The Business Case for Baby-Friendly: Building A Family-Centered Birthing Environment

Presented by
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Disclosures

• In the past 12 months, I have not had a significant financial interest or other relationship with the manufacturer(s) of the product(s) or provider(s) of the service(s) that will be discussed in my presentation.

• This presentation will not include discussion of pharmaceuticals or devices that have not been approved by the FDA.
Learning Objectives

1. Understand the economic implications of effective breastfeeding support

2. Learn how the Ten Steps of the Baby-Friendly Hospital Initiative allow families to reach their infant feeding goals

3. Discuss the impact of breastfeeding support on patient satisfaction and family centered care
More mothers than ever are breastfeeding

77% Start out Breastfeeding

HP 2020 Goal is 82%

Source: CDC NIS 2009
Breastfeeding Support Necessary

Source: CDC NIS data 2009
Mothers do not breastfeed as long as they intend

- 80% of women intend to breastfeed.
- 77% start breastfeeding.
- 16% exclusive breastfeeding at 6 mos.
- **60% of mothers do not breastfeed as long as they intend**
  - problems with latch
  - problems with milk flow
  - poor weight gain
  - pain

Breastfeeding Rates in US Baby-Friendly Hospitals: Results of a National Survey

Merewood, Mehta et al. Pediatrics 2005;115(3)
Does Being Designated Baby-Friendly Increase Breastfeeding?

• 5 states that participate in PRAMS (1999-2009)
• Examined breastfeeding patterns among mother/infant dyads who delivered at hospitals designated (13) and matched non-designated hospitals (19)
• States: Alaska, Maine, Nebraska, Ohio, and Washington
• 11,723 mothers from BFHI and 13,604 from non-designated hospitals

Hawkins SS, et. al. Public health Nutrition 2014
Does Being Designated Baby-Friendly Increase Breastfeeding?

Hawkins SS, et. al. Public health Nutrition 2014
Does Being Designated Baby-Friendly Increase Breastfeeding?

Hawkins SS, et. al. Public health Nutrition 2014
Does Being Designated Baby-Friendly Increase Breastfeeding?

• No overall difference in breastfeeding initiation
• Increase of 3.8% (p=0.05) among lower SES, but not among higher SES
• Increase of 4.5% in exclusive breastfeeding for >4 months among lower SES (P=0.02)

Hawkins SS, et. al. Public health Nutrition 2014
Compliance with BFHI Affects Rates

- Explored PRAMS data among mothers who delivered in Baby-Friendly hospitals in Maine
- 4 hospitals matched to 4 control hospitals
- Survey data from 2004-2008
- 914 mothers from designated hospitals compared to 1099 mothers from non-designated matched hospitals

Hawkins SS. Arch Dis Child Fetal Neonatal Ed. 2014
Compliance with BFHI Affects Rates

- Only one-third of mothers from Baby-Friendly Hospital Initiative (BFHI)-accredited facilities reported experiencing all 7 BFHI breastfeeding practices.
- Over a quarter of mothers from BFHI-accredited facilities reported receiving a gift pack with formula.
- The BFHI is effective at increasing breastfeeding initiation among mothers with lower education.
- BFHI-accredited hospitals compliance with the BFHI is not optimal, as greater compliance may have a larger impact on breastfeeding rates and socio-economic disparities in breastfeeding.

Hawkins SS. Arch Dis Child Fetal Neonatal Ed. 2014
Baby-Friendly Hospital Practices and Birth Costs

- mPINC analysis from 20 states
- Compared to data from Health Care Costs Utilization Project’s (HCUP) State Inpatient Databases (SID)
- Linear regression to compare costs of uncomplicated vaginal and C-section births by number of Baby-Friendly practices in place

Allen JA et al. Birth 2013
Facilities in Study

- 747 hospitals
- Mean birth rate of 1488/year
- 43% Medicaid

Number of ideal maternity care practices* reported by facilities (%)

<table>
<thead>
<tr>
<th>Range</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>0–2</td>
<td>9</td>
</tr>
<tr>
<td>3–5</td>
<td>61</td>
</tr>
<tr>
<td>6–8</td>
<td>29</td>
</tr>
<tr>
<td>9–10</td>
<td>1</td>
</tr>
</tbody>
</table>

Allen JA et al. Birth 2013
Comparison of Birth Costs to Steps in Place

Figure 1. Average median cost for all uncomplicated births by number of ideal practices. *Ideal practices are indicators of the Ten Steps to Successful Breastfeeding.

