Best Fed Beginnings Results and Lessons Learned

Lori Feldman Winter

Jennifer Ustianov

National Institute for Children's Health Quality

Meet NICHQ

NICHQ is a mission-driven nonprofit dedicated to driving dramatic and sustainable improvements in the complex issues facing children's health.

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What Motivates Us

Mission

Driving change to improve children's health

Vision

Every child achieves optimal health

Passionate Experts & Influencers

We know how to create pathways and partnerships, get real traction on tough issues, and bring the right people and capabilities together to transform systems for better health outcomes.

Our Approach

We leverage the best models for change and combine them with a customized, high-touch collaborative approach for learning, teaching and adoption that paves the way for achieving dramatic changes in children's health.

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12 Current Initiatives

- Asthma:
  - Florida Asthma and Tobacco Cessation Learning and Action Networks
- Breastfeeding
  - New York State Breastfeeding Quality Improvement in Hospitals Learning Collaborative
  - Texas Ten Step Star Achiever Breastfeeding Learning Collaborative
- Early Childhood Health
  - Early Childhood Comprehensive Systems Collaborative Improvement and Innovation Network
  - Environmental Influences on Child Health Outcomes: Developmental Impact of NICU Exposures
- Epilepsy
  - American Academy of Pediatrics-Children and Youth with Epilepsy Evaluation
- Infant Health
  - Collaborative Improvement and Innovation Network to Reduce Infant Mortality
  - National Action Partnership to Promote Safe Sleep Improvement and Innovation Network
  - New York State Maternal and Child Health Collaboratives
- Newborn Screening
  - NewSTEPs 360
- Sickle Cell Disease
  - Sickle Cell Disease Treatment Demonstration Program
- Vision and Eye Health
  - Improving Children's Vision: Systems, Stakeholders & Support

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What We Bring to the Table

- Ability to define problems and use data-driven strategies to design and implement solutions that drive real change

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- Capacity and tools to evaluate, implement and track and measure process and outcomes
- Aptitude to enable cross collaboration and deep engagement at all levels—from partners and subject matter experts to communities and families
- Skill in fostering the adoption and integration of evidence-based practices and programs while creating an environment for continuous learning

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Meet Our Presenters

Jennifer Ustianov, MS, BSN, RN, IBCLC
Senior Director at the National Institute for Children's Health Quality (NICHQ)

Lori Feldman-Winter, MD, MPH
Head of Adolescent Medicine at Cooper University Hospital; Faculty Chair of Best Fed Beginnings

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At a Glance

Best Fed Beginnings (BFB)

- Funding
  - CDC Cooperative Agreement #1U58DP003829-01
- Lead Organization
  - National Institute for Children's Health Quality
- Partners
  - Baby-Friendly USA (BFUSA)
  - United State Breastfeeding Committee (USBC)

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Thank you

- BFB teams and their leaders
- CDC, BFUSA, USBC
- BFB faculty and NICHQ staff
- Mothers and families

The Challenge

- Breastfeeding has been proven to provide significant benefits both to infants and their mothers
- 75% percent of US mothers initiated breastfeeding in 2010, and of those, only 13% were exclusively breastfeeding at six months
  - These rates also reveal substantial geographic and racial/ethnic disparities which should be addressed.
- The Ten Steps led Healthy People 2020 to set goals:
  - reduce the proportion of breastfed infants who receive formula supplementation within the first two days of life from 25.6% to 15.6%
  - increase the proportion of live births that occur in facilities providing the recommended care for breastfeeding mothers and their babies from 2.9% to 8.1%.
- July 2012 IOM report on methods to increase breastfeeding

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Best Fed Beginnings Goals

- Increase the number of US Baby-Friendly designated facilities
- Increase exclusive breastfeeding initiation

Best Fed Beginnings Mission:

Promote exclusive breastfeeding nationwide by creating environments in which a mother's choices concerning breastfeeding can best be supported

Aim 1
Enable hospitals to improve maternity care and infant feeding practices in order to earn Baby-Friendly designation or have a site visit scheduled by 3/31/15*

Aim 2
Support and promote Baby-Friendly USA and Baby-Friendly Designation

Aim 3
Facilitate widespread dissemination of improved hospital breastfeeding-related maternity care practices through broad sharing of learning collaborative lessons and experiences.

