ILPQC MNO-Neo Teams Call: Rooming-In

December 17, 2018
Call Overview

• ILPQC Updates
• MNO-Data Review
• Rooming-In Overview
• Alison Holmes, MD, MPH- Improved family-centered care at lower cost: Rooming-in to treat neonatal abstinence syndrome
• QI CORNER: Tools to standardize rooming-in
• Next Steps for teams
MNO Neonatal Key Drivers

**Aims**
- Decrease pharmacologic treatment in opioid exposed neonates
- Increase breastfeeding rates in opioid exposed neonates at discharge
- Increase safe and optimized discharge plans in opioid exposed neonates

**Primary Drivers**
- Identification and Assessment of OENs
- Treatment
- Safe Discharge

**Secondary Drivers**
- Strengthen Family/Care Team Relationships
- Improve pre-delivery planning
- Standardize identification, assessment, and monitoring of OENs
- Provide Family Education
- Improve infant nutrition and breastfeeding
- Optimize non-pharmacologic care
- Standardize pharmacologic treatment
- Coordinate safe discharge

**Change Ideas**
- Non-judgmental support
- Prenatal pediatric consultation
- Toxicology testing
- Assessment tools
- Feeding guidelines
- Non-pharmacologic care guidelines
- Pharmacologic treatment guidelines
- Safe discharge guidelines
- Social work consultation
- DCFS
MNO-Neo in 2019

Key Strategies
• Prenatal Consult
• Stigma/Bias
• Toxicology Testing
• Assessment of OENs

Covered in 2018

Strategies to review in 2019
• Non-Pharm Care
• Pharm treatment
• Safe Discharge Planning

Work towards goals in 2019
• Optimize non-pharm care
• Reduce pharm treatment
• Increase safe discharge plans

How do we begin to make progress?
### Key QI Strategies

1. Implement standardized identification of OEN with OB
2. Standardize assessment of NAS signs and symptoms for OENs
3. Implement non-pharmacologic bundle
4. Establish feeding guidelines for OENs including breastfeeding eligibility
5. Standardized pharmacologic treatment protocol
6. Standardize provider training - stigma & bias, OEN protocol
   - Standardize patient education
7. Implement standardized safe discharge planning

### OEN Protocol

1. Complete and document prenatal consult
2. Perform standardized assessment of NAS signs and symptoms for OENs
   - Obtain toxicology test
3. Initiate non-pharmacologic treatment
   - Document non-pharmacologic care checklist in neonatal medical record
4. Determine maternal eligibility to breastfeeding
   - Encourage and support maternal breastfeeding and determine and provide appropriate nutritional support
5. After optimization of non-pharmacologic care, initiate pharmacologic treatment if needed
6. Implement unit-wide provider education
   - Provide patient education re: OUD and NAS, engaging moms in newborn care with handouts
7. Complete and document safe discharge plan
Activating the OEN protocol for every OEN

1. Complete and document prenatal consult
2. Obtain toxicology testing, perform standardized assessment of NAS signs & symptoms for OENs
3. Initiate Non-pharmacologic treatment, document non-pharm care checklist in medical record
4. Determine maternal eligibility to breastfeed, encourage breastfeeding and determine/provide appropriate nutrition support
5. Implement unit-wide provider education
6. Provide patient education re: OUD, NAS, and engaging mothers in newborn care
7. After optimization of non-pharmacologic care, initiate pharmacologic treatment protocol as needed
8. Complete and document safe discharge plan
Your MNO-Neo team has access to REDCap reports to drive QI at your hospital!

MNO-Neo Structure Measure Dashboard

In your monthly QI Team meetings, use the QI reports to check in on:

- Your team’s progress towards the 4 MNO-Neo structure measures
- Your team’s progress towards process and outcome measures
  - How your team compares to hospitals across the state
Example:
Your hospital team has decided to work on rooming in for 2019. After reviewing previous month’s data, the team has the following goal for December 2018:
• Share data with administration along with evidence on the case for rooming in.