Allen JA et al. Birth 2013
Costs by Birth Type After Adjustment for Medicaid, hospital owner, and size

<table>
<thead>
<tr>
<th>Uncomplicated births</th>
<th>Crude</th>
<th>Adjusted†</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number of hospitals</td>
<td>β</td>
</tr>
<tr>
<td>All births</td>
<td>747</td>
<td>44</td>
</tr>
<tr>
<td>vaginal births</td>
<td>747</td>
<td>35</td>
</tr>
<tr>
<td>C-sections</td>
<td>745</td>
<td>98</td>
</tr>
</tbody>
</table>

*Outcome was median hospital birth cost; primary predictor was number of ideal practices. †Adjusted for Medicaid, state, hospital owner and size.

- After adjustment there was no association between Steps in place and costs of birth

Allen JA et al. Birth 2013
Costs Comparisons of Baby-Friendly vs. other Hospitals

• Data from 2009 delivery hospital costs from 2007 CMS and AHA data sets
• Selected 61 out of the 82 designated hospitals that year for which there was data
• Matched controls, bed size, deliveries, location, urban vs. suburban, etc.
• Outcomes of interest LOS and costs per delivery

DelliFraine J et al. Pediatrics 2010
## Costs Comparisons of Baby-Friendly vs. other Hospitals

<table>
<thead>
<tr>
<th></th>
<th>Infant-Friendly Hospitals</th>
<th>Matched Non-Infant-Friendly Hospitals</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bed size</td>
<td>256</td>
<td>293</td>
<td>.289</td>
</tr>
<tr>
<td>Mean length of stay for deliveries</td>
<td>4.1</td>
<td>3.76</td>
<td>.052</td>
</tr>
<tr>
<td>Mean number of births per day</td>
<td>4.75</td>
<td>6.2</td>
<td>.053</td>
</tr>
<tr>
<td>Case mix index</td>
<td>1.42</td>
<td>1.52</td>
<td>.313</td>
</tr>
<tr>
<td>Percentage of Medicaid and self-pay deliveries</td>
<td>0.43</td>
<td>0.46</td>
<td>.082</td>
</tr>
<tr>
<td>Mean cost per delivery</td>
<td>$2205</td>
<td>$2170</td>
<td>.928</td>
</tr>
<tr>
<td>Median cost per delivery</td>
<td>$2012</td>
<td>$1975</td>
<td>.661</td>
</tr>
</tbody>
</table>

DelliFraine J et al. Pediatrics 2010
Calculated Projection of Costs to Become BFHI Designated

• Study in large southwestern tertiary care hospital used to estimate formula and supplies

• Survey of other BF designated hospitals (69 at the time) but 40 selected randomly to participate, 50% agreed and 18 completed survey of remaining costs

• 12 participated in in-depth semi-structured interviews

## Calculated Projected Costs

<table>
<thead>
<tr>
<th>Cost component</th>
<th>Cost driver/assumptions</th>
<th>Direct + indirect</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Recurring</td>
<td>One time</td>
<td></td>
</tr>
<tr>
<td>1. Programmatic application and startup costs</td>
<td>Application fees</td>
<td>$1,000 (D)</td>
<td>$9,000 (D)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Travel fees</td>
<td>$1,500 (D)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Printing of educational brochures</td>
<td>$1,700 (D)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Policy development (LC time)</td>
<td>$1,500 (I)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Materials/supplies</td>
<td>Based on number of deliveries who are formula-fed;</td>
<td>$245,000 (D)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>based on 40% exclusive breastfeeding rates and 15% wholesale discount</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Organizational training</td>
<td>Materials</td>
<td>$330 (D)</td>
<td>$13,500 (I)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Based on $25/hour × 40 hours LC time + $25/hour × 20 hours of training</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Personnel/staffing capacity increase</td>
<td>0.5 FTE LC, but may increase or decrease based on number of deliveries and LCs needed</td>
<td>$39,000 (D)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Organizational/process changes</td>
<td>Based on 10% time costs of one middle manager to champion the process and address issues</td>
<td>$9,750 (I)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| Total indirect costs                                 | $9,750                                   | $10,830          |
| Total direct costs                                   | $286,700                                 | $15,000          |
| Total costs                                           | $322,280                                 |                 |

