

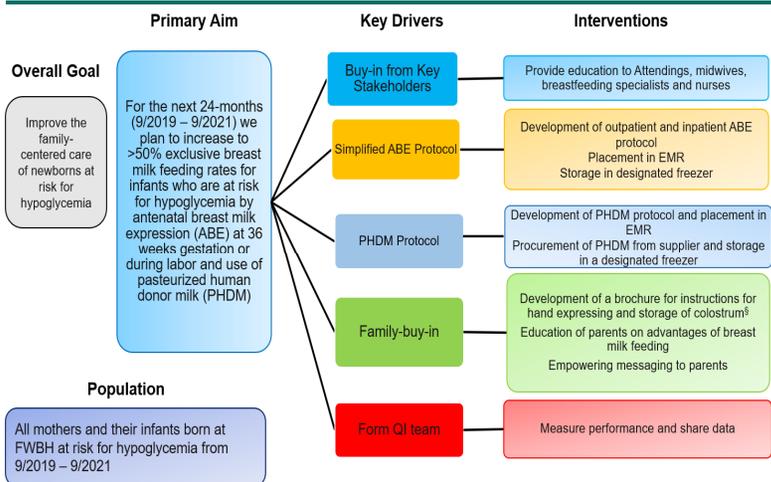
Quality Improvement (QI) to Increase Exclusive Breast Milk Feeding Rates in Newborns at Risk for Hypoglycemia

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PROBLEM

- Neonatal hypoglycemia affects 15% - 30% of newborns.
- Management may disrupt the mother-newborn bonding leading to decreased breastfeeding.
- No harm in advising women with diabetes in pregnancy at low risk for complications to express breast milk from 36 weeks' gestation.¹
- We previously decreased admissions of hypoglycemic infants to our special care nurseries with the use of glucose gel, but not increased their exclusive breast milk feeding rates.

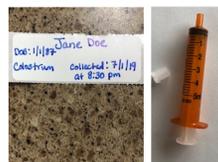
Key Driver Diagram



METHODS

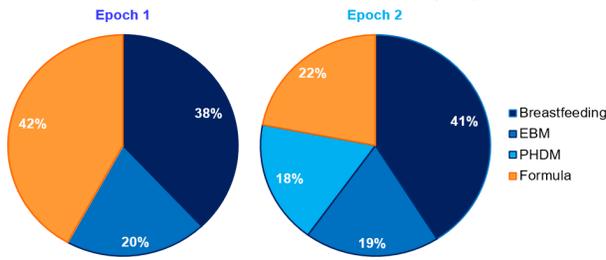
- Patient population:** All mothers and their newborns at risk for hypoglycemia (IDM, LBW, LGA, Late Preterm) at Froedtert West Bend Hospital (FWBH)
- Mother-infant dyads' charts reviewed:** baseline data – 8/1/2018 to 8/31/2019 (**Epoch 1**) and action data – 9/1/2019 to 8/31/2020 (**Epoch 2**)
- Outcome measures:**
 - % of exclusive breast milk feeding for all deliveries
 - % of exclusive breast milk feeding for newborns at risk for hypoglycemia
 - No. of consecutive newborns at risk for hypoglycemia who got glucose gel and was fed formula
 - % of newborns at risk for hypoglycemia who did not get glucose gel.
- Process measures:**
 - % of correct duration of blood sugar screenings: > 30 min. after feeding, and > 90 minutes after birth; and LGA and IDM for 12h, and LