More MOM (Mother's Own Milk) Quality Improvement Initiative to Increase Breast Milk at Discharge in an Urban NICU
Amy Pham, Kathy Cloninger, Denise Flores, Jean Powlesland, Christina Lopez, Alan Schwartz, De-An Pillers, Aarti Raghavan.
UI Health: University of Illinois Hospital and Health Sciences
University of Illinois at Chicago

Problem
Breast milk provides newborns with optimal nutritional support, improved immunological defense, and better neurodevelopmental outcomes.

In 2019, Vermont Oxford Network published national data on breast milk administration at discharge in the very low birth weight infants population, there was variability based on ethnicity but also geographical location.

In our data (demographics: 62% African American, 27% Hispanics, 8% Caucasians), we found that only 31% of VLBW infants received any breast milk at discharge. Although our data was similar to the VON data, we wanted to improve the low percentage of infants receiving breast milk at discharge.

Our team consist of NICU physician, NICU fellows, NICU hospitalist, UIH Pediatric residents, NICU bedside nurses, lactation nurses, and patient’s family.

Smart AIM:
Our QI initiative aims to improve the rate of maternal breast milk administration at discharge by 8% from Sept 2019 to August 2021 for newborns born <34 weeks or <1500 grams admitted to the UIH NICU from birth.

Project Implementation
Our team developed a process map and a key driver diagram (Figure 1) to help guide development of our test of change the PDSA cycles.

Outcome measure:
Percent of infants born <34 weeks or <1500 grams discharged with breast milk.

Process measure:
Compliance in
• Flyers
• Early recognition reward
• Physician bundle checklist
• RN bundle checklist

Balance measure: Length of stay, maternal stress, increase workload on resident/hospitalist and RN.

Results
Our run chart (figure 3) shows no true improvement in breast milk at discharge.

The interventions did not show any statistically significant in affecting an increase in breast milk at discharge, however culture towards breast milk had seemed to change.

Survey data in the NICU shows positive outcomes:
-Mothers have increase breast milk production for longer periods as compared to previous attempts at pumping
-Staff demonstrated increased awareness of involved mother’s milk supplies
-Increasing staff support in breast feeding and pumping

Conclusion
Continual discussion of the initiative appears to have positively influenced breast milk at discharge.

While we have positively impacted breast milk at discharge rates, much work remains. Moving forward, this initiative seeks to:

• Achieve our smart aim
• Increase intervention compliance
• Implement a sustainability plan
• Spread to include Labor & Delivery and Mother-Baby Units

Run Chart on Percent of PDSA Compliance in 2021

Figure 1

Figure 2

Figure 3

Acknowledgements/Hospital Team
Thank you to UIH, NICU bedside RNs, NICU Breast Milk Champions, NICU attendings, NICU fellows, NICU hospitalists, UIH Pediatric residents, and UIH Registered Dietitian.

Things that did not work well:
• Daily calls to bedside RN
• Having only one person prepare the folders, paperwork, education to staff

Things that work well:
• Quality Improvement and Safety Corner Weekly Vocabulary (education on common QI terminology and current status on project in relation to vocabulary of the week) in NICU weekly newsletter
• Weekly reminders of "To Do Action" through EMR handoff communication with physician and RN

Table

<table>
<thead>
<tr>
<th>Date</th>
<th>PDSA Focus</th>
<th>Description of implementation</th>
</tr>
</thead>
<tbody>
<tr>
<td>3/3/2021</td>
<td>Early Reward</td>
<td>Pilot Early Reward Recognition with 3 infants with feedback Test</td>
</tr>
<tr>
<td>2/28/21</td>
<td>Breast Milk Bundle</td>
<td>Pilot Physician/nurse bundle checklist with 3 infants with feedback Test</td>
</tr>
<tr>
<td>2/26/21</td>
<td>Flyer</td>
<td>Pilot flyer distributed with admission packet on breast milk in 10 infants with feedback Test</td>
</tr>
<tr>
<td>2/26/21</td>
<td>DIM</td>
<td>Pilot DIM handout of information pertaining to breast milk in 5 infants with feedback Test</td>
</tr>
<tr>
<td>2/16/21</td>
<td>Early Recognition</td>
<td>Pilot Early Recognition Handout in NICU with 6 infants with feedback Test</td>
</tr>
<tr>
<td>2/24/21</td>
<td>Breast Milk Bundle</td>
<td>Pilot Physician/nurse bundle checklist with modification (4) with 6 infants Test</td>
</tr>
<tr>
<td>2/24/21</td>
<td>DIM</td>
<td>Pilot DIM handout of information pertaining to breast milk Test</td>
</tr>
</tbody>
</table>

Figure 4

Breast Milk at Discharge Run Chart Sept 2019 - July 2021

1. Review VON data
2. Literature search + SMART AIM
3. Process map developed
4. Pause on QI project due to COVID-19 pandemic with strict visitor restriction policy
5. Re-initiation of QI project
6. Development, creation, finalization of physician script and RN script
7. Roll out early recognition reward, flyer/poster, RN/physician checklist
8. Implementation of flyer, early recognition reward, flyer/poster, RN/physician checklist

Figure 5

Key Driver Diagram

- Increase of expressed breast milk
- Ensure mothers are educated and involved
- Increase early recognition reward
- Implement a sustainability plan
- Spread to include Labor & Delivery and Mother-Baby Units