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Methods

- Quality Improvement (QI) framework
  - Breakthrough Series (BTS) Collaborative
  - Model for Improvement
- Structure
  - Change Package
    - Driver Diagram
  - Measurement Strategy: Outcome and Process Measures
- Design
  - 3 Cohorts working simultaneously
  - Multidisciplinary Teams
  - Leadership Track
  - Mother Partners

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Policy
HOW TO BF
The Ten Steps
FORMULA
HOW TO BF
T. Wolynn 2013

10 Steps to Successful Breastfeeding

A proven approach to support breastfeeding in maternity settings

- Have a written breastfeeding policy that is routinely communicated to all health care staff.
- Train all health care staff in skills necessary to implement this policy.
- Inform all pregnant women about the benefits and management of breastfeeding.
- Help mothers initiate breastfeeding within a half-hour of birth.
- Show mothers how to breastfeed and how to maintain lactation, even if they should be separated from their infants.
- Give newborn infants no food or drink other than breast milk unless medically indicated.
- Practice rooming-in - allow mothers and infants to remain together - 24 hours a day.
- Encourage breastfeeding on demand.
- Give no artificial teats or pacifiers (also called dummies or soothers) to breastfeeding infants.
- Foster the establishment of breastfeeding support groups and refer mothers to them on discharge from the hospital or clinic.

Source: *Protecting, Promoting and Supporting Breastfeeding: The Special Role of Maternity Services*, a joint WHO/UNICEF statement published by the World Health Organization.

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If We Build it Will They Come?

- Is the US ready for a nationwide initiative to increase breastfeeding and implement the BFHI?
  - We were not sure!!
- Should Baby-Friendly designation be the goal (Aim 1) and if so are we aiming for 100%?
- Where were we in 2011?
  - 100 hospitals designated
  - 6.2% of the population's newborns born in Baby-Friendly facilities
  - Relatively few large academic medical centers were Baby-Friendly

