Using mPINC Data to Support Breastfeeding Quality Improvement Efforts in California Hospitals

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Maternal, Child and Adolescent Health Division

United States Breastfeeding Committee (USBC)
State Coalitions Webinar Series, December 8, 2015

Momentum continues to build for evidence-based maternity care that support breastfeeding...

- 2007 CDC mPINC Survey
- Joint Commission measure on exclusive breastfeeding
- Healthy People 2020 hospital breastfeeding support
- Surgeon General’s Call to Action
- CA Legislation
  - Model breastfeeding policy by 2014
  - Baby-Friendly Hospitals by 2025

Using mPINC Data to Support Breastfeeding Quality Improvement Efforts in California Hospitals
Setting Standards: Hospital Infant Feeding Act
(California Health & Safety Code §123366)

This legislation will reinforce and support hospitals in taking Step One of the Baby-Friendly Ten Steps.

- requires that by January 2014 all perinatal hospitals in California to have an infant feeding policy in place that promotes breastfeeding utilizing guidance provided by BFHI or the California Model Hospital Policy Recommendations
- to post this policy in their perinatal unit or on their hospital website,
- and to routinely communicate this policy to all staff.

Setting Standards: Baby-Friendly Hospital Initiative (or Alternate Process)
(California Health & Safety Code §123367)

This legislation will reinforce and support hospitals in adopting the Baby-Friendly Hospital Initiative “Ten Steps to Successful Breastfeeding” or an alternate process that includes evidence-based policies and practices and targeted outcomes by 2025.
Using mPINC Data to Support Breastfeeding Quality Improvement Efforts in California Hospitals
Place Matters:
Not all women giving birth have equal access to quality maternity health care that supports breastfeeding

Utilizing mPINC Survey Data in California

The Maternity Practices in Infant Nutrition and Care (mPINC) is a national survey of maternity care practices and policies that is conducted by the Centers for Disease Control and Prevention (CDC) every 2 years:

- Approximately 80% of all birthing facilities in California participate each year
- CDC provides state-level mPINC reports to state health departments to facilitate their work with hospitals in improving breastfeeding care
- MCAH obtains California mPINC data to provide regional and county-level mPINC data to local stakeholders
mPINC Survey Concepts

Practices and policies related to the WHO/UNICEF *Ten Steps to Successful Breastfeeding*

Labor and birthing practices such as:
- Induction & augmentation
- Mode of delivery

Hospital postpartum care practices such as:
- Infant procedures, assessment and care conducted in the same room as mother

mPINC Survey Scoring

Approximately 50-60 questions
(36 question items categorized into 7 dimensions)

Points are assigned to responses to every question.
- Higher points were given for practices that are supportive of breastfeeding.

**Subscores (0-100 scale)** = average of points for each question in the dimension.

**Composite quality practice scores (0-100 scale)** = average of care dimension subscores.
mPINC Survey Dimensions of Care

<table>
<thead>
<tr>
<th>Dimension of Care (mPINC subscale)</th>
<th>Key informant reports on: (examples)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Labor and Delivery Care</td>
<td>Early skin-to-skin contact</td>
</tr>
<tr>
<td></td>
<td>Breastfeeding initiation</td>
</tr>
<tr>
<td>Feeding of Breastfed infants</td>
<td>Supplementation</td>
</tr>
<tr>
<td>Breastfeeding Assistance</td>
<td>Whether staff assess breastfeeding</td>
</tr>
<tr>
<td></td>
<td>Whether staff advise on breastfeeding</td>
</tr>
<tr>
<td>Mother-Infant Contact</td>
<td>Mother-infant separation</td>
</tr>
<tr>
<td></td>
<td>Rooming-in</td>
</tr>
<tr>
<td>Facility Discharge Care</td>
<td>Post-discharge breastfeeding support</td>
</tr>
<tr>
<td></td>
<td>Distribution of “gift packs”</td>
</tr>
<tr>
<td>Staff Training</td>
<td>Staff education</td>
</tr>
<tr>
<td></td>
<td>Staff competency assessment</td>
</tr>
<tr>
<td>Structural and Organizational</td>
<td>Breastfeeding policies</td>
</tr>
</tbody>
</table>

Benchmarking: mPINC Scores
California compared to Nation, 2013

Data Source: National and California mPINC Data, 2013 [www.cdc.gov/mpinc](http://www.cdc.gov/mpinc)
Tracking Progress in Maternity Practices in Infant Nutrition and Care (mPINC) Scores from 2007 to 2013, California