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*aThis number applies to hospitals with greater than 500 births per year. For hospitals with fewer than 500 births per year, one-time costs will be $2,400 less.

D, direct; FTE, full-time equivalent; I, indirect; LC, lactation consultant.

Cost of Formula by Exclusive Breastfeeding Rates

Economic Implications of not Breastfeeding

- Disparity between actual 12-month duration of breastfeeding- 23% and postulated 90% there is an excess of $17.4 billion due to premature maternal death from breast cancer, HTN and MI (Bartick et al. Obtet and Gynecol July 2013)

- Excess of $13 billion per year given rate of exclusive breastfeeding for 6 months in 2005 (12%) and if 90% of society breastfed infants exclusively for 6 months, and 911 deaths (Bartick M, Pediatrics 2010)
Breastfeeding is Good Business!

- Breastfeeding support is a billable visit
- If LC in practice, physician can share visit with LC (similar to CRNP or PA)
- If history and physical on mother and baby, consider billing insurance for both visits
- Contact insurance plan to learn what is covered and appropriate diagnostic and billing codes
Breastfeeding is Good Business!

• For every $1 invested in creating and supporting a lactation support program, there is a $2 to $3 dollar return, according to the DHHS “Business Case for Breastfeeding.”
The Triple Aim

• Reduce costs

• Improve outcomes (increase breastfeeding)

• Improve the patient experience (satisfaction)
  – Hospital measures *HCAHPS* (Hospital Consumer Assessment of Healthcare Providers and Systems)
  – Communication, communication, and more/better communication

Berwick DM et al. Health Affairs. 2008
Measuring Quality on HCAHPS

**Composite Topics**
- Nurse Communication (Question 1, Q2, Q3)
- Doctor Communication (Q5, Q6, Q7)
- Responsiveness of Hospital Staff (Q4, Q11)
- Pain Management (Q13, Q14)
- Communication About Medicines (Q16, Q17)
- Discharge Information (Q19, Q20)

**Individual Items**
- Cleanliness of Hospital Environment (Q8)
- Quietness of Hospital Environment (Q9)

**Global Items**
- Overall Rating of Hospital (Q21)
- Willingness to Recommend Hospital (Q22)
HCAHPS and P4P

Improved communication leads to increased HCAHPS scores and higher reimbursement

Table 3. Patient-Level Logistic Regression on HCAHPS Item “Overall Rating of the Hospital”