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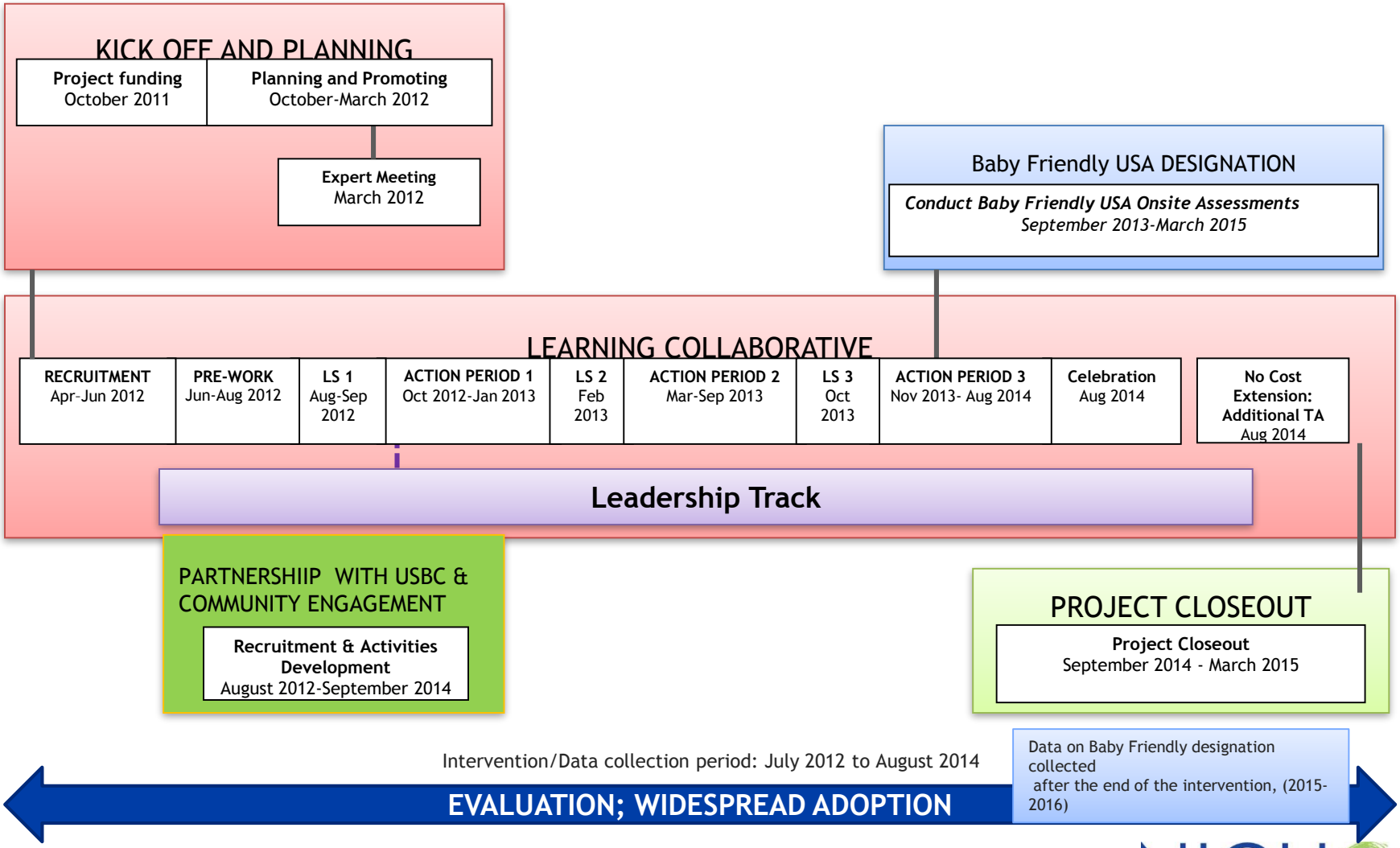
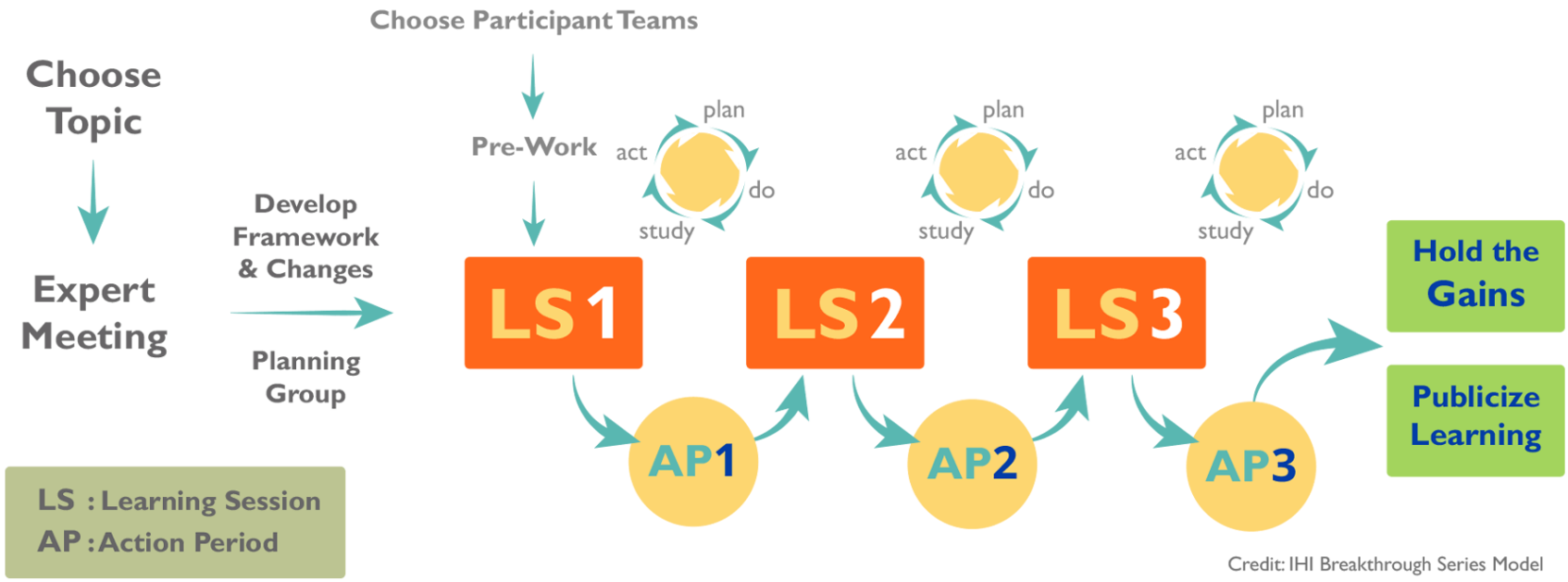
Project Timeline



Breakthrough Series (BTS)

Vehicle for identifying, testing and spreading changes that are effective for improving care and outcomes for defined populations.