- Improvement (2013)
- California (Baseline - 2007)

**Total mPINC**
- 2007: 83
- 2013: 69

**Labor & Delivery Care**
- 2007: 86
- 2013: 63

**Feeding of Breastfed Infants**
- 2007: 86
- 2013: 77

**Breastfeeding Assistance**
- 2007: 92
- 2013: 82

**Mother-Infant Contact**
- 2007: 90
- 2013: 78

**Discharge Care**
- 2007: 71
- 2013: 49

**Staff Training**
- 2007: 72
- 2013: 61

**Structural Improvement**
- 2007: 84
- 2013: 70

Data Source: California mPINC Data, 2007 and 2013, www.cdc.gov/mpinc

Most Recent CDC mPINC Results Show Need for Widespread Implementation of BFHI Ten Steps to Successful Breastfeeding

- Most recent CDC mPINC results show need for widespread implementation of BFHI Ten Steps to Successful Breastfeeding.
- The mPINC data for 2013 show a marked improvement over the baseline data from 2007.

Step 1: Model Breastfeeding Policy

mPINC Indicator
A model breastfeeding policy includes all of the following elements:
1) in-service training,
2) prenatal breastfeeding classes,
3) asking about mothers’ feeding plans,
4) initiating breastfeeding within 1 hour of vaginal birth,
5) initiating breastfeeding after uncomplicated c-section and/or showing mothers how to express milk and maintain lactation,
6) giving only breast milk to breastfed infants,
7) rooming-in 24 hours/day,
8) breastfeeding on demand,
9) no pacifier use by breastfed infants, and
10) referral for breastfeeding support in hospital or at discharge.

Percent of California Hospitals

<table>
<thead>
<tr>
<th>Year</th>
<th>2007</th>
<th>2009</th>
<th>2011</th>
<th>2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>18%</td>
<td>22%</td>
<td>30%</td>
<td>43%</td>
<td></td>
</tr>
</tbody>
</table>

Needs Improvement!

Elements of a Model Breastfeeding Policy
mPINC, California 2007 vs. 2013

- Early BF Initiation: 86% (2007), 96% (2013)
- Breastfeeding on-demand: 79% (2007), 97% (2013)
- Mother’s Feeding Plans: 79% (2007), 95% (2013)
- Rooming-in: 81% (2007), 94% (2013)
- Maintenance of Lactation: 74% (2007), 89% (2013)
- Referral to appropriate BF resources: 79% (2007), 89% (2013)
- No Supplementation of BF Infants: 58% (2007), 84% (2013)
- Pacifier Use: 48% (2007), 76% (2013)
- In-Service Training: 52% (2007), 73% (2013)
- Prenatal Breastfeeding Classes: 53% (2007), 72% (2013)

Using mPINC Data to Support Breastfeeding Quality Improvement Efforts in California Hospitals
Step 2: Staff training and skills assessment

mPINC Indicator
Nurses/birth attendants are assessed for competency in basic breastfeeding management and support at least once per year

Percent of California Hospitals

<table>
<thead>
<tr>
<th>Year</th>
<th>2007</th>
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<th>2011</th>
<th>2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>BFHI</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BFHI</td>
<td>54%</td>
<td>60%</td>
<td>66%</td>
<td>71%</td>
</tr>
</tbody>
</table>

Step 3: Prenatal Breastfeeding Education

mPINC Indicator
Breastfeeding education is included as a routine element of prenatal classes

Percent of California Hospitals

<table>
<thead>
<tr>
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<th>2007</th>
<th>2009</th>
<th>2011</th>
<th>2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>BFHI</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BFHI</td>
<td>94%</td>
<td>91%</td>
<td>90%</td>
<td>90%</td>
</tr>
</tbody>
</table>
mPINC Indicators Consistent with BFHI Ten Steps to Successful Breastfeeding

Step 4: Early Initiation of Breastfeeding

mPINC Indicator
≥90% of healthy full-term breastfed infants initiate breastfeeding within one hour of uncomplicated vaginal birth

Percent of California Hospitals

<table>
<thead>
<tr>
<th>Year</th>
<th>2007</th>
<th>2009</th>
<th>2011</th>
<th>2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>%</td>
<td>42%</td>
<td>50%</td>
<td>61%</td>
<td>76%</td>
</tr>
</tbody>
</table>

Step 5: Teach Breastfeeding Techniques

mPINC Indicator
≥90% of mothers who are breastfeeding or intend to breastfeed are taught breastfeeding techniques (e.g., positioning, how to express milk, etc.)