Example:
Your hospital team decided to work on rooming in for 2019. After reviewing previous month’s data, the team has the following goal for December 2018:
• Plan PDSA cycle to test implementation of rooming in protocol with one patient.
## MNO Patient-Level Data Entry Status

<table>
<thead>
<tr>
<th>Monthly Process/Outcome</th>
<th>Total Records</th>
<th># Teams with Patient Level Data Reported</th>
<th># Teams with No Newborns to Report</th>
<th># Teams Reporting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baseline</td>
<td>333</td>
<td>62</td>
<td>12</td>
<td>74</td>
</tr>
<tr>
<td>July 2018</td>
<td>69</td>
<td>35</td>
<td>35</td>
<td>70</td>
</tr>
<tr>
<td>August 2018</td>
<td>117</td>
<td>43</td>
<td>33</td>
<td>76</td>
</tr>
<tr>
<td>September 2018</td>
<td>96</td>
<td>40</td>
<td>39</td>
<td>79</td>
</tr>
<tr>
<td>October 2018</td>
<td>91</td>
<td>32</td>
<td>28</td>
<td>60</td>
</tr>
<tr>
<td>November 2018</td>
<td>49</td>
<td>23</td>
<td>23</td>
<td>46</td>
</tr>
</tbody>
</table>
### MNO Neo Structure Measures Data Entry Status

<table>
<thead>
<tr>
<th>Monthly Structure Measures</th>
<th># Teams with Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baseline</td>
<td>58</td>
</tr>
<tr>
<td>July 2018</td>
<td>49</td>
</tr>
<tr>
<td>August 2018</td>
<td>49</td>
</tr>
<tr>
<td>September 2018</td>
<td>51</td>
</tr>
<tr>
<td>October 2018</td>
<td>40</td>
</tr>
<tr>
<td>November</td>
<td>26</td>
</tr>
</tbody>
</table>

Structure measures are important tools to review with your team monthly to monitor your progress towards sustainable improvement.

EVERYONE whether you see 1 to 100 infants / year your team can structure processes for success!
MNO-Neo Structure Measures: Standardized Prenatal Consult

Percent of hospitals that have implemented standardized protocols/guidelines for Prenatal Consult
All Hospitals, 2018
MNO-Neo Structure Measures: Standardized Pharm Treatment

Percent of hospitals that have Implemented Standardized Pharmacologic Guidelines for OENs
All Hospitals, 2018

- **Baseline (October - December 2017)**: 50% In Place, 17% Working On It, 33% Have Not Started
- **Jul-18**: 31% In Place, 27% Working On It, 42% Have Not Started
- **Aug-18**: 27% In Place, 29% Working On It, 43% Have Not Started
- **Sep-18**: 23% In Place, 33% Working On It, 44% Have Not Started
- **Oct-18**: 24% In Place, 37% Working On It, 39% Have Not Started
- **Nov-18**: 15% In Place, 39% Working On It, 46% Have Not Started
MNO-Neo Structure Measures: Standardized Non-Pharm Care

Percent of hospitals that have implemented standardized protocols/guidelines for Non-Pharmacologic Care
All Hospitals, 2018

3%  8%  14%  17%  20%  35%
32%  50%  47%  58%  51%  54%
65%  42%  39%  25%  29%  12%

0%  10%  20%  30%  40%  50%  60%  70%  80%  90%  100%
In Place  Working On It  Have Not Started
Percent of hospitals that have implemented standardized protocols/guidelines for Safe Discharge Planning
All Hospitals, 2018

--- | --- | --- | --- | --- | ---
In Place | 7% | 17% | 20% | 23% | 15%
Working On It | 33% | 43% | 45% | 48% | 56%
Have Not Started | 60% | 40% | 35% | 29% | 15%
MNO-Neo Process Measures: OENs Receiving Toxicology Testing

ILPQC MNO OB/Neo Initiative
Percent of OENs (≥35 weeks) receiving a toxicology test (urine, cord, meconium) for NAS
All Hospitals, 2018

<table>
<thead>
<tr>
<th>Month</th>
<th>% of OENs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baseline (2017)</td>
<td>90%</td>
</tr>
<tr>
<td>Jul-18</td>
<td>93%</td>
</tr>
<tr>
<td>Aug-18</td>
<td>88%</td>
</tr>
<tr>
<td>Sep-18</td>
<td>94%</td>
</tr>
<tr>
<td>Oct-18</td>
<td>96%</td>
</tr>
<tr>
<td>Nov-18</td>
<td>96%</td>
</tr>
</tbody>
</table>

Percentages are shown for each month from July to November 2018.
MNO-Neo Process Measures:
Rooming In During Infant Hospitalization

