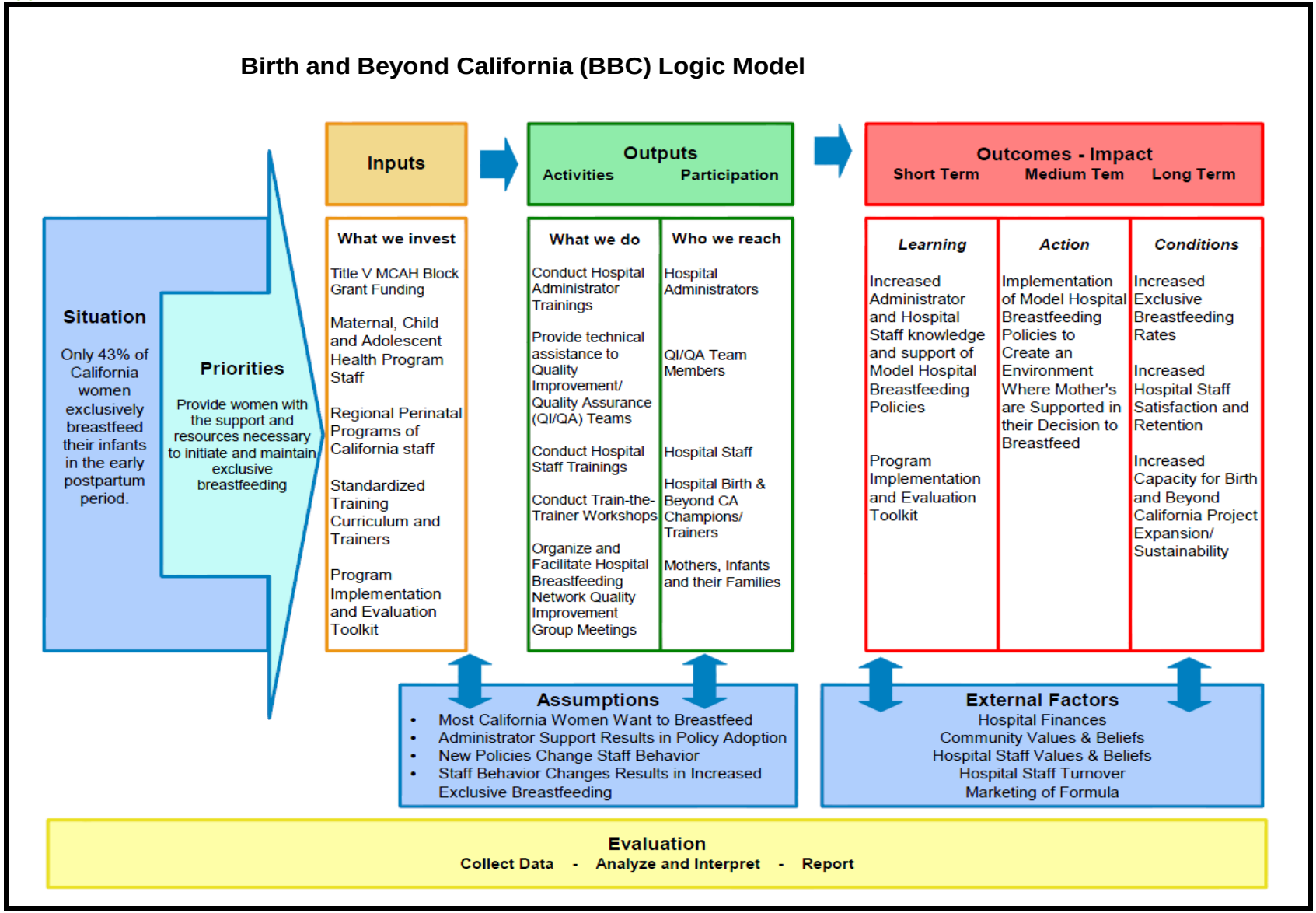
6. Evaluation Toolkit

Resources for Monitoring and Evaluating the Project:

- Purpose/Description
- Plan, Do, Check, Act (PDCA) Model
- Evaluation Materials used in:
  - Decision-Maker Workshop
  - Staff Training (16 hour Learner Workshop)
  - Train-the-Trainer Workshop
  - Regional Quality Improvement Network
  - BBC Hospital Breastfeeding Data Collection examples

Available at: http://cdph.ca.gov/BBCProject

Appendix E


Birth and Beyond California (BBC) Logic Model
Situation
Only 43% of California women exclusively breastfeed their infants in the early postpartum period.
Priorities
Provide women with the support and resources necessary to initiate and maintain exclusive breastfeeding
Inputs
What we invest
Title V MCAH Block Grant Funding
Maternal, Child and Adolescent Health Program Staff
Regional Perinatal Programs of California staff
Standardized Training Curriculum and Trainers
Program Implementation and Evaluation Toolkit
Outputs
Activities
Participation
What we do
Conduct Hospital Administrator Trainings
Provide technical assistance to Quality Improvement/ Quality Assurance (QI/QA) Teams
Conduct Hospital Staff Trainings
Conduct Train-the-Trainer Workshops
Organize and Facilitate Hospital Breastfeeding Network Quality Improvement Group Meetings
Who we reach
Hospital Administrators
QI/QA Team Members
Hospital Staff
Hospital Birth & Beyond CA Champions/ Trainers
Mothers, Infants and their Families
Outcomes - Impact
Short Term
Medium Tem
Long Term
Learning
Increased Administrator and Hospital Staff knowledge and support of Model Hospital Breastfeeding Policies
Program Implementation and Evaluation Toolkit
Action
Implementation of Model Hospital Breastfeeding Policies to Create an Environment Where Mother's are Supported in their Decision to Breastfeed
Conditions
Increased Exclusive Breastfeeding Rates
Increased Hospital Staff Satisfaction and Retention
Increased Capacity for Birth and Beyond California Project Expansion/ Sustainability
Assumptions
Most California Women Want to Breastfeed
Administrator Support Results in Policy Adoption
New Policies Change Staff Behavior
Staff Behavior Changes Results in Increased Exclusive Breastfeeding
External Factors
Hospital Finances
Community Values & Beliefs
Hospital Staff Values & Beliefs
Hospital Staff Turnover
Marketing of Formula
Evaluation
Collect Data - Analyze and Interpret - Report

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