Welcome!

Neonatal Abstinence Syndrome Project
October Action Period Call

Ohio Perinatal Quality Collaborative
October 27, 2016
Welcome to the OPQC NAS
October 2016 Action Period Call

Thank you for joining; please sign in the chat box with the names of all webinar participants and hospital affiliation.
The line will be placed on Group Mute

To ask a question:

➤ Click on the Raised Hand icon

➤ You can type your question in to the Chat Box

➤ You can use *6 to come off of GROUP MUTE (and *6 to go back on).
## Agenda

<table>
<thead>
<tr>
<th>Time</th>
<th>Topic</th>
<th>Presenter</th>
</tr>
</thead>
<tbody>
<tr>
<td>12:00 pm</td>
<td>Welcome &amp; Agenda Review</td>
<td>Susan Ford, MSN, RN</td>
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<tr>
<td>12:05 pm</td>
<td>Data Overview</td>
<td>Scott Wexelblatt, MD</td>
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<tr>
<td>12:15 pm</td>
<td>Overview from the Learning Session</td>
<td>Pierce Kuhnell, MS</td>
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<tr>
<td></td>
<td>• Orchestrated Testing Preliminary Results</td>
<td>Susan Ford</td>
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<td></td>
<td>• Attitude Measure Survey Results</td>
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<td></td>
<td>• Dartmouth Hitchcock: Bonny Whalen, MD</td>
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<tr>
<td>12:40 pm</td>
<td>Rooming In - Team Discussion</td>
<td>All Teams</td>
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<tr>
<td></td>
<td>• OPQC Hospital Overview of Rooming In</td>
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<tr>
<td>12:50 pm</td>
<td>Next Steps</td>
<td>Susan Ford</td>
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**REMEMBER:**
You can use *6 to come off of GROUP MUTE
**GLOBAL AIM**
To reduce the number of moms and babies with narcotic exposure, and reduce the need for treatment of NAS.

**SMART AIM**
By increasing identification of and compassionate withdrawal treatment for full-term infants born with Neonatal Abstinence Syndrome (NAS), we will reduce length of stay by 1 day across participating sites by June 30, 2016.

**KEY DRIVERS**
- Prenatal Identification of Mom
- Implement Optimal Med Rx Program
- Improve recognition and non-judgmental support for Narcotic addicted women and infants
- Attain high reliability in NAS scoring by nursing staff
- Optimize Non-Pharmacologic Rx Bundle
- Standardize NAS Treatment Protocol
- Connect with outpatient support and treatment program prior to discharge
- Partner with Families to Establish Safety Plan for Infant
- Partner with other stakeholders to influence policy and primary prevention.

**INTERVENTIONS**
- All MD and RN staff to view “Nurture the Mother- Nurture the Child”
- Monthly education on addiction care
- Fulltime RN staff at Level 2 and 3 to complete D'Apolito NAS scoring training video and achieve 90% reliability.
- Swaddling, low stimulation.
- Encourage kangaroo care
- Feed on demand- MBM if appropriate or lactose free, 22 cal formula
- Initiate Rx If NAS score > 8 twice.
- Stabilization/ Escalation Phase
- Wean when stable for 48 hrs by 10% daily.
- Establish agreement with outpatient program and/or Mental Health
- Utilize Early Intervention Services
- Collaborate with DHS/ CPS to ensure infant safety.
- Engage families in Safety Planning.
- Provide primary prevention materials to sites.
OPQC NAS Project
Collaborative Aggregate

Percent Infants that Received Pharmacologic Treatment

Numerator  92          89          97          99          90          69          94          109          92          74          70          63          95          99          72          77          97          52          88          53
Denominator 188        180         223         184         218         196         178         201         192         158         185         193         229         223         182         184         234         156         184         184
Percent  49.9%        40.4%       43.5%       53.8%       44.0%       45.4%       52.8%       54.2%       47.0%       48.8%       41.1%       43.0%       41.5%       44.4%       30.6%       41.0%       41.5%       33.3%       35.0%       32.3%

# of NICUs included in the denominator  43          41          48          45          45          44          43          42          43          39          43          45          45          44          45          42          47          41          41          36

Jan2014-Mar2014 used to calculate baseline.
September 19, 2016
Learning Session Highlights

- Over 300 participants in attendance
- Dr. Mary Applegate, Ohio Department of Medicaid, presenting the vision for Ohio’s Maternity Medical Home
- Bonny Whalen, MD Dartmouth Hitchcock Medical Center Keynote Speaker on Benefits of Rooming-In for the NAS Patient
- Shared OT Preliminary Data Analysis and aggregate Attitude Measure Survey Results
- Collaboration with OB and Home Visitation Teams on a Regional basis (a first!!)