ILPQC MNO-OB/Neo Initiative:
Percent of mothers with OUD/OENs (>35 weeks) who roomed together during infant hospitalization,
All Hospitals, 2018

- Level 1: 100%
- Levels 2/2E: 100%
- Level 3: 100%

Graph shows the percentage of mothers with OUD/OENs (>35 weeks) who roomed together during infant hospitalization from July to November 2018. The graph includes data for different levels of care (Level 1, Levels 2/2E, Level 3).
MNO-Neo Outcome Measures: Eligible OENs Receiving Maternal Breast Milk at Infant Discharge

ILPQC MNO OB/Neo Initiative
Percent of Eligible OENs (≥35 weeks) Receiving Maternal Breastmilk at Maternal Discharge
All Hospitals, 2018

<table>
<thead>
<tr>
<th>Month</th>
<th>% of OENs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jul-18</td>
<td>56%</td>
</tr>
<tr>
<td>Aug-18</td>
<td>74%</td>
</tr>
<tr>
<td>Sep-18</td>
<td>76%</td>
</tr>
<tr>
<td>Oct-18</td>
<td>68%</td>
</tr>
<tr>
<td>Nov-18</td>
<td>64%</td>
</tr>
</tbody>
</table>

Baseline (2017)
MNO-Neo Outcome Measures: OENs Requiring Pharmacologic Treatment for NAS

ILPQC MNO OB/Neo Initiative
Percent of OENs (≥35 weeks) receiving pharmacologic treatment for NAS
All Hospitals, 2018

51%  33%  29%  32%  33%  40%  45%

% of all OENs  % of OENs with NAS Symptoms  Goal
Mean Days of Pharmacologic Treatment for OENs (≥35 weeks) with NAS symptoms

ILPQC MNO OB/Neo Initiative
Average number of days of pharmacologic treatment for OENs (≥35 weeks) with NAS Symptoms during Infant Hospitalization
All Hospitals, 2018

- All Hospital Average
- All Hospital Min
- All Hospital Max
MNO-Neo Outcome Measures: OENs Discharged with a Safe Discharge Plan

ILPQC MNO OB/Neo Initiative
Percent of OENs (≥35 weeks) Discharged with a Safe Discharge Plan
Made in Partnership with Family, Hospital, and Community PCP
All Hospitals, 2018

38%  33%  49%  54%  58%  37%

% of OENs
MNO-Neo Outcome Measures: Average Length of Stay for OENs

ILPQC MNO OB/Neo Initiative
Average Length of Stay (LOS) for All OENs and OENs with NAS Symptoms (≥35 weeks)
All Hospitals, 2018
MNO QI Support & QI Topic Calls for Your Teams

• **QI Support Call-**
  - **What is it?** Individualized calls with hospital teams where ILPQC staff checks in on an MNO-Neo teams progress towards standardizing key elements of the initiative and discuss strategies for implementation and overcoming barriers
  - **Learning objectives:** Teams work with ILPQC to develop a 30-60-90 day plan to address topic

• **QI Topic Call-**
  - **What is it?** Calls set up to dive deeper into a specific topic of the MNO-Neo initiative. ILPQC works with a hospital “QI Champion” to share their story of standardizing processes for the MNO-Neo initiative, and create an opportunity for teams to sharing their successes and struggles in a round-robin setting.
  - **Learning objectives:** hospitals sharing strategies with other hospitals on key implementation activities, learn from a QI hospital champion.
Non-Pharmacologic Bundle: Rooming-In
Resources in the MNO-Neo Toolkit

• Sample Rooming-In Policy (Baystate Children’s Hospital)
• ILPQC Infant Bedside Sheet- Provider/Nursing tool to track ESC Assessment, Newborn Care Plan, and Non-Pharmacologic Care Checklist
• Non-pharmacologic care prioritization matrix worksheet
• Rooming-In to Treat Neonatal Abstinence Syndrome: Improved Family-Centered Care at Lower Cost
NEW RESOURCE!

