Using mPINC as a Tool for Improvement

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Centers for Disease Control and Prevention

USBC Power Tools
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mPINC Survey

- Launched in 2007
  - Administered every 2 years
- Census of all hospitals and birth centers
- Breastfeeding-related maternity care practices and policies
- Key informant
- Response rate >80%
- Benchmark report
  - Total Score
  - 7 domain sub-scores
Average Total mPINC Scores, 2007-2015

<table>
<thead>
<tr>
<th>Year</th>
<th>Total Score</th>
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</thead>
<tbody>
<tr>
<td>2007</td>
<td>63</td>
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<tr>
<td>2009</td>
<td>65</td>
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<td>2011</td>
<td>70</td>
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<td>2013</td>
<td>75</td>
</tr>
<tr>
<td>2015</td>
<td>79</td>
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</tbody>
</table>

Total mPINC Score, by state, 2015

National average: 79
Range: 60-96

1/18/2017
Hospitals in our state have many barriers in implementing evidence-based maternity care—resistant doctors, formula supplementation, skin-to-skin care in the operating room...just to name a few.

How can we improve our overall mPINC score?

Hospital A: Safety-Net Hospital

- Medically underserved population
  - 25-35% uninsured; 40-60% underinsured
  - Average annual income: <$15,000
  - 96% Hispanic and Spanish-speaking
  - 69% nulliparous
  - Additional risk factors

- Safety-net hospital
  - Remote location
    - Challenge to acquire physician and nurse resources
  - 5,000 births (pre-2008) → 3,500 births (2012)
    - “decrease in admissions was an administrator’s nightmare”

- Total mPINC score
  - How??
Hospital A: Solution

- **Maternal-Child Nurse Managers**
  - Sought and acquired knowledge on Baby-Friendly Hospital Initiative (BFHI) and mPINC survey
  - Memberships to lactation organizations obtained
    - Obtained ideas and information
  - Utilized BFHI Guidelines and mPINC survey
    - External benchmarks and defined data collection processes
- **Plan-Do-Study-Act (PDSA) model**

Hospital A: Selected Challenges

- **Staff Training**
  - Trained 443 individuals and verified 5,035 hours of training
  - Established on-going process for training and education
  - Beyond required 20 hours to develop own experts
- **Newborn Hypoglycemia Protocol**
  - Worked with pediatric team
  - All newborns ➔ routine only for at-risk or symptomatic newborns
    - Reduced glucose testing for 46% of newborns
- **Non-breast milk products**
  - *Los dos* ("the two")
  - Nurse education
  - Maternal choice form
  - Chart review for nursing/physician documentation
  - Electronically linking formula distribution to individual staff
Hospital A: Results

- **Vaginal deliveries**
  - 97% had skin-to-skin contact
  - 92% received breast milk as first feed
  - 95% mother-infants transferred together

- **Stable C-sections**
  - 40% were couplets
    - 90% had skin-to-skin contact
    - 83% received breast milk as first feed
    - 91% mother-infants transferred together

- **Exclusive Breastfeeding rates**
  - 16% (2012) → 42% (2015)

- **Total mPINC score**

Hospital A: Keys to success

- “A change process that was driven by nurse leaders with the authority, motivation, and resources to move practice forward”

- **Having 3 nurses pass the IBCLC exam**
  - Strong message of success to the entire nursing staff

- **Data collection plan critical for early and ongoing success**
  - Multi-team process
    - Each unit leader played a role in data collection
  - Customized form to capture BFHI and mPINC data elements
    - Initiated in L&D, used for patient hand-off
    - Data abstracted daily, analyzed monthly
“……the mPINC survey provided external benchmarks used to guide the transformation of our maternity care and to define our data collection processes.”


Average Labor & Delivery Care Sub-Scores, 2007-2015

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<td>2011</td>
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<td>2013</td>
<td>80</td>
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<tr>
<td>2015</td>
<td>85</td>
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Labor & Delivery Care mPINC Sub-score, by state, 2015

National average: 85  
Range: 65-98
The Iowa Experience: Increasing Access to Breastfeeding Friendly Hospitals

  - Skin-to-skin (Cesarean births): 16% → 73%
  - Procedures performed skin-in-skin: 9% → 41%

- **Iowa Department of Public Health**
  - Targeted rural hospitals with large proportion of Medicaid births
  - Met with key stakeholders
  - Reviewed policies and mPINC results
  - Hosted training (*6 Steps 4 Success*)
  - Additional efforts in 4-5 hospitals annually
    - Rural location with large proportion of Medicaid births
    - mPINC score less than state average
      - Assistance in reviewing mPINC results
      - Determine opportunities for improvement
      - Develop improvement plan for > 2 dimensions of care

http://healthyamericans.org/health-issues/prevention_story/increasing-access-to-breastfeeding-friendly-hospitals-the-iowa-experience/

### Average Feeding of Breastfed Infants Sub-Scores, 2007-2015

<table>
<thead>
<tr>
<th>Year</th>
<th>Total Score</th>
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</thead>
<tbody>
<tr>
<td>2007</td>
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<tr>
<td>2009</td>
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<tr>
<td>2011</td>
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<tr>
<td>2013</td>
<td>84</td>
</tr>
<tr>
<td>2015</td>
<td>86</td>
</tr>
</tbody>
</table>
Feeding of Breastfed Infants
mPINC Sub-score, by state, 2015

