Results from the CDC National Survey of Maternity Care Practices in Infant Nutrition and Care (mPINC)

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Outline

- Background
- Survey design
- Preliminary results
- Benchmark reports
- Future plans
Hospital gave mother phone number to call for breastfeeding help
Baby did not use pacifier in hospital
Baby stayed in same room with mother
Baby fed only breastmilk in hospital
Baby breastfed in 1st hour after birth

Evidence from PRAMS

Breastfeeding mothers in Oregon given commercial hospital discharge packs were 39% more likely to supplement before 10 weeks of age.
Number of Baby Friendly steps in place predicts risk of breastfeeding cessation

Steps measured:
- Late bf initiation
- Supplemented feedings
- Lack of rooming-in
- Scheduled feedings
- Pacifiers

Supplemental feeds in hospital negatively impact infant health & bf outcomes

<table>
<thead>
<tr>
<th>In-hospital Behaviors</th>
<th>Control</th>
<th>Intervention</th>
</tr>
</thead>
<tbody>
<tr>
<td>Breastfeeds/24 hr on day 2</td>
<td>4.3 feeds</td>
<td>6.4 feeds</td>
</tr>
<tr>
<td>Supplementary feedings/24 h on day 2</td>
<td>4.8 feeds</td>
<td>1.1 feeds</td>
</tr>
<tr>
<td>Volume of breast milk on day 2 (ml)</td>
<td>47 ml</td>
<td>132 ml</td>
</tr>
<tr>
<td>Volume of supplement on day 2 (ml)</td>
<td>188 ml</td>
<td>23 ml</td>
</tr>
<tr>
<td>Supplementing on day 2</td>
<td>100%</td>
<td>2%</td>
</tr>
<tr>
<td>Total volume supplement consumed days 1-3</td>
<td>565 ml</td>
<td>68 ml</td>
</tr>
<tr>
<td>Night-time breastfeeding</td>
<td>2%</td>
<td>98%</td>
</tr>
</tbody>
</table>

BF Rates

<table>
<thead>
<tr>
<th>BF Rates</th>
<th>Control</th>
<th>Intervention</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 mo exclusive bf</td>
<td>57%</td>
<td>75%</td>
</tr>
<tr>
<td>6 mo exclusive bf</td>
<td>12%</td>
<td>22%</td>
</tr>
<tr>
<td>9 mo any bf</td>
<td>47%</td>
<td>62%</td>
</tr>
</tbody>
</table>

Source: DiGirolamo et al., 2001
Source: Nylander, et al. 1991
CDC activities on maternity care practices related to breastfeeding

- Formative research on barriers to changing practices
- Compilation of success stories in Baby-Friendly hospitals
- Numerous evaluation grants on hospital interventions
- PRAMS survey module
- Planning for strategic planning meeting

Nationwide activities on maternity care practices related to breastfeeding

- BFHI
- BanTheBags.org
- National Quality Forum Voluntary Consensus Standards
- Performance incentives for Medicaid
- Recommendations in HHS Blueprint & CDC Guide to Breastfeeding Interventions
What actually happens in maternity care settings?

- How common are positive practices?
- How common are negative practices?
  - Geographic variations
  - Predictors of variations
- Are practices changing over time?
October, 2003 – Expert Panel

- Two day working meeting
- Researchers with specific expertise and experience in assessment and monitoring of breastfeeding-related maternity care practices
  - Conducting state/regional surveys
  - Assessing maternal experiences during maternity care
  - Assessing breastfeeding issues

Expert Panel Recommendation

Biannual national census of facilities routinely providing maternity services

- Strong need for a census design to effectively utilize data for advocacy and practice change
- Concerns about identification of respondent facilities
- Mail survey with telephone follow-up for non-responders
- Single key informant
- Assess 'usual practice' including, but not limited to, practices in WHO/UNICEF Ten Steps
- Representation of practices at all different types of facilities in the US
National Survey

- Biannual national census of facilities routinely providing maternity services
  - Private hospitals
  - Public hospitals
  - Free-standing birth centers
- Single key informant
- Assesses ‘usual practice’

Survey Indicators

- WHO/UNICEF *Ten Steps to Successful Breastfeeding*
- Labor and birthing practices
- Postpartum care practices
mPINC Dimensions

- Labor and delivery care
- Postpartum care
  - Breastfeeding assistance
  - Contact between mother and infant
  - Feeding of breastfed infants
- Discharge care
- Staff training
- Structural and organizational aspects of care delivery

Design Strengths

- Representation of practices at all different types of facilities in the US
- State and regional analyses can be done
- Routine, recurring administration
  - Trend analysis is possible
  - Predictability – facilities will come to expect the survey
Current Status

- Data were collected from Aug-Dec, 2007
- MMWR to be published June 13, 2008
- Individualized Benchmark Reports will be sent to respondent facilities in early July

Methodology

- 52 questions
  - 36 categorized into the 7 maternity practice dimensions
- Points assigned to responses to every question
  - Higher points for practices supportive of breastfeeding
- Dimension scores: average of points for each item in the dimension
- Composite quality scores: average of dimension scores
Results

mPINC

mPINC Response Rates:
2,690 birth facilities responded

- Hospitals: 81.7%
- Birth Centers: 88.4%
- Overall: 82%

N=2568, N=122, N=2690
Differences in Composite Quality Score by Facility Size & Type

