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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.

PDSA Cycle #	Date	PDSA Focus	Description	Test or Implement
1	2/1/2021	Early Reward Recognition	Pilot Early Reward Recognition with 3 infants with feedback	Test
2	2/1/2021	Breast Milk Bundle	Pilot Physician/nurse bundle checklist with 3 infants with feedback	Test
3	2/16/2021	Flyers	Pilot Flyers distributed with admission packet on breast milk on 10 infants with feedback	Test
4	2/16/2021	EMR	Pilot EMR handoff on information pertaining to breast milk with 3 infants with feedback	Test
5	2/16/2021	Early Reward Recognition	Pilot Early Reward Recognition (modification #1) with 3 infants with feedback	Test
6	2/24/2021	Breast Milk Bundle	Pilot Physician/nurse bundle checklist (with modification #1) with 4 infants	Test
7	2/24/2021	EMR	EMR handoff on information pertaining to breast milk	Implement
8	3/2/2021	Breast Milk Guided Script	Pilot guided script on breast milk to deliver consistent message on 3 infants with feedback	Test
9	3/15/2021	Poster	Poster on breast milk hung in x2 locations in the NICU	Implement
10	3/19/2021	Breast Milk Bundle	Physician/nurse bundle with modify #2 with 6 infants	Test
11	4/9/2021	Flyers	Flyers distributed with admission packet on breast milk	Implement
12	4/27/2021	Early Reward Recognition	Early Reward Recognition increase maternal support	Implement
13	5/3/2021	Physician/nurse guided script	Guided script on breast milk to delivery consistent message	Implement
14	5/9/2021	Breast Milk Log	Review of breast milk log with 3 infants with feed back	Test
15	6/19/2021	Breast Milk Log	Review of breast milk log	Implement

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:

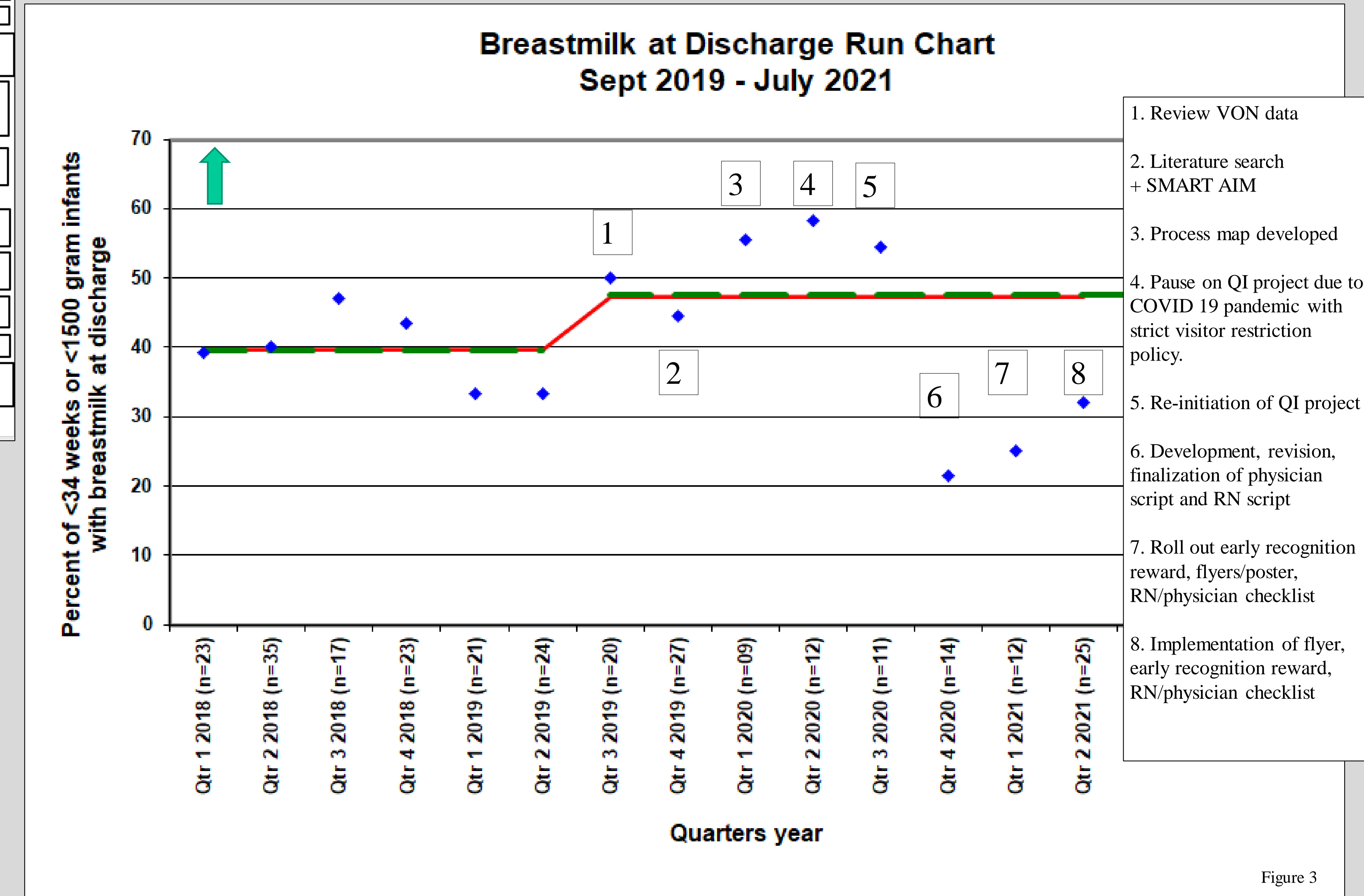
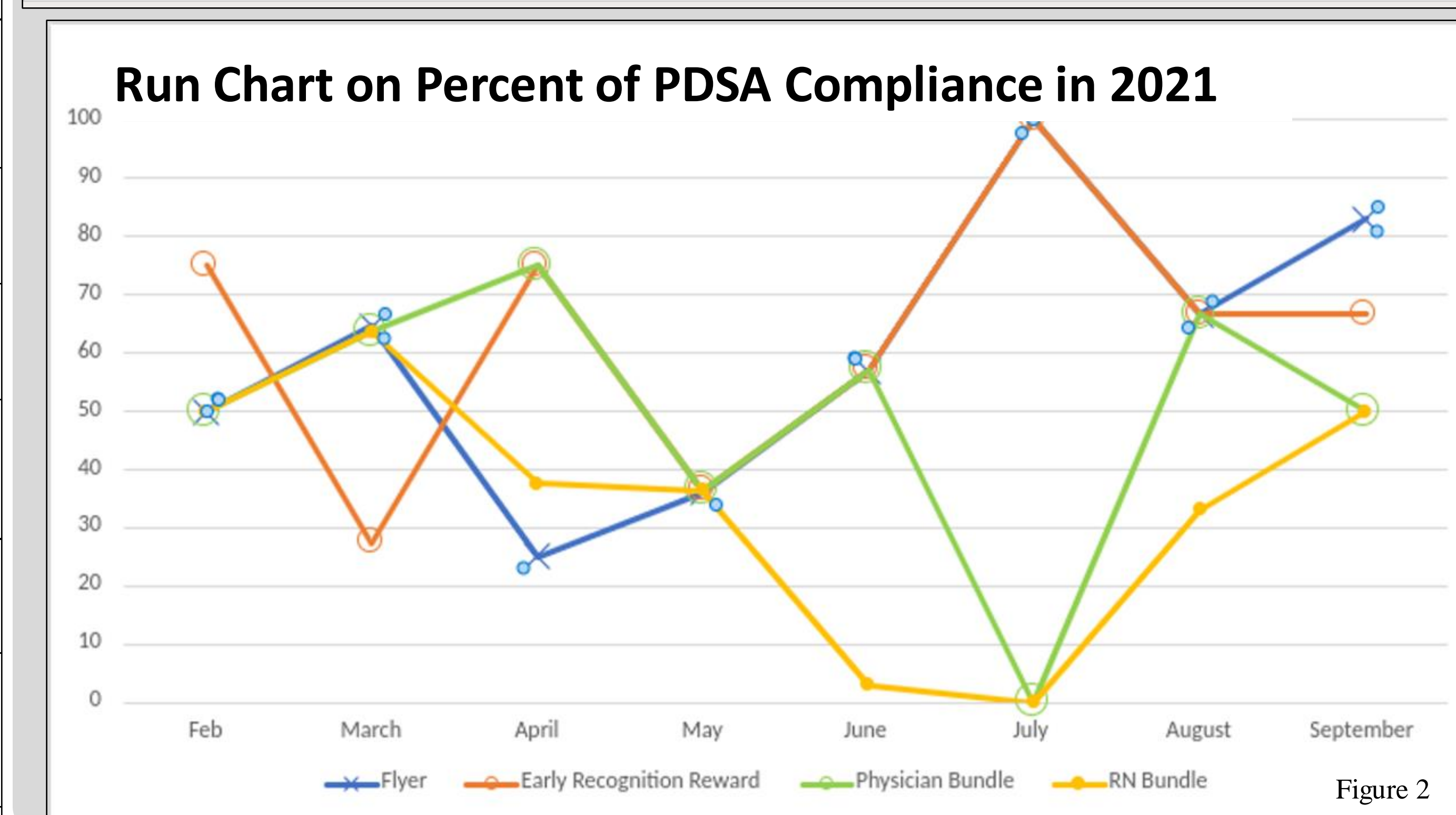
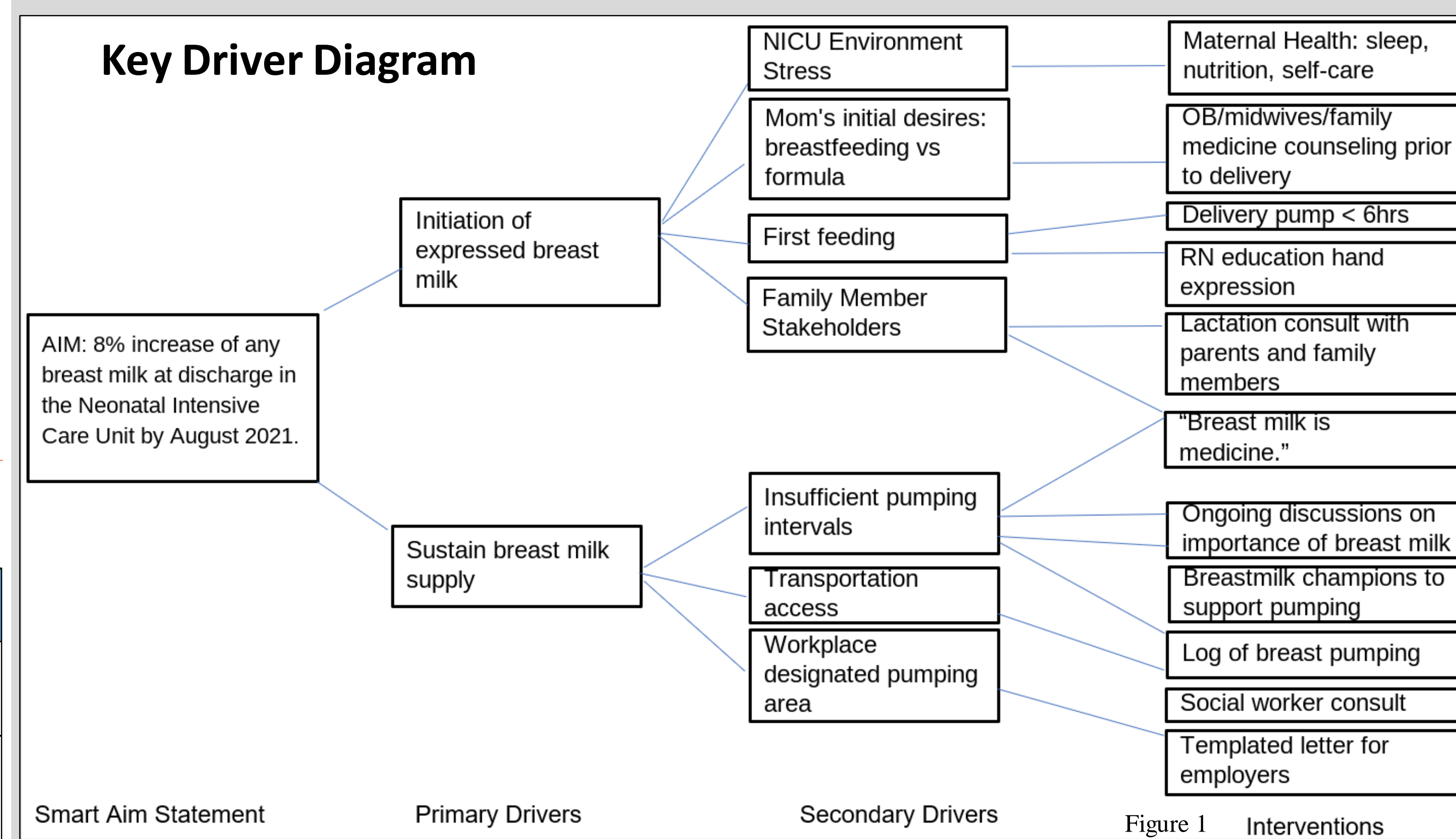
- Mothers have increase breast milk production for longer periods as compared to previous attempts at pumping
- Staff demonstrated increased awareness of involved mother's milk supplies
- Increasing staff support in breast feeding and pumping

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 relations to vocabulary of the week) in NICU weekly newsletter
- Weekly reminders of "To Do Action" through EMR handoff communication with physician and RN



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, revision, finalization of physician script and RN script
7. Roll out early recognition reward, flyers/poster, RN/physician checklist
8. Implementation of flyer, early recognition reward, RN/physician checklist

Figure 3

Conclusions

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

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

Acknowledgements/Hospital Team

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