<table>
<thead>
<tr>
<th></th>
<th>B</th>
<th>SE</th>
<th>Wald</th>
<th>df</th>
<th>P</th>
<th>Exp(B)</th>
<th>Increase in Top-Box Odds³</th>
</tr>
</thead>
<tbody>
<tr>
<td>Admission</td>
<td>0.005</td>
<td>0.000</td>
<td>94.078</td>
<td>1</td>
<td>.000</td>
<td>1.005</td>
<td>2.5</td>
</tr>
<tr>
<td>Room</td>
<td>0.033</td>
<td>0.001</td>
<td>2,459.252</td>
<td>1</td>
<td>.000</td>
<td>1.034</td>
<td>18.2</td>
</tr>
<tr>
<td>Meals</td>
<td>0.012</td>
<td>0.001</td>
<td>599.901</td>
<td>1</td>
<td>.000</td>
<td>1.012</td>
<td>6.1</td>
</tr>
<tr>
<td>Nurses</td>
<td>0.048</td>
<td>0.001</td>
<td>3,698.936</td>
<td>1</td>
<td>.000</td>
<td>1.049</td>
<td>27.0</td>
</tr>
<tr>
<td>Tests</td>
<td>0.001</td>
<td>0.001</td>
<td>0.895</td>
<td>1</td>
<td>.344</td>
<td>1.001</td>
<td>0.1</td>
</tr>
<tr>
<td>Visitors</td>
<td>0.006</td>
<td>0.001</td>
<td>89.872</td>
<td>1</td>
<td>.000</td>
<td>1.006</td>
<td>3.0</td>
</tr>
<tr>
<td>Physician</td>
<td>0.011</td>
<td>0.001</td>
<td>413.676</td>
<td>1</td>
<td>.000</td>
<td>1.011</td>
<td>5.6</td>
</tr>
<tr>
<td>Discharge</td>
<td>0.006</td>
<td>0.001</td>
<td>120.993</td>
<td>1</td>
<td>.000</td>
<td>1.006</td>
<td>3.0</td>
</tr>
<tr>
<td>Personal Issues</td>
<td>0.019</td>
<td>0.001</td>
<td>535.994</td>
<td>1</td>
<td>.000</td>
<td>1.019</td>
<td>10.0</td>
</tr>
<tr>
<td>Days</td>
<td>0.001</td>
<td>0.002</td>
<td>0.189</td>
<td>1</td>
<td>.664</td>
<td>1.001</td>
<td>NA</td>
</tr>
</tbody>
</table>

Abbreviation: NA, not applicable.

³Increase in probability of achieving a top-box score on HCAHPS “Overall Rating” given a 5-point increase in the designated section score (N = 136,546).
Culturally Competent/Sensitive Care

• Define Disparities
• Address common barriers: breastfeeding in public, acculturation, language and literacy
• Understand spheres of support
• Increase cultural knowledge
• Develop an approach to counseling
• Use peer counselors

Breastfeeding and supplementation rates by ethnicity/race: National Immunization Survey data

A Breastfeeding Initiation

B Rates of Any Breastfeeding

C Formula Supplementation of Breastfed

D Exclusive Breastfeeding Rates

Understand Support System

<table>
<thead>
<tr>
<th>Cultural Background</th>
<th>Person Who Influences Breastfeeding (positive and negative)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Black</td>
<td>Health care providers</td>
</tr>
<tr>
<td></td>
<td>Peers</td>
</tr>
<tr>
<td>White</td>
<td>Male partner, baby’s father</td>
</tr>
<tr>
<td></td>
<td>Mother’s best friend</td>
</tr>
<tr>
<td>Hispanic</td>
<td>Parents’ mother</td>
</tr>
<tr>
<td></td>
<td>Male partner, baby’s father</td>
</tr>
<tr>
<td>Southeast Asian</td>
<td>Mother-in-law, mother</td>
</tr>
</tbody>
</table>

*Source. Adapted from Riordan and Auerbach (1999).*
Provide Culturally and Linguistically Competent Care

• Use interpreters or phones for translation
• Understand common cultural practices
• Use open ended questions to identify specific and individual beliefs and practices
• Use MI to encourage optimal feeding
Develop an Approach to Counseling

- **L**: Listen to what moms are saying
- **O**: Ask open ended questions
- **V**: Validate feelings
- **E**: Educate on point
Use Peer counselors

• WIC peers
• Hospital doulas
• Community health workers
Prenatal Support: Step 3
Inform all pregnant women about the benefits and management

- Develop prenatal curriculum for staff
- Develop prenatal curriculum for moms
- Script messages; cue cards or flip charts
Prenatal Support

• Mothers need to know:
  – List of benefits (four)
  – Basic management - position and latch, feeding on-cue
  – Importance of skin-to-skin contact
  – Rooming-in
  – Risks of supplements while breastfeeding in the first 6 months

• Teach, re-teach...repeat....
What you need to know about breastfeeding is supported by

- Academy of Breastfeeding Medicine
  www.bfmed.org
- American Academy of Pediatrics
  www.aap.org
- Association of Women's Health, Obstetric and Neonatal Nurses
  www.awhonn.org
- Baby-Friendly USA, Inc.
  www.babyfriendlyusa.org
- Centers for Disease Control and Prevention
  www.cdc.gov/breastfeeding
- March of Dimes
  www.marchofdimes.com
- United States Breastfeeding Committee
  www.usbreastfeeding.org