<table>
<thead>
<tr>
<th>Number of Annual Births (Facility Size)</th>
<th>N</th>
<th>Mean Composite Quality Score</th>
<th>Standard Error</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-249</td>
<td>626</td>
<td>63</td>
<td>0.68</td>
</tr>
<tr>
<td>250-499</td>
<td>448</td>
<td>60</td>
<td>0.66</td>
</tr>
<tr>
<td>500-999</td>
<td>548</td>
<td>62</td>
<td>0.58</td>
</tr>
<tr>
<td>1000-1999</td>
<td>553</td>
<td>64</td>
<td>0.57</td>
</tr>
<tr>
<td>2000-4999</td>
<td>440</td>
<td>66</td>
<td>0.58</td>
</tr>
<tr>
<td>≥5000</td>
<td>71</td>
<td>63</td>
<td>1.51</td>
</tr>
</tbody>
</table>

Facility Type

- Birth Center*: 121, 86, 0.85
- Hospital†: 2546, 62, 0.27

*1 birth center and 22 hospitals had no mean total score
National Mean Composite Quality Scores and Dimension Subscores

Lowest Score: BF Support After Discharge

- Mean US score: 40 out of 100
- Questions:
  - Does facility provide gift bags containing infant formula to breastfeeding mothers upon discharge?
  - Types of BF support provided to mothers upon discharge
Are discharge packs containing infant formula samples given to breastfeeding mothers?

- No
- Yes

Types of BF Support Provided After Discharge

- PP follow-up visit at facility
- PP home visit
- PP Phone call by staff
- PP phone # for patient
- Referrals
Newborn Feeding: Supplementation of bf newborns

- Non Breast Milk (at least half)*
- Water (any)
- Glucose Water (any)

*Percent of facilities that supplement at least half of all healthy, full-term breastfed newborns with something other than breast milk.

Benchmark Reports

- Mailed individually to people at each respondent hospital
- Multipurpose document
  - Customized, detailed survey information
  - Intervention strategy
    - Raise awareness
    - Provide motivators for change
    - Identify barriers
Customized, detailed survey information

- Composite Quality Practice Score
  - Subscores for each dimension
  - Composite and Subscore Percentile
    - National
    - State
    - Similar size
  - For each item:
    - Measure, rationale, explanation, ideal, actual, score

Benchmark Report Target Audiences

Birth Center:
- Birth Center Owner
- Medical Director
- Head Midwife
- Key Informant

Hospital:
- CEO
- Director of Quality Assurance/Improvement
- Director of Obstetrics
- Director of Pediatrics
- Mother Baby Nurse Manager
- Key Informant
Maternity Practices in Inpatient Care (mPINC) Survey
Quality Practice Measures

2007 Benchmark Report

Quality Practice Goals

Infant Feeding Care
This report provides a facility’s scores for the significant aspects of infant feeding care, including
support delivered in the unit as well as postdischarge care and timing of educational sessions of
antenatal care. A facility’s overall quality scores are provided in their corresponding
category. These scores range from 0 to 100. The highest possible scores of 100 are
indicated by purple bars, and the lowest possible scores of 0 are indicated by yellow bars.

Labor and Delivery Care
This chapter provides data on the perceived quality of care provided to mothers and their
infants during labor, delivery, and the first few days after birth. The data are presented
in the form of a table, with columns indicating the percentage of facilities meeting
specific quality measures.

Postpartum Care
This chapter provides data on the perceived quality of care provided to mothers and their
infants during the postpartum period. The data are presented in the form of a table, with
columns indicating the percentage of facilities meeting specific quality measures.
<table>
<thead>
<tr>
<th>Measure</th>
<th>Rationale</th>
<th>Explanation</th>
<th>Ideal Response</th>
<th>Your Response</th>
<th>Your Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initial skin-to-skin contact</td>
<td>Skin-to-skin contact is beneficial because it improves infant ability to establish breastfeeding.9</td>
<td>This measure reports how many patients experience mother-infant skin-to-skin contact for at least 30 minutes within 1 hour of vaginal birth.</td>
<td>Most</td>
<td>Many</td>
<td>70</td>
</tr>
<tr>
<td>Initial breastfeeding opportunity</td>
<td>Early initiation of breastfeeding is beneficial because it increases overall breastfeeding duration &amp; reduces a mother’s risk of delayed onset of milk production.10</td>
<td>This measure reports what percent of patients have the opportunity to breastfeed within 1 hour of uncomplicated vaginal birth.</td>
<td>≥90</td>
<td>75</td>
<td>70</td>
</tr>
<tr>
<td>Routine procedures performed skin-to-skin</td>
<td>Performing routine infant procedures &amp; assessments without separating mother &amp; infant is beneficial because it improves breastfeeding outcomes by reducing unnecessary separation of mother &amp; infant &amp; increases infant stability. It is safe for mother &amp; infant to perform these procedures skin-to-skin.11,12</td>
<td>This measure reports how often patients have routine infant procedures performed while mother &amp; infant are skin-to-skin.</td>
<td>Almost always</td>
<td>Rarely</td>
<td>0</td>
</tr>
</tbody>
</table>

Labor and Delivery Care Score 34
Preliminary Plan for 2008-2009

- Summer & Fall, 2008 - submit OMB package requesting 2009 survey
- Fall & Winter, 2008
  - Disseminate state-based reports of aggregate data
  - October – Present findings at APHA
  - Create 2009 survey
- Ongoing – preparation of manuscripts for peer review publications

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