*All presentations from the September 19th Learning Session have been posted to the OPQC website*
Preliminary Results of Orchestrated Testing

Maurizio Macaluso, MD, DPH
Heather Kaplan, MD, MSCE
Pierce Kuhnell, MS

Keep in mind…

• We are examining the effect of 2 factors in a complex system…there will always be the possibility that other variables account for some of what we see

• BUT, the complexity is also a strength—allows us to examine factors in real settings in a range of conditions (54 sites!)
Differences in Formula Compliance:

- 22 Kcal/oz: 59%-85%
- Standard: 59-76%
- LLF: 76-85%
- No LLF: 59%

Reasons for Differences:
- Parental request for LLF?
- Provider bias?
- Patient need due to GI issues?
- Issues mixing/fortifying formula
Lowest rates of weight loss >10%

Group 1: 22 kcal/LLF
Differences in Baseline AND Phase II LOT:

<table>
<thead>
<tr>
<th>Group</th>
<th>Baseline</th>
<th>Phase II</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group 1</td>
<td>10.8</td>
<td>10.5</td>
<td>-0.3</td>
</tr>
<tr>
<td>Group 2</td>
<td>13.7</td>
<td>11.6</td>
<td>-2.1</td>
</tr>
<tr>
<td>Group 3</td>
<td>12.2</td>
<td>13.7</td>
<td>+1.5</td>
</tr>
<tr>
<td>Group 4</td>
<td>11.0</td>
<td>12.9</td>
<td>+1.9</td>
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</tbody>
</table>

Did groups change vs. stay the same?

- Group 1: no real change
- Group 2: change at all periods
- Group 3: minimal change (worse?)
- Group 4: minimal change (worse?)
Differences in Baseline AND Phase II LOS:

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<th>Baseline</th>
<th>Phase II</th>
<th>Change</th>
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<tbody>
<tr>
<td>Group 1</td>
<td>14.7</td>
<td>14.4</td>
<td>-0.3</td>
</tr>
<tr>
<td>Group 2</td>
<td>19.5</td>
<td>17.3</td>
<td>-2.2</td>
</tr>
<tr>
<td>Group 3</td>
<td>17.6</td>
<td>18.2</td>
<td>+0.6</td>
</tr>
<tr>
<td>Group 4</td>
<td>16.3</td>
<td>18.2</td>
<td>+1.9</td>
</tr>
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Did groups change vs. stay the same?

- Group 1: no real change
- Group 2: change at all periods
- Group 3: minimal change (worse?)
- Group 4: minimal change (worse?)
Next steps to confirm findings…

1. There are many factors (other than formula) that are different between groups
   – **Solution** – Multivariable regression analysis to account for confounders and covariates

2. Current analysis is an “intent to treat” style analysis that includes all babies in each group regardless of actual formula used, but we know that not all babies in the group received the intended formula
   – **Solution** – “Per protocol” analysis that will assign babies to a group based on the formula actually received that achieved formula compliance
   – This will enable us to trim the analysis population to only the babies that were treated according to our compliance definition to better determine the effects of the formula.

3. The response plots we have shown are cross sectional (one period of time, Oct 2015-Jun 2016)
   – **Solution** – Evaluate the change in outcomes from phase 1 to phase 2 with respect to the change in formula usage.
   – We know baseline LOS entering phase 2 was not balanced, so it is important to look at the change seen going into phase 2 in addition to the cross sectional analysis
More next steps…

- Complete the additional analysis and plan to present on OPQC Action Period Call/webinar in December

- Possible recommendations:
  - 22 kcal/oz is superior, additional benefit may be found with LLF
  - 22 kcal/oz ± LLF is superior, but only in some settings
  - No difference in outcomes based on formula used

- Take the findings, and implement them in your unit
This resource is focused on people’s attitudes towards alcohol and other drug use and is designed to encourage health professionals to explore and evaluate their attitudes towards drug users - particularly perceptions about a client’s or patient’s deservingness of medical care.
Attitude Measurement: Brief Scales Analysis

- Surveys were analyzed using a mixed model looking at differences in mean responses per time point by site while accounting for the difference in response volume by site.