- ILPQC Newborn Care Diary- Tool for mother/caregiver to empower them to track ESC Assessment and non-pharmacologic care of their newborn

<table>
<thead>
<tr>
<th>Time of feed (start to finish)</th>
<th>Breastfeeding (total # minutes)</th>
<th>Bottlefeeding (total # mL)</th>
<th>Time baby fell asleep</th>
<th>Time baby woke up</th>
<th>Did baby feed well? (If no, describe)</th>
<th>Did baby sleep for an hour or more? (If no, describe)</th>
<th>Did baby console in 10 min? (if no, describe)</th>
<th>Check box for diaper wet</th>
<th>Check box for diaper dirty (please describe)</th>
<th>Care provided and extra comments</th>
<th>Update given to care team</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:10-8:25</td>
<td>L-10 R-15</td>
<td></td>
<td>8:35</td>
<td>11:50</td>
<td>Yes, but I had a hard time getting him to latch since he was crying. Took 10 min to get him on</td>
<td>Yes</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Skin to skin provided right when he woke up.</td>
</tr>
</tbody>
</table>
Improved family-centered care at lower cost: Rooming-in to treat neonatal abstinence syndrome

Alison V. Holmes, MD, MPH
Associate Professor of Pediatrics
December 17, 2018
<table>
<thead>
<tr>
<th>OUTCOMES</th>
<th>BCWH ROOMING IN N = 32</th>
<th>BCWH HISTORICAL (NOT ROOMING IN) N = 38</th>
<th>UNADJUSTED RELATIVE RISK (95% CONFIDENCE INTERVAL)</th>
<th>SURREY HOSPITAL (NOT ROOMING IN) N = 36</th>
<th>UNADJUSTED RELATIVE RISK (95% CONFIDENCE INTERVAL)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Treated with morphine</td>
<td>8 (25.0)</td>
<td>21 (55.3)</td>
<td>0.45 (0.23–0.87)</td>
<td>19 (52.8)</td>
<td>0.47 (0.24–0.93)</td>
</tr>
<tr>
<td>Symptoms</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Soother use</td>
<td>10 (31.3)</td>
<td>9 (23.7)</td>
<td>1.32 (0.61–2.84)</td>
<td>5 (13.9)</td>
<td>2.25 (0.86–5.90)</td>
</tr>
<tr>
<td>• Jitteriness</td>
<td>26 (81.3)</td>
<td>28 (73.7)</td>
<td>1.10 (0.86–1.42)</td>
<td>25 (69.4)</td>
<td>1.17 (0.89–1.54)</td>
</tr>
<tr>
<td>• Poor sucking</td>
<td>10 (31.3)</td>
<td>22 (57.9)</td>
<td>0.54 (0.30–0.97)</td>
<td>9 (25.0)</td>
<td>1.25 (0.58–2.68)</td>
</tr>
<tr>
<td>• Diarrhea</td>
<td>3 (9.4)</td>
<td>5 (13.2)</td>
<td>0.71 (0.18–2.75)</td>
<td>9 (25.0)</td>
<td>0.38 (0.11–1.27)</td>
</tr>
<tr>
<td>• Vomiting</td>
<td>0</td>
<td>8 (21.1)</td>
<td></td>
<td>6 (16.7)</td>
<td></td>
</tr>
<tr>
<td>• Inconsolable crying</td>
<td>4 (12.5)</td>
<td>16 (42.1)</td>
<td>0.30 (0.11–0.80)</td>
<td>2 (5.6)</td>
<td>2.25 (0.44–11.48)</td>
</tr>
<tr>
<td>Weight loss ≥10% during first week</td>
<td>5 (16.6)</td>
<td>2 (5.2)</td>
<td>2.96 (0.62–14.28)</td>
<td>2 (5.3)</td>
<td>2.81 (0.59–13.5)</td>
</tr>
<tr>
<td>Admitted to NICU</td>
<td>12 (37.5)</td>
<td>34 (89.5)</td>
<td>0.42 (0.26–0.66)</td>
<td>30 (83.3)</td>
<td>0.45 (0.28–0.72)</td>
</tr>
<tr>
<td>Discharged in custody of mother</td>
<td>23 (71.9)</td>
<td>12 (31.6)</td>
<td>2.28 (1.36–3.81)</td>
<td>17 (42.5)</td>
<td>1.52 (1.01–2.29)</td>
</tr>
<tr>
<td>MEAN (SD)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No. of days of morphine treatment</td>
<td>5.9 (14.2)</td>
<td>18.6 (23.4)</td>
<td>.007*</td>
<td>18.6 (20.1)</td>
<td>.003*</td>
</tr>
<tr>
<td>No. of days in hospital</td>
<td>11.8 (9.1)</td>
<td>23.5 (24.6)</td>
<td>.014</td>
<td>25.9 (19.7)</td>
<td>&lt;.001</td>
</tr>
</tbody>
</table>

Why a NICU issue?