Percent of California Hospitals

<table>
<thead>
<tr>
<th>Year</th>
<th>2007</th>
<th>2009</th>
<th>2011</th>
<th>2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>%</td>
<td>83%</td>
<td>88%</td>
<td>94%</td>
<td>94%</td>
</tr>
</tbody>
</table>
**mPINC Indicators Consistent with BFHI Ten Steps to Successful Breastfeeding**

**Step 6: Limited Use of Breastfeeding Supplements**

**mPINC Indicator**

<10% of healthy full-term breastfed infants are supplemented with formula, glucose water, or water

<table>
<thead>
<tr>
<th>Year</th>
<th>2007</th>
<th>2009</th>
<th>2011</th>
<th>2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percent of California Hospitals</td>
<td>14%</td>
<td>21%</td>
<td>21%</td>
<td>24%</td>
</tr>
</tbody>
</table>

*Needs Improvement!*

**Step 7: Practice Rooming-in**

**mPINC Indicator**

≥90% of healthy full-term infants, regardless of feeding method, remain with their mother for at least 23 hours per day during the hospital stay

<table>
<thead>
<tr>
<th>Year</th>
<th>2007</th>
<th>2009</th>
<th>2011</th>
<th>2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percent of California Hospitals</td>
<td>59%</td>
<td>64%</td>
<td>73%</td>
<td>79%</td>
</tr>
</tbody>
</table>
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Step 8: Encourage Breastfeeding on Demand

- mPINC Indicator
  - ≥90% of mothers are taught to recognize and respond to infant feeding cues instead of feeding on a set schedule
- Percent of California Hospitals
  - 2007: 69%
  - 2009: 82%
  - 2011: 87%
  - 2013: 90%

Step 9: Limited Use of Pacifiers

- mPINC Indicator
  - <10% of healthy full-term breastfed infants are given pacifiers by maternity care staff members
- Percent of California Hospitals
  - 2007: 34%
  - 2009: 47%
  - 2011: 52%
  - 2013: 67%
mPINC Indicators Consistent with BFHI Ten Steps to Successful Breastfeeding

Step 10: Post-discharge Breastfeeding Support

mPINC Indicator
Hospital routinely provides three modes of post-discharge support to breastfeeding mothers:
1. physical contact = home-visit, or hospital postpartum follow-up visit;
2. active reaching out = follow-up telephone call to patients;
3. referrals = hospital phone number to call, support groups, lactation consultant, or outpatient clinic

Most California hospitals provide referrals, but the most effective discharge care is the least common

- Home visit
- Return visit to center
- Telephone call
- Telephone # given
- Center support group
- Referral to support group
- Lactation consultant referral
- WIC referral
- Outpatient clinic referral
- List of resources
- Breastfeeding assessment sheet

Percent of facilities reporting each practice

Needs Improvement!
Percentage of California hospitals distributing discharge packs containing infant formula samples to breastfeeding mothers, mPINC 2007 vs. 2013

<table>
<thead>
<tr>
<th></th>
<th>2007</th>
<th>2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes, distribute gift packs w/ formula</td>
<td>52%</td>
<td>13%</td>
</tr>
<tr>
<td>No, no gift packs w/ formula distributed</td>
<td>48%</td>
<td>88%</td>
</tr>
</tbody>
</table>

Percentage of hospitals by number of mPINC indicators consistent with BFHI Ten Steps to Successful Breastfeeding mPINC 2007 vs. 2013

<table>
<thead>
<tr>
<th></th>
<th>2007</th>
<th>2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-2 Steps</td>
<td>31%</td>
<td>13%</td>
</tr>
<tr>
<td>3-5 Steps</td>
<td>54%</td>
<td>60%</td>
</tr>
<tr>
<td>6-8 Steps</td>
<td>10%</td>
<td>1%</td>
</tr>
<tr>
<td>9-10 Steps</td>
<td>5%</td>
<td>26%</td>
</tr>
</tbody>
</table>
California mPINC Survey Results, 2013

- Between 2007 and 2013, California’s mPINC Composite Score increased from 69 (rank 11th) to 83 (rank 7th in US).

- Improvements occurred within all dimensions, with marked improvements in labor and delivery care, discharge care, and structural and organizational aspects of care delivery (i.e. policies).

