Quality improvement methods facilitate strategies to improve perinatal care practices

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Background: Changes in Peripartum Care 1990-Present

- Decreased duration of postpartum hospitalization for mother and baby
- Increased prevalence of breastfeeding, often without adequate support
- Routine care of late pre-term infants (<39 weeks) in regular newborn nursery
- Communication and coordination challenges between hospital and infant’s primary care medical home
Management of Hyperbilirubinemia in the Newborn Infant 35 or More Weeks of Gestation

2004 AAP Guideline
Safe and Healthy Beginnings Project

Aim: to test tools and strategies for assuring:

- Assessment of risk for severe hyperbilirubinemia
- Breastfeeding support
- Coordination of care between newborn nursery and primary care practice, the infant’s medical home
Design:
Adapted learning collaborative

Participants

AAP Guideline

SHB Expert Faculty

Pre-work

Change Package & Draft Toolkit

QI Basics

LS 1

LS 2

Dissemination Toolkit

Supports

E-mail

Measures

Phone

Coaching

Based upon IHI Breakthrough Series
Participants

- Recruitment NBN and PC teams:
  - MD members of QuIIN network or participated in previous AAP QI activities
  - Team expectations:
    - Attend 2 learning sessions (travel funds provided)
    - Collect monthly chart review data
    - Fill out systems inventory and brief monthly report
    - Participate in monthly calls
    - Share challenges and learnings with colleagues

- Selection criteria
  - Diversity: geographic, practice setting, patient population
  - Some involvement of dyads (NBN-PCP pair)
Data collection and analysis

- Data collection (by teams)
  - Systems inventory at baseline and end (7m)
    - On-line survey: 25 Q (NBN), 12 Q PCP
  - Chart review
    - Collected at baseline and monthly x 7 mos
    - Sample of at least 10 charts each month
    - One page form: 18 Q (NBN), 15 Q PCP
  - Monthly report of changes tested

- Analysis: Wilcoxon rank; chi-square
Results
Teams

- 30 applications: 22 accepted
  - 10 NBN, 12 primary care practices
  - Diverse

- Robust collaborative participation
  - All teams attended both workshops
  - Measurement:
    - 21/22 teams baseline and 22/22 follow-up inventory
    - All teams collected baseline and follow-up chart reviews
    - 9/22 teams submitted all 7 monthly chart reviews
  - Conference calls:
    - 10/10 NBN, 11/12 PCP attended at least 1 call
    - 3/10, 3/12 attended all three topic calls
    - 18/22 BF; 14/22 bili; 10/22 CC
  - IHI scale (1-5): 21 teams @ 3 (moderate improvement) or above; 7 @ 4 (significant improvement)
% infants with risk for severe hyperbilirubinemia documented in chart

- 07/07: n=186
- 08/07: n=125
- 09/07: n=176
- 10/07: n=133
- 11/07: n=214
- 12/07: n=178
- 01/08: n=174
Change in NBN Systems inventory score

- Ass bili risk: P=.008
- Brfdng support: p=.004
- Care coord: NS
- Overall: P=.006
## NBN metrics: improvement

<table>
<thead>
<tr>
<th>Service</th>
<th>0m (%)</th>
<th>7m (%)</th>
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</thead>
<tbody>
<tr>
<td>BF counseling (8-12x/d)</td>
<td>50</td>
<td>85</td>
</tr>
<tr>
<td>BF 2 formal evaluations</td>
<td>48</td>
<td>71</td>
</tr>
<tr>
<td>BF provide contact info for support</td>
<td>56</td>
<td>88</td>
</tr>
<tr>
<td>BF info re: community resources</td>
<td>34</td>
<td>68</td>
</tr>
<tr>
<td>Bili risk assessment documented</td>
<td>63</td>
<td>88</td>
</tr>
<tr>
<td>Bili oral &amp; written info provided</td>
<td>38</td>
<td>76</td>
</tr>
<tr>
<td>Plan for f-u w/in 2 days if d/c &lt;72 h</td>
<td>54</td>
<td>69</td>
</tr>
</tbody>
</table>
% infants with documentation that mother was provided with contact information of person qualified to answer breastfeeding questions
Change in PCP Systems inventory score

NS p=.04 NS NS
## PCP: Improvement in metrics (%)

<table>
<thead>
<tr>
<th></th>
<th>0m</th>
<th>7m</th>
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<tbody>
<tr>
<td>Assessment of BF adequacy**</td>
<td>68</td>
<td>82</td>
</tr>
<tr>
<td>Contact info re: qualified support</td>
<td>13</td>
<td>60</td>
</tr>
<tr>
<td>Info re: community resources</td>
<td>10</td>
<td>45</td>
</tr>
<tr>
<td>Hospital bili risk assessment available</td>
<td>69</td>
<td>83</td>
</tr>
</tbody>
</table>
SHB summary

- NBN: significant improvements in breastfeeding, bilirubin processes
- PCP: doing well in bilirubin assessment at baseline; significant improvements in breastfeeding processes
- Care coordination-continued learning and attention
American Academy of Pediatrics learnings

- Toolkit-available fall 2008
  - NBN assessment bilirubin risk, PCP breastfeeding assessment
- AAP QuIIN: successful ‘test of concept’ and initiation of first project
- Impact on guidelines: importance of feedback on implementation challenges and successes
Safe and Healthy Beginnings

Once you bring life into this world, you must protect it. We must protect it by changing the world.

-Elie Weisel