• The babies are not critically ill
• They are not medically complex
• In most NICU settings, rooming-in is difficult
• The NICU is a stimulating environment
• They don’t need full CR monitoring
• There can be barriers to skin-to-skin & breastfeeding
• Most babies in VT/NH are born outside of facilities with level 3 NICUs
• NICU beds cost a lot, Medicaid does not pay us much
• What do the parents think of being in the NICU, and transferring units?
Global Aim

To improve family-centered care of infants (and families) at risk for and experiencing NAS
Specific Aims

• Implement standardized care processes for NAS across units, including consistent scoring
• Decrease staff judgment re: substance exposure
• Reduce transfers between units
• Decrease proportion of newborns treated with medications
• Decrease length of stay for treated babies
• Decrease cost of NAS hospitalization, for both at-risk and NAS-affected newborns
Plan-Do-Study-Act cycles

1. RN scoring training/ reliability
2. Family interviews
3. Baby-centered scoring
4. Prenatal education
5. Parent symptom diary
6. Standardize score interpretation
7. Rooming-in pilot
8. “Cuddlers”
9. Full rooming-in
10. Transfers

April 2013
October 2014
Parent Voices

Desire for education/preparation

“I wish I had known a lot more about NAS before I gave birth…I didn’t think the consequences… would affect the baby so much.”

Partners in care team

“I know my baby more than anybody else does. So they have to rely on that to help them out you know with scoring and knowing what she’s going through.”

Interactions with staff

“I’m a recovering heroin addict. I think overcoming something like that and then feeling like you are judged because of it, you end up building some resentment towards people.”
Parent Insight into Scoring Process

Previously:
- Scoring at set 2 or 4 hr intervals
- Newborns woken up for scoring
- Scored before feeding
- Scored in bassinet

Now:
- Scoring on newborn’s natural sleep-wake cycle
- Scoring after feeding
- Scoring while skin-to-skin, if possible
- Parental input

Results: Pharmacologic Treatment

Percentage of Patients Receiving Morphine

Baseline: 46%
Intervention Year 1: 51%
Intervention Year 2: 27%


Now about 15%
Results: Hospital costs

Exposed population: $11,000 to $5,300

Yale-New Haven Haven: LOS

Yale-New Haven: breastfeeding

Percent With ≥ 50% Of Feeds As Breast Milk At Discharge

- Standardized nonpharmacologic care
- Direct transfer to inpatient unit
- Novel assessment tool on inpatient unit
- Spread to NICU team
- Prenatal counseling
- Aggressive morphine wean
- Empowering messaging
- Morphine as needed

Mean = 20%
Mean = 28%
Mean = 42%

FIGURE 2  Correlation of parental presence and NAS outcomes. A, Correlation of parental presence with LOS (days) \( (r = -0.31; 95\% \text{ CI}, -0.48 \text{ to } -0.10; P < .01) \). B, Correlation of parental presence with NAS score \( (r = -0.035; 95\% \text{ CI}, -0.52 \text{ to } -0.15; P < .01) \). C, Correlation of parental presence with total morphine equivalents (mg) \( (r = -0.20; 95\% \text{ CI}, -0.39 \text{ to } 0.02; P = .06) \). D, Correlation of parental presence with days of opioid therapy \( (r = -0.34; 95\% \text{ CI}, -0.52 \text{ to } -0.15; P < .001) \).