Model for Improvement

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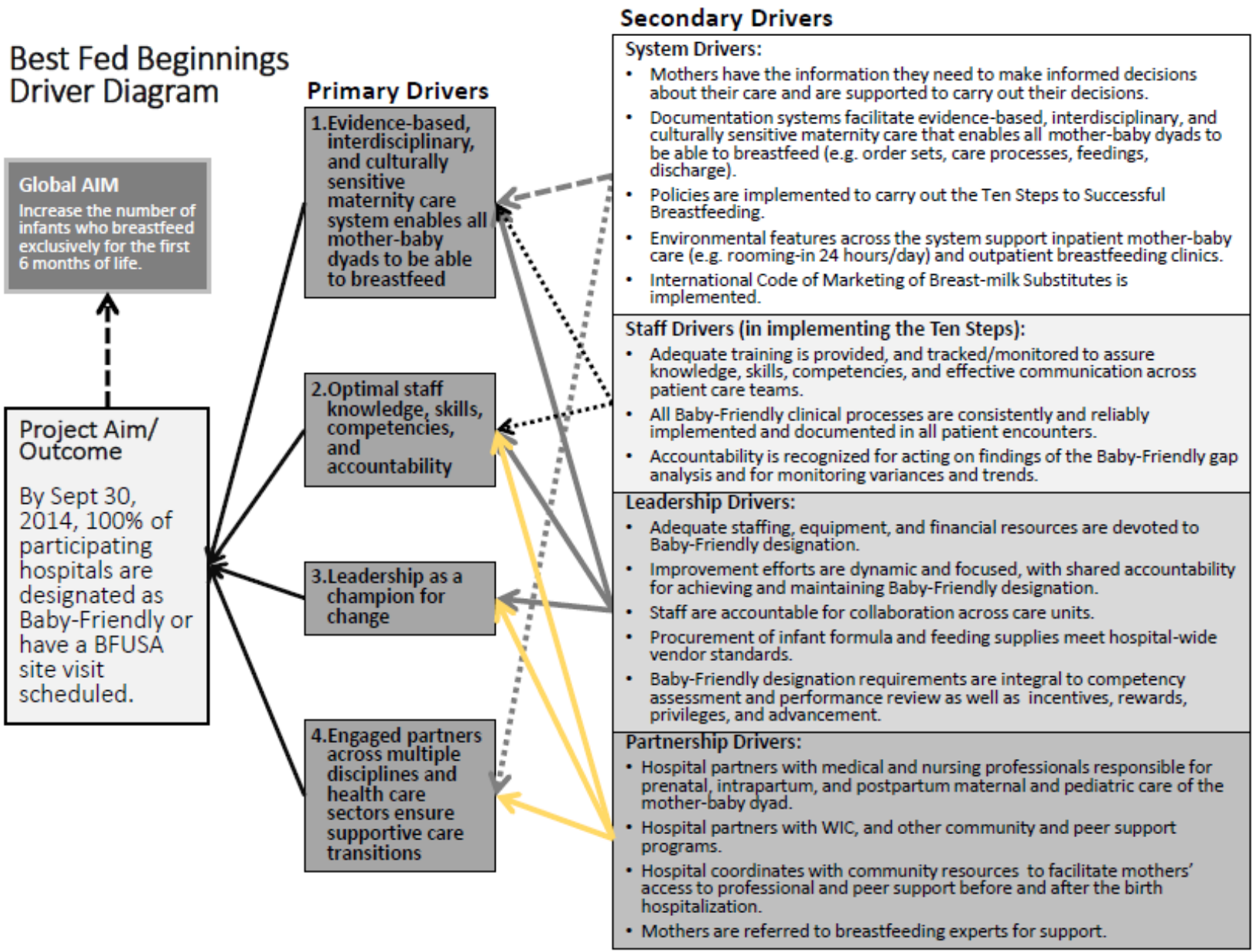
Best Fed Beginnings Driver Diagram



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Outcome and Process Measurement

Outcome Measures

- Exclusive Breastfeeding Rate Among Breastfed Babies (Goal: 90%)
- Breastfeeding Babies Supplemented (Goal: 10%)
- Overall Breastfeeding Rate (Goal: 90%)

Process Measures

- Prenatal Information on Benefits and Management of Breastfeeding
- Assistance and Support with Breastfeeding
- Baby Skin-to-Skin (vaginal birth)
- Baby Skin-to-Skin (cesarean birth)
- Rooming In (all births)
- Feeding on Cue (all births)
- Discharge Support

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Method of Analysis for BFB data

- Run Charts
  - Rules of analysis
  - 8 consecutive points above or below the centerline and points outside the control limits represented special cause variation, prompting a change in the centerline
  - Such observations happen <0.4% of the time by chance and are therefore conventionally accepted as suggesting statistically significant changes.
- Statistical process control (p-charts)
  - Trend analysis for goodness of fit (R-squared)
- In addition, we tested for significance ($p<0.05$) for pre-post comparisons
  - Chi-square for categorical variables
  - T-tests for process measures: skin-to-skin care, and outcome measures: overall and exclusive breastfeeding percentage rates as reported by hospitals

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National Impact

- Who participated
  - 48/89 (54%) academic sites – engaging future clinical leaders
  - 218,000 deliveries in US (80 hospitals) supported by optimal maternity care practices as a result of BFB