National average: 87
Range: 68-97

California County- and Region-specific Benchmark Reports

Breastfeeding Statistics for Participating Hospitals
- Average Any Breastfeeding: 96%
- Average Exclusive Breastfeeding: 76%

https://www.cdph.ca.gov/data/statistics/Pages/CaliforniaMPINCSurveyData.aspx
Average Breastfeeding Assistance Sub-Scores, 2007-2015

<table>
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Using mPINC as a Tool for Improvement

Massachusetts

  - Using standard assessment tool: 68% → 93%
  - Rarely providing pacifiers: 35% → 74%
- Massachusetts Baby-Friendly Collaborative
  - 4 facilities applying for Baby-Friendly designation
  - Goal: to assist hospitals in achieving the Ten Steps by sharing information, ideas, support, and encouragement
  - Summarized recommendations and specific actions taken
    - Use existing tools to make small steps that really count
    - Keep pacifiers in a locked medication system

“The mPINC survey offers an important opportunity for gathering internal stakeholders to complete the survey together and discuss what practices could be improved as well as brainstorm ways to change those practices in terms of attaining specific score gains for changed practices. It can serve as the missing catalyst to unite staff to improve performance on a specific goal tied to 1 or 2 questions on the mPINC survey.”


Average Mother-Infant Contact Sub-Scores, 2007-2015

<table>
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<th>Year</th>
<th>Total Score</th>
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<tbody>
<tr>
<td>2007</td>
<td>67</td>
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<tr>
<td>2009</td>
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<tr>
<td>2011</td>
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<td>2013</td>
<td>79</td>
</tr>
<tr>
<td>2015</td>
<td>83</td>
</tr>
</tbody>
</table>
Mother-Infant Contact
mPINC Sub-score, by state, 2015

National average: 83
Range: 62-96
1/18/2017

Working for Equity in Breastfeeding in the Maternity Services of Puerto Rican Hospitals
Yvette Piovanetti, Cindy Calderon, Gisela Castaner
2015 AAP conference abstract (Washington, DC)

- Puerto Rico (PR) Mother-Baby Summits
  - Breastfeeding Coalition of the PR Health Department
  - 67% of hospitals represented
  - Goals:
    - Encourage mPINC participation
    - Encourage improved maternity care practices

<table>
<thead>
<tr>
<th></th>
<th>Initial Assessment</th>
<th>12-month Follow-up</th>
</tr>
</thead>
<tbody>
<tr>
<td>mPINC Participation</td>
<td>8 hospitals (&lt;30%)</td>
<td>12 hospitals (42%)</td>
</tr>
<tr>
<td>Breastfeeding policy</td>
<td>85%</td>
<td>94%</td>
</tr>
<tr>
<td>Rooming-in offered</td>
<td>75%</td>
<td>95%</td>
</tr>
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https://aap.confex.com/aap/2015/webprogrampreis/Paper29421.html
### Average Discharge Care Sub-Scores, 2007-2015

<table>
<thead>
<tr>
<th>Year</th>
<th>Total Score</th>
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<tbody>
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</tr>
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Discharge Care mPINC Sub-score, by state, 2015

National average: 69
Range: 36-98

[Map showing discharge care sub-score by state, with Puerto Rico and Island Territories (American Samoa, Guam, Saipan, and the U.S. Virgin Islands) highlighted.]
Percentage of Hospitals Distributing Infant Formula Discharge Packs, mPINC 2007-2015

<table>
<thead>
<tr>
<th>% of hospitals distributing packs</th>
<th>% point change (2007-2015)</th>
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<tbody>
<tr>
<td>Total</td>
<td>72.6</td>
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Average Staff Training Sub-Scores, 2007-2015

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Staff Training Sub-score, by state, 2015

- National average: 64
- Range: 35-91

Tennessee Breastfeeding Tool Kit

Average Structural & Organizational Aspects of Care Delivery Sub-Scores, 2007-2015

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<td>2015</td>
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Structure & Organizational Aspects of Care Delivery Sub-score, by state, 2015

National average: 77
Range: 60-97
1/18/2017
Texas Ten Step: How Texas Hospitals Can Reduce Obesity Through Breastfeeding Policy

- **Structure Sub-Score**: 59 (2007) → 71 (2015)
  - Model policy: 7% → 32%

2015 mPINC data availability

- **Hospital-specific Benchmark Reports**
  - Hard copies mailed to:
    - Hospital Administrator/CEO
    - Director of Obstetrics
    - Director of Pediatrics
    - Director of Quality Improvement
    - Mother-Baby Nurse Manager
    - Survey recipient
  - Questions: mpinc@cdc.gov

- **State-specific Reports**
  - Emailed to state-level organizations and others
  - Available: [https://www.cdc.gov/breastfeeding/data/mpinc/state_reports.html](https://www.cdc.gov/breastfeeding/data/mpinc/state_reports.html)

- **National Web Tables**
  - Available: [https://www.cdc.gov/breastfeeding/data/mpinc/results-tables.htm](https://www.cdc.gov/breastfeeding/data/mpinc/results-tables.htm)
Conclusion

- **Hospital practices are improving**
  - Total and subscores increasing
- **Continued areas for improvement**
  - Staff Training
  - Structural and Organizational Aspects of Care
- **Future directions**
  - Completely revised questionnaire
    - Web only
  - Target 2018 launch

For more information please contact: jmnelson@cdc.gov
1600 Clifton Road NE, Atlanta, GA 30333
Visit: www.cdc.gov | Contact CDC at: 1-800-CDC-INFO or www.cdc.gov/info

The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.

National Center for Chronic Disease Prevention and Health Promotion
Division of Nutrition, Physical Activity, and Obesity

Photo credit: http://pediatric-house-calls.djmed.net/breastfeeding-human-milk/