Meta-analysis: NAS, rooming-in, LOS

Meta-analysis: pharmacotherapy

A

<table>
<thead>
<tr>
<th>Study or Subgroup</th>
<th>Rooming-in</th>
<th>Control</th>
<th>Risk Ratio IV, Random, 95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>events</td>
<td>total</td>
<td>events</td>
<td>total</td>
</tr>
<tr>
<td>Abrahams 2007</td>
<td>8</td>
<td>32</td>
<td>21</td>
</tr>
<tr>
<td>Grossman 2017*</td>
<td>6</td>
<td>44</td>
<td>54</td>
</tr>
<tr>
<td>Holmes 2016</td>
<td>13</td>
<td>48</td>
<td>25</td>
</tr>
<tr>
<td>Hunseler 2013</td>
<td>19</td>
<td>24</td>
<td>47</td>
</tr>
<tr>
<td>McKnight 2016</td>
<td>3</td>
<td>20</td>
<td>20</td>
</tr>
<tr>
<td>Newman 2015</td>
<td>3</td>
<td>21</td>
<td>20</td>
</tr>
<tr>
<td>Saiki 2010</td>
<td>2</td>
<td>18</td>
<td>19</td>
</tr>
<tr>
<td>Total (95% CI)</td>
<td>207</td>
<td>290</td>
<td>100.0%</td>
</tr>
<tr>
<td>Total events</td>
<td>54</td>
<td>206</td>
<td></td>
</tr>
</tbody>
</table>

Heterogeneity: Tau² = 0.55; Chi² = 38.96, df = 6 (P < 0.00001); I² = 85%
Test for overall effect: Z = 3.40 (P = 0.0007)

B

<table>
<thead>
<tr>
<th>Study or Subgroup</th>
<th>Rooming-in</th>
<th>Comparison</th>
<th>Risk Ratio IV, Random, 95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>events</td>
<td>total</td>
<td>total</td>
<td>weight</td>
</tr>
<tr>
<td>Abrahms 2007</td>
<td>8</td>
<td>32</td>
<td>21</td>
</tr>
<tr>
<td>McKnight 2016</td>
<td>3</td>
<td>20</td>
<td>20</td>
</tr>
<tr>
<td>Newman 2015</td>
<td>3</td>
<td>21</td>
<td>20</td>
</tr>
<tr>
<td>Saiki 2010</td>
<td>2</td>
<td>18</td>
<td>19</td>
</tr>
<tr>
<td>Total (95% CI)</td>
<td>91</td>
<td>128</td>
<td>100.0%</td>
</tr>
<tr>
<td>Total events</td>
<td>16</td>
<td>80</td>
<td></td>
</tr>
</tbody>
</table>

Heterogeneity: Tau² = 0.04; Chi² = 3.50, df = 3 (P = 0.32); I² = 14%
Test for overall effect: Z = 4.81 (P < 0.00001)

My weekly meetings with them [Moms in Recovery Program] really prepared us for what they were going to do for testing the baby to see if they were healthy.”

I had a baby born 5 years ago and they were more rigid on their scoring at that time, following the protocol more. I was less fearful this time”

They’ve told us multiple times [mom’s] the best medication for him, skin to skin or milk and just being here in the room.”

Since I’m with my baby all the time, I’ve been able to tell if something is caused by withdrawal or normal behavior
Implications

• Centers with LOS of a month or more could significantly shorten hospital course

• If model adopted widely, potential cost savings and positive impact on families are tremendous

$2.5 billion—charges
$900 million--costs
Acknowledgements

Johanna Beliveau, RN, MBA
Gautham Suresh, MD, MPH
Neetu Singh, MD, MPH
William Edwards, MD
Shawn Ralston, MD
Christine Arsnow, MD
Benjamin Nordstrom, MD, PhD
Sarah Akerman, MD
Jason Lemire
Emily C. Atwood, MD
Bonny Whalen, MD
Victoria Flanagan, RN, MS
Allison Winchester, NNP
Kimberly Knoerlein, NNP
Faith Kim, MD
Michael Piccioli, MD
Kevin McNerney, MD
Emma Wright, MD
Nora Barmawi, MD
Christine Dehnert, MD
Rob Rosenbaum
Teri LaRock, MSW
Erin Swasey, MSW
Catherine U. Millikin, MSW
Erica Hsu DC '14
Buffy Meliment, BSN, CNML
Colleen Whatley, MSN
J. Dean Jarvis, RN, MBA
Bridget Mudge, RN, MSN
John Matulis, DO, MPH
Wade Harrison, MD, MPH
Caryn McCoy MSN,RNC-NIC
Meaghan Smith RNC-OB
Lisa Mitchell, RN-BC
Emily Brayton, RN
Allysen Hicks, RN
Mary Lou Judas, RN
Laura Walker, RN
Andrea Aldrich-Walton, RN, MSN
Grace Sollender DC '15, Geisel '19
Didi Sheets, RNC, MSN
Daisy Goodman, CNM, DNP, MPH
John Matulis, DO, MPH
Joanna Celenza
QUESTIONS?
Non-pharm bundle; Prioritization Matrix