- Catalyst for spread
  - Empower – National
  - CHAMPs – Multistate
  - Statewide
    - Texas Breastfeeding Learning Collaborative
    - New York State Breastfeeding Quality Improvement in Hospitals

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The Results

- Success toward the aim
- Using Pearson's Correlation and logistic regression:
  - When compared to hospital applicants not accepted into the program, participation in the BFB initiative had significantly high correlation with designation
  - (Pearson's $r(235) = .80$, $p < .01$).
  - Logistic regression revealed a significant $R^2 = .717$, with predictive odds ratio of 141 ($p < .001$)

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Skin to Skin Care

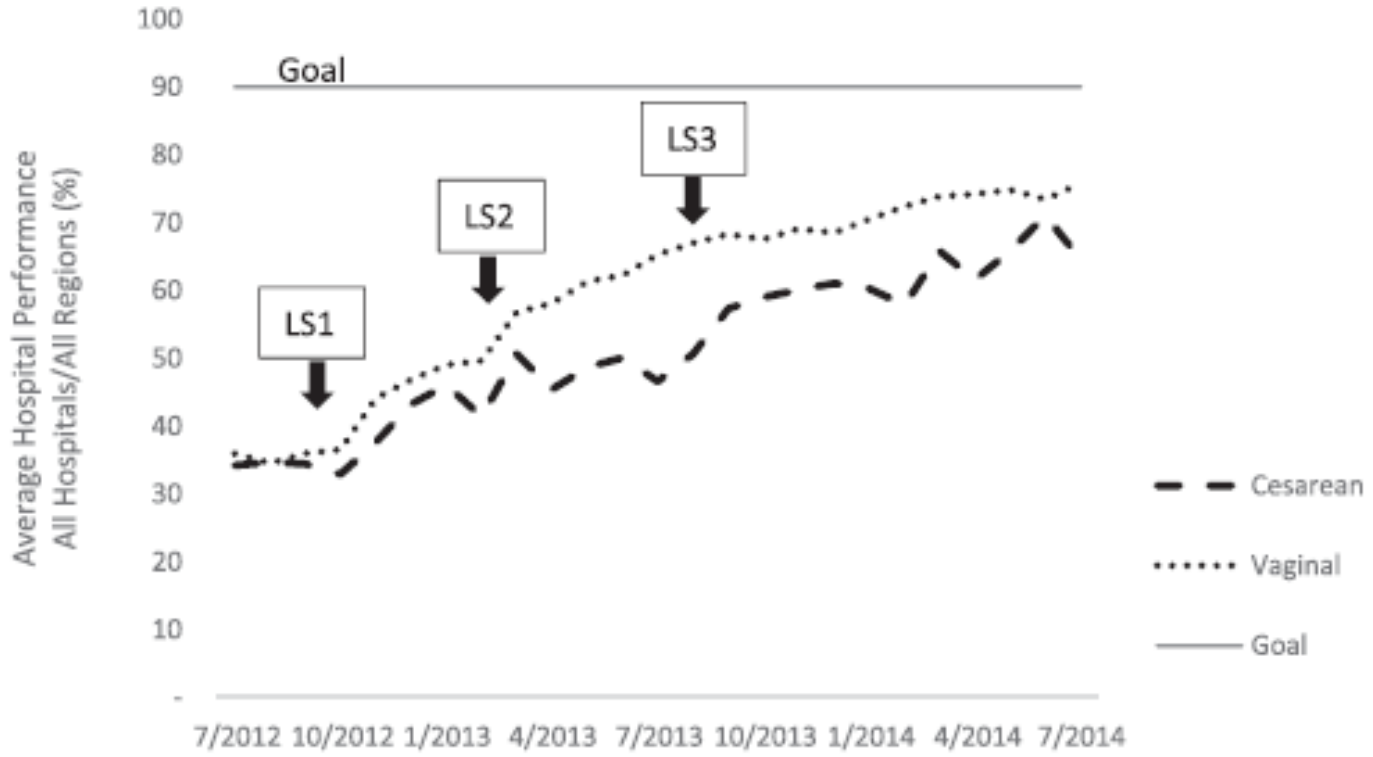

FIGURE 3
Annotated run charts of skin-to-skin care after vaginal and cesarean deliveries, all hospitals combined. https://www.babyfriendlyusa.org/find-facilities. LS, Learning Session.