As a mother, one of the most important things you will decide is how to feed your baby. The many health benefits of breastfeeding include:

- Natural source of the nutrients your baby needs
- Less risk of Sudden Infant Death Syndrome (SIDS)
- Fewer ear and respiratory infections for your baby
- Enhances newborn brain development
- Less risk your baby will be overweight
- Less risk of diabetes for your baby and you
- Less risk of postpartum depression for you
- Less risk of breast and ovarian cancer for you
- Faster recovery for you

Breastfeeding is natural for you and your baby, but it is a skill that needs to be learned. Speak up and ask questions about breastfeeding before your baby is born and while you are in the hospital. This will help you continue to breastfeed after you go home. This brochure provides information to help you breastfeed your baby. Remember, you should always talk to your doctor or nurse about any tips or advice given to you about your health.
Beware of the "Third Trimester Gift" (online)

The FREE third trimester gift includes:

* Three 2 fl oz Nursette® bottles of XXXil PREMIUM® .....should you choose to supplement or formula-feed....

* A JCPenney portrait offer.”

“A helpful kit for soon-to-be moms is waiting at your OB/GYN's office!”
Newborn Hospital Follow Up within 48 hours of D/C

- Periodic Survey data (AAP survey of Fellows) indicate nationally only 38% of pediatricians follow AAP recommendation for F/U within 5 days of life (<48 hours after discharge)
- Be attentive to insurance status and access to care
- Hospital based “Newborn Clinics” another option

Newborn Follow-up

Figure 1: Pediatric visit in first week after discharge, No NICU

Source: NJ PRAMS 2010
Check It Out Before Saying No!
Medications and Breastfeeding

• Most medications compatible with breastfeeding
• Evidence-based resources
  – Lact MED
  – AAP Policy Statements
  – Medications and Mother’s Milk, by Thomas Hale, PhD
Caring for the Dyad

How does the Medical Home care for the mother-infant dyad?
Family Centered Care
Community and Peer Support

- On site support group

- La Leche League Leaders
  - Provide basic information and encouragement through:
    - Support groups
    - Telephone warm lines

- WIC peer counselors
Returning to Work or School

Influencing factors

• Type of work
• Worksite accommodations: Support, Time, Education, Private space
• Baby’s age upon return
• Family, health provider and/or community support
• Child care arrangements that support continued breastfeeding
Supporting the Caregivers
Step 11!
Breastfeeding and Health Care Reform

• 2010 Patient Protection and Affordable Care Act

• Section 7(r) of the Fair Labor Standards Act – Break Time for Nursing Mothers Provision
  – reasonable break time to express breast milk after the birth of her child.
  – The amendment also requires that employers provide a place for an employee to express breast milk.
USBC Model Policy to Guide Implementation of the ACA

Model Policy

Payer Coverage of Breastfeeding Support and Counseling Services, Pumps and Supplies

Train HCP’s: USBC Core Competencies for all Health Care Professionals

• Endorsed by the AAP and other health care organizations
• Multidisciplinary competencies
• Consistent care models

Feldman-Winter L Evidenced-based Interventions PCNA 2013
Discourage Formula Marketing

• AAP ALF resolution: Divesting from Formula Marketing in Pediatric Care- passed 2012

...that the AAP advise pediatricians not to provide formula company gift bags, coupons, and industry-authored handouts to the parents of newborns and infants in office and clinic settings.
Using Data to Inform Quality Improvement

• Testing Change
  – Small Tests—Starting with tests of ‘1’
  – Increase diversity of settings and size over time

• Implementing Change
  – Structural Changes
  – Policy changes
  – Documentation changes
  – Hiring procedure changes
  – Staff education/training changes
  – Equipment purchasing changes
  – Information flow changes
Conclusions

• The Baby-Friendly Hospital Initiative is not cost prohibitive and may be cost saving
• The BFHI produces optimal health outcomes
• Interdisciplinary support is necessary
• Aim for Family-Centered Care
• Collaboration is key!