- **Quality Collaborative Hospital**
  - OB and Neo participation
  - Level 3
  - 40 bed NICU unit
  - 250 births/month

- **Accomplishments**
  - Prenatal Consult
  - Standardized Assessment/Scoring tool
  - Stigma & Bias

- **Focus group with previous patients**

---

**Key QI Strategies**
- Implement standardized identification of OEN with OB
- Standardize assessment of NAS signs and symptoms for OENs
- Implement non-pharmacologic bundle
- Establish feeding guidelines for OENs including breastfeeding eligibility
- Standardized pharmacologic treatment protocol
- Standardize provider training - stigma & bias, OEN protocol
- Standardize patient education
- Implement standardized safe discharge planning
Example*: Non-pharm bundle Prioritization Matrix

<table>
<thead>
<tr>
<th>Driver #</th>
<th>Driver name</th>
<th>Importance</th>
<th>Customer Value</th>
<th>Resource Intensity</th>
<th>Resistance</th>
<th>Total Score</th>
<th>Priority Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Rooming-in</td>
<td>+9</td>
<td>+8</td>
<td>-5</td>
<td>-6</td>
<td>6</td>
<td>2</td>
</tr>
<tr>
<td>2</td>
<td>Cuddler Program</td>
<td>+6</td>
<td>+5</td>
<td>-4</td>
<td>-4</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>3</td>
<td>NAS Care Team Huddles</td>
<td>+8</td>
<td>+4</td>
<td>-2</td>
<td>-2</td>
<td>8</td>
<td>1</td>
</tr>
<tr>
<td>4</td>
<td>Low Stimulation</td>
<td>+7</td>
<td>+6</td>
<td>-2</td>
<td>-3</td>
<td>8</td>
<td>1</td>
</tr>
</tbody>
</table>

*(clustering care & quiet environment)*

*This is an example and can be modified to meet each team’s/hospital needs*
Upcoming MNO-Neo Teams Calls

• Monday, January 21\textsuperscript{st}: CANCELLED
• Monday, February 18th: Standardizing Pharmacologic Treatment
• Monday, March 18\textsuperscript{th}: Planning a Safe Discharge & Linking Community Resources
• Monday, April 22\textsuperscript{nd}: Empowering mothers to participate in their newborn’s care
• Monday, May 20\textsuperscript{th}: Nutrition & Breastfeeding

*order of call topics subject to change
HAPPY HOLIDAYS & NEW YEAR from ILPQC!

- Dan’s puppy Sonny, Autumn’s dog Margaret, Danielle’s chinchilla Ralph, and Patti’s cat Bear wish you all a Happy New Year!

Keep up the paws-itive change of improving care for mothers and newborns affected by opioids!
THANKS TO OUR FUNDERS

IDPH  
Illinois Department of Public Health

CDC  
Centers for Disease Control and Prevention

DHS  
Illinois Department of Human Services

JB & MK PRITZKER  
Family Foundation
Extra Slides
MNO-Neo Baseline Data (Q42017): Opportunities for Improvement

- **3%**
  Implemented standardized non-pharmacologic guidelines

- **59%**
  Eligible OENs receiving breastmilk at infant discharge

- **33%**
  Of OENs receiving pharmacologic treatment

- **37%**
  OENs discharged with safe discharge plan
MNO-Neo AIMS and Measures

**AIMS:**
- Decrease pharmacologic treatment in opioid-exposed newborns with NAS to 20%
- Increase safe and optimized discharge plans in opioid-exposed newborns to 95%
- Increase breastfeeding rates in opioid-exposed newborns at discharge to 70%

**Measures:**
- Percent of opioid-exposed newborns receiving a toxicology screen (urine/cord/meconium)
- Percent of opioid-exposed newborns requiring pharmacologic therapy for NAS
- Number of days of pharmacologic treatment for NAS
- Percent of mothers and newborns rooming together during infant hospitalization
- Percent of opioid-exposed newborns receiving maternal breast milk at neonatal discharge
- Percent of opioid-exposed newborns discharged with plan of safe care in place
- Average length of stay for opioid-exposed newborns