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Rooming In

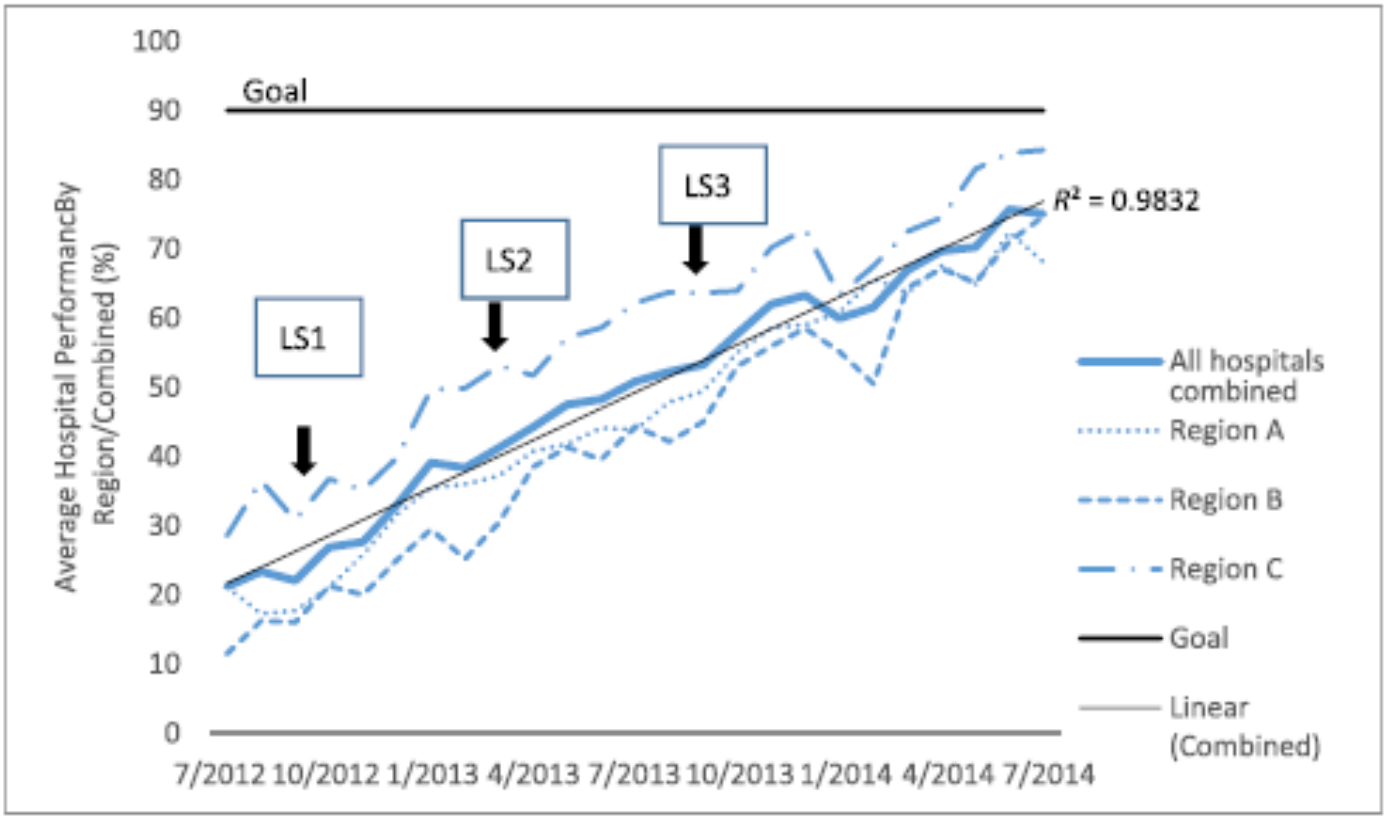

FIGURE 4
Annotated run charts of rooming in each region and all hospitals combined. LS, Learning Session.

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Overall Breastfeeding Initiation