- Adjusted means from the mixed model are compared across all time points while adjusting for multiple comparisons (3 total comparisons).

- Sites were excluded if there were not at least 5 responses for each time point in order to have a high enough volume to characterize responses at each site.

- Site specific Attitude Measure Survey Bar Graphs have been uploaded to hospital folders on the OPQC SharePoint site.
OPQC NAS Project
Attitudes Survey

To what extent do you feel angry towards people using drugs?

1 = Not at all angry, 5 = Very angry

De-identified Sites

- Site Means Timepoint 1 (n=6-127)
- Site Means Timepoint 2 (n=6-174)
- Site Means Timepoint 3 (n=7-233)
- Adjusted Mean Timepoint 1 (2.41)
- Adjusted Mean Timepoint 2 (2.27)
- Adjusted Mean Timepoint 3 (2.29)
OPQC NAS Project
Attitudes Survey

To what extent is an individual personally responsible for their problematic drug use?

1 = Not at all responsible, 5 = Very responsible

De-identified Sites

- Site Means Timepoint 1 (n=6-127)
- Site Means Timepoint 2 (n=6-174)
- Site Means Timepoint 3 (n=7-233)
- Adjusted Mean Timepoint 1 (4.21)
- Adjusted Mean Timepoint 2 (4.02)
- Adjusted Mean Timepoint 3 (3.98)
To what extent do you feel disappointed towards people using drugs?

Site Means Timepoint 1 (n=6-127)  
Site Means Timepoint 2 (n=6-174)  
Site Means Timepoint 3 (n=7-233)  
Adjusted Mean Timepoint 1 (3.11)  
Adjusted Mean Timepoint 2 (2.92)  
Adjusted Mean Timepoint 3 (2.95)
OPQC NAS Project
Attitudes Survey

To what extent are adverse life circumstances likely to be responsible for a person's problematic drug use?

1 = Not at all responsible, 5 = Very responsible

Desired Direction of Change

- Site Means Timepoint 1 (n=6-127)
- Site Means Timepoint 2 (n=6-174)
- Site Means Timepoint 3 (n=7-233)

- Adjusted Mean Timepoint 1 (3.65)
- Adjusted Mean Timepoint 2 (3.71)
- Adjusted Mean Timepoint 3 (3.72)
To what extent do you feel sympathetic towards people using drugs?

- 1 = Not at all sympathetic
- 5 = Very sympathetic

De-identified Sites

- Site Means Timepoint 1 (n=6-127)
- Adjusted Mean Timepoint 1 (2.95)
- Site Means Timepoint 2 (n=6-174)
- Adjusted Mean Timepoint 2 (3.13)
- Site Means Timepoint 3 (n=7-233)
- Adjusted Mean Timepoint 3 (3.14)
OPQC NAS Project
Attitudes Survey

To what extent do people who use drugs deserve the same level of medical care as people who don't use drugs?

1 = Not at all deserving, 5 = Very deserving

Site Means Timepoint 1 (n=6-127)  
Adjusted Mean Timepoint 1 (4.49)

Site Means Timepoint 2 (n=6-174)  
Adjusted Mean Timepoint 2 (4.56)

Site Means Timepoint 3 (n=7-233)  
Adjusted Mean Timepoint 3 (4.57)
OPQC NAS Project
Attitudes Survey

To what extent do you feel concerned towards people using drugs?

1 = Not at all concerned, 5 = Very concerned

Site Means Timepoint 1 (n=6-127)  
Site Means Timepoint 2 (n=6-174)  
Site Means Timepoint 3 (n=7-233)  
Adjusted Mean Timepoint 1 (4.15)  
Adjusted Mean Timepoint 2 (4.13)  
Adjusted Mean Timepoint 3 (4.19)
Why is NAS a NICU issue?