- However, the following areas still need improvement:
  - Inclusion of model breastfeeding policy elements
  - Adequate staff training and assessment
  - Appropriate use of breastfeeding supplements
  - Provision of hospital discharge planning support beyond referrals

California mPINC Data Linkage Project

Quality Improvement
- Provide local breastfeeding stakeholders with local mPINC Data for quality improvement activities

Research
- To explore the association between maternity care practices related to breastfeeding and exclusive in-hospital breastfeeding initiation in California hospitals.
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Average In-Hospital Exclusive Breastfeeding Rates by mPINC Total & Subscale Scores, 2007

Average mPINC Total & Subscale Scores by Percent of Hospital Birthing Population on Medi-Cal, 2011

Data Source: Centers for Disease Control and Prevention, Maternity Practices in Infant Nutrition and Care Survey (mPINC) and California Birth Statistical Master File, 2011
Designing to communicate directly with regional partners most able to influence hospitals’ policies and practices and encourage hospitals to:

- Raise awareness and participation in biennial mPINC Survey
- Initiate quality improvement projects within maternity care setting
- Collaborate to address barriers to evidence-based maternity care policies and practices

### Regional Perinatal Programs of California

- Central San Joaquin Valley – Sierra Nevada
- Central-North Los Angeles and Coastal Valley
- Los Angeles/San Gabriel and Inland Orange
- Mid-Coastal
- North Coast and East Bay
- Northeastern
- San Diego and Imperial
- South Coastal Los Angeles – Orange
- Southern Inland
- Kaiser Permanente – Northern California
- Kaiser Permanente – Southern California

### Counties

- Alameda
- Contra Costa
- Los Angeles
- Orange
- Riverside
- Sacramento
- San Bernardino
- San Diego
- San Joaquin
- Santa Clara
- Ventura

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**Using mPINC Data to Support Breastfeeding Quality Improvement Efforts in California Hospitals**
RPPCs Have a Unique Opportunity to Improve the Quality of Maternity Care in CA

RPPC Staff are uniquely qualified to assist hospitals with maternity care quality improvement:

• Routinely provide resources, consultation, and technical assistance to hospitals to assist with quality improvement activities
• Conduct yearly on-site visits
• Built relationship/rapport with local hospitals
• Develop communication networks among agencies, providers, and individuals to exchange information.

WIC Regional Breastfeeding Liaisons (RBL)

• WIC professional staff from a wide variety of public health, medical, and marketing backgrounds
• Foster vital relationships between local hospitals, health care providers, breastfeeding coalitions, employers, community stakeholders and WIC
• Ensure seamless breastfeeding support is available to WIC participants in their community
Regional Breastfeeding Quality Improvement Taskforce – Alameda and Contra Costa Counties

Bring together maternity hospitals in Alameda and Contra Costa to:

- Encourage full participation in mPINC = benchmark reports for Alameda & Contra Costa
- Review most recent hospital data on maternity care practices (mPINC) and breastfeeding outcomes
- Celebrate successes!
- Identify areas in need of improvement
Regional Breastfeeding QI Taskforce
Main Activities

- **Education** – on model breastfeeding policy development, and QI methods for organizational change
- **Action Planning** – assessment of mPINC and other data, identify priority needs, and develop QI plan
- **Resource Sharing** – discuss barriers to evidence-based maternity care practices and share best practices to overcome barriers
- **Collaboration** – establish opportunities to work with local medical providers, WIC and other MCAH programs to improve discharge care planning and postpartum support for breastfeeding mothers

Next Steps/Further Analyses

- Continue to monitor and disseminate mPINC Survey results at the State and local-level
- Assess hospital performance on mPINC and breastfeeding outcomes by key patient demographic profiles:
  - Medi-Cal Births
  - WIC participants
  - Births to Black, Asian/PI, Hispanic, etc.
  - Other high risk populations
- High performing hospitals – identify best practices
- Low performing hospitals – targeted interventions/resources
Acknowledgements

Cria Perrine, PhD
Centers for Disease Control and Prevention (CDC) and entire CDC mPINC Survey Team

State-level mPINC data and additional information on the mPINC Survey is available on the CDC mPINC Survey website: www.cdc.gov/mpinc

Thank You!

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Visit our California Department of Public Health (CDPH) Breastfeeding Statistics Web-site at:
http://www.cdph.ca.gov/breastfeedingdata