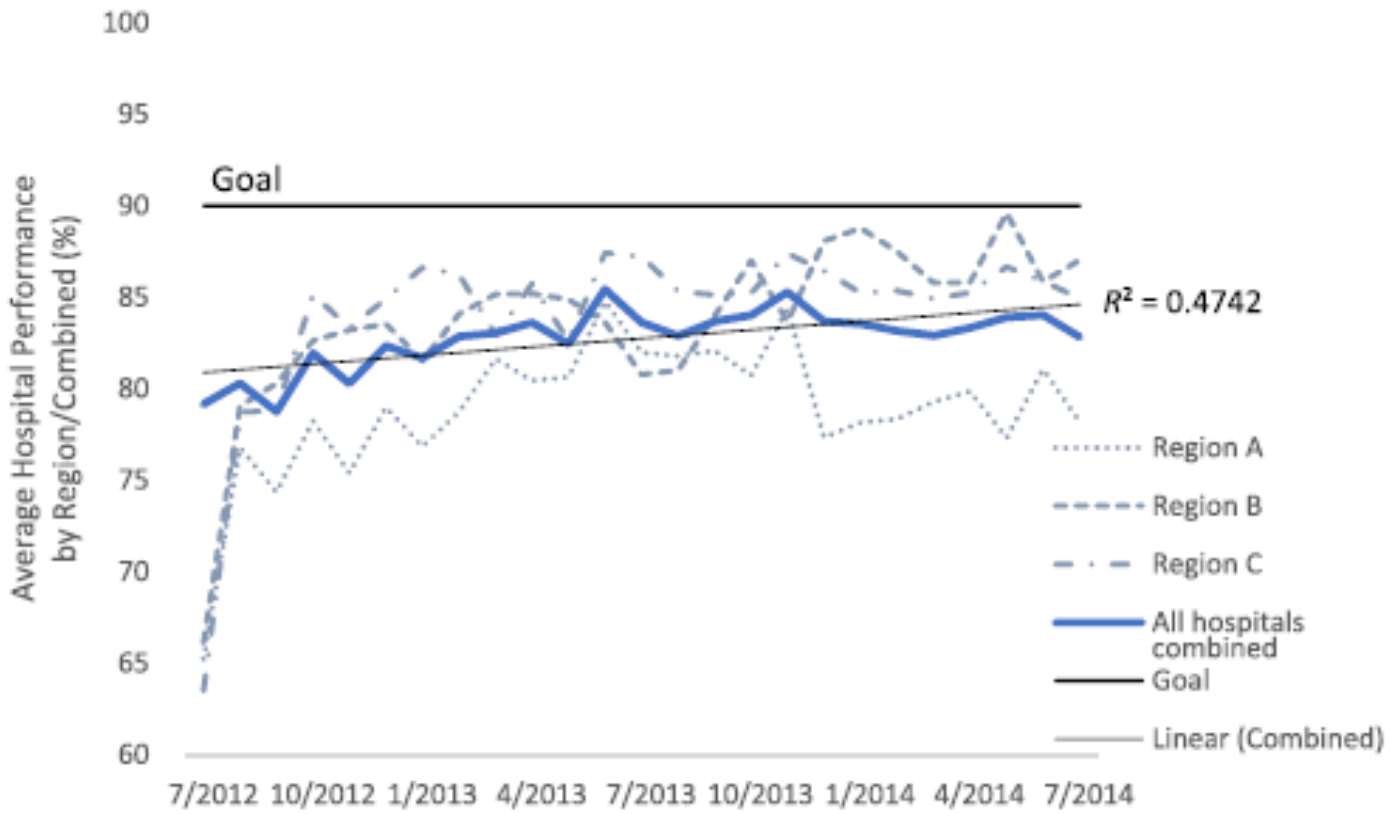

FIGURE 5
Overall breastfeeding for each region and all hospitals combined.

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Exclusive Breastfeeding Initiation