- Babies not critically ill or medically complex
- Most babies in NH/VT born outside facilities w/ L3 NICUs
- NICU beds cost a lot
- In the NICU:
  - Excessive stimulation present
  - Barriers to skin-to-skin & breastfeeding
  - Interference with mother-infant bonding
  - Rooming-in difficult

This should not be a NICU issue!
Pre-QI NAS Care

• BP Rooming-in observation
  – Scored in bassinette
  – Q 4hr -> q 2hr if score ≥ 8

• Transfer to ICN for 3 scores of ≥ 8 or 2 of ≥ 12
  – No rooming-in
  – No privacy
  – Stimulating environment

• Pediatrics for wean
  – Scoring as per BP
  – Rooming-in
CHaD’s QI Work

1. RN scoring training/ reliability

2. Family interviews

3. Baby-centered scoring & care

4. Prenatal education

5. Parent symptom diary

6. Standardize score interpretation

8. “Cuddlers”

10. Addiction training

11. Transfers

October 2014

APADS

April 2013

APADS

Jan 2013: Formed Multi-D VON NAS QI team

April 2013 - Oct 2014: 11 PDSA cycles
Post-QI NAS Care

- Parent & provider education
- Rooming-in through entire stay
- Family involvement in scoring
- Standardized scoring
- Pre-scoring: STS and BF
- Scoring: STS and in mom’s arms
- Score on baby’s schedule
- Evaluate at bedside for 3 scores of ≥ 8 or 2 of ≥ 12
  - Assess & interpret score
  - Determine Rx criteria
# Rooming-In to Treat NAS: Improved Family-Centered Care at Lower Cost

<table>
<thead>
<tr>
<th></th>
<th>Pre-intervention 2012</th>
<th>Post-intervention 2014</th>
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</thead>
<tbody>
<tr>
<td>% infants at-risk</td>
<td>4%</td>
<td>5%</td>
</tr>
<tr>
<td>% infants treated</td>
<td>46%</td>
<td>27%</td>
</tr>
<tr>
<td>Average LOS</td>
<td>16.9 days</td>
<td>12.3</td>
</tr>
<tr>
<td>Cumulative morphine exposure</td>
<td>13.7 mg</td>
<td>6.6 mg</td>
</tr>
<tr>
<td>Mean hospital costs/treated infant</td>
<td>$19,737</td>
<td>8755</td>
</tr>
<tr>
<td>Mean hospital costs/at-risk infant</td>
<td>$11,000</td>
<td>$5300</td>
</tr>
</tbody>
</table>
OPQC Hospitals
Utilization of Rooming In

Poll Question:

- Does your site utilize rooming-in?
  - Yes
  - No
  - Uncertain
OPQC Hospitals
Utilization of Rooming In

Poll Question:

- Our site utilizes rooming in for babies that are treated in our:
  - Mother-Baby Unit
  - NICU
  - SCN
Poll Question:

- Our site utilizes rooming in for babies that we treat NON-PHARMACOLOGICALLY:
  - Yes
  - No
  - Uncertain
OPQC Hospitals
Utilization of Rooming In

Poll Question:

- Our site utilizes rooming in for babies that we treat

PHARMACOLOGICALLY:

- Yes
- No
- Uncertain
Discussion regarding Rooming In

REMEMBER:
You can use *6 to come off of GROUP MUTE
Project and Data Updates

- Implementation Phase to run from July 1, 2016- December 31, 2016
  - Monthly Action Period Calls
  - Monthly Progress Report submitted by Key Contact
  - Continued monthly data collection on current Data Form

- Sustain Phase will start January 1, 2017
  - Abbreviated Data Collection Form submitted monthly
  - Quarterly Action Period Calls

- New Data Manager for OPQC NAS Project
  - Welcome Emily Louden!
  - Best wishes Jenney Nobbe

- Two new OPQC Data email addresses:
  - Email helpdesk@opqc.net for all questions or inquiries related to data and access, including data entry, measure definitions, and SharePoint.
  - “Help Request” Form now posted on SharePoint site.
  - The email address datateam@opqc.net will be used by Data Team members to send all outgoing messages from a centralized address.
  - Please continue to use info@opqc.net for all non-data inquiries.
Next Steps

• Please continue to submit all NAS Data using the current Data Collection Form for all babies (non pharm & pharm tx) thru December 31, 2106.

• Check OPQC SharePoint to
  – Obtain your MOC Dashboard and see if your site has any missing months of data submission
  – Obtain your site specific Attitude Measure Survey results
  – Obtain your site specific, aggregate and regional charts
  Obtain your hospital’s Formula Compliance Report

• November Action Period Calls:
  – Tuesday, November 15th from 3pm -4pm
  – Thursday, November 17th from 12N-1pm
The OPQC NAS Project is funded by The Ohio Department of Medicaid