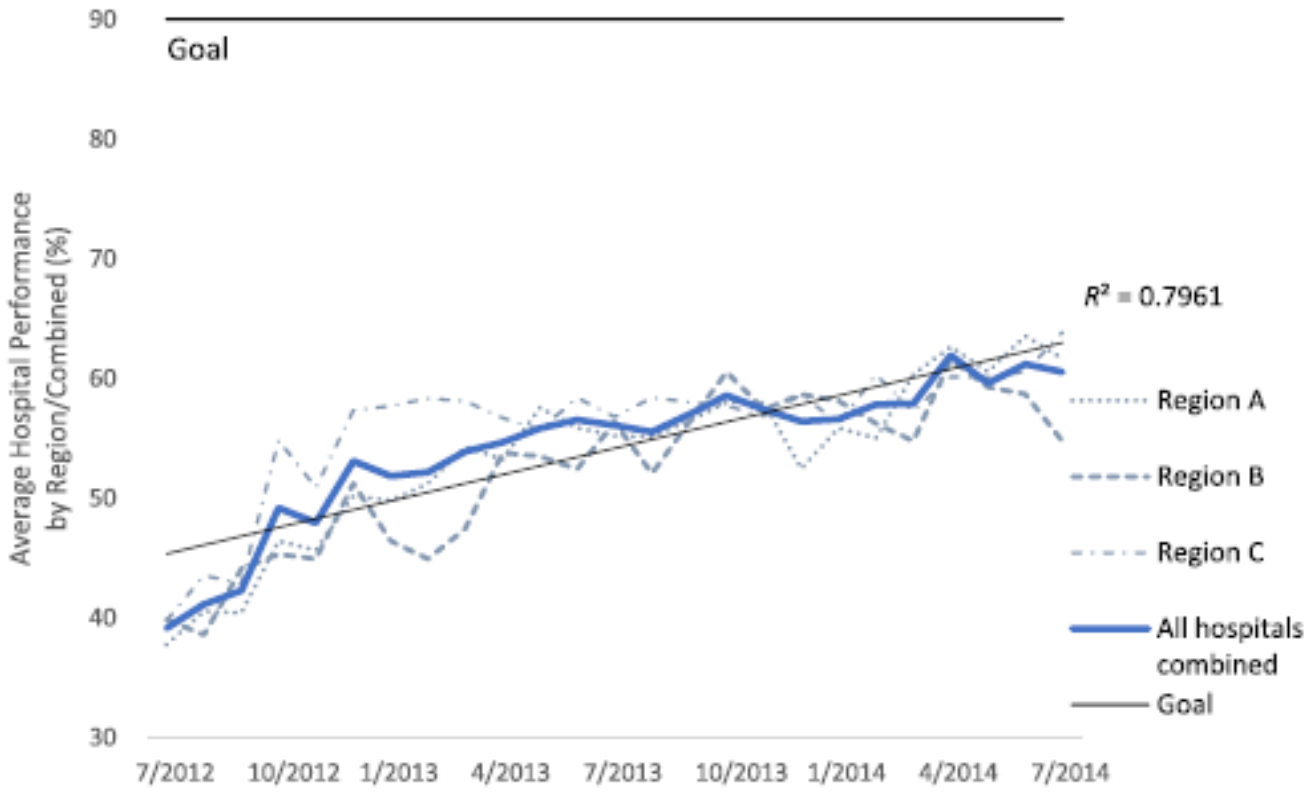

FIGURE 6
Exclusive breastfeeding for each region and for all hospitals combined.

Pre-post Comparisons

- Median proportion of infants born vaginally who were provided skin to skin care shifted from 18% to 65% (t= 13.78, p < .001)
- Overall breastfeeding increased from 79% to 83% (t= 1.93, p = .057)
- Exclusive breastfeeding increased from 39% to 61% (t= 9.72, p < .001).

Contributions to the Field

- Addressing breastfeeding disparities
- Leadership engagement Feldman-Winter L, Ustianov J. 2016
- QI methodology changes process and outcomes
- A collaborative model accelerates change
- Spreadable change strategies
- Clinical champions
- Heightened awareness and dialogue

Lessons Learned

- Relationships matter: we change the landscape of breastfeeding when the village is at the table
- Cultural, ethnic and racial challenges exist. We must listen and engage in conversations (to learn and understand)
- QI methods support the BFHI in changing practice, systems, culture and outcomes
- Data drive and sustains improved outcomes
- BFHI implementation takes time, creativity, tenacity and resources
- Group and individual technical assistance – one size does not fit all
- We have more to do

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Quality and Safety Discussion

- Breastmilk and breastfeeding—we have compelling evidence demonstrating better outcomes for mothers and infants.
- Should we move forward in the face of not knowing everything? Example: Back to Sleep
- Do we have evidence that skin to skin or rooming in causes harm? First do know harm does apply!

Balancing Measures

- What were teams hearing from the mothers?
  - Required to track but not report
  - What measures could be reported in the future?
- How was this feedback used in their improvement efforts?
  - Role of the patient in QI
  - Triple (quadruple) aim
  - How the BFHI affects the patient (mother, baby, support person, etc.) experience
- Additional measures in future collaboratives
  - SUPC and near misses
  - Falls
  - Other sentinel events

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The Community Piece…

There was much more to do

- BFB focused on the critical window—support of initiation and exclusive breastfeeding during the hospital stay
  - 10 Step implementation in hospitals environments and BF Designation
- Step 3 and 10 need a strong focus to accomplish impact on exclusive breastfeeding and duration
  - USBC began the work of partnering with key community support organization
- Role model for the best care
- Critical window – the delivery hospitals
- Then think about how to weave the network of support for post discharge
- Continuing to learning…quality care and safety…we need more information on whether or not there are untoward outcomes

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Sustainability Strategy

- Sustainability plan was part of the BFB design and implementation process
- BFUSA plans for continuous QI
- What additional measures would add to this picture?
  - Tracking duration of (exclusive) breastfeeding

Are There Other Steps or Factors?

- Breastfeeding (especially exclusive breastfeeding) increased as a result of the initiative
- What other factors may contribute to increased exclusive breastfeeding (unmeasured)?
  - Culture
  - Communication
  - Partnerships
  - Service
  - Staffing
  - Physician and staff engagement
  - Others?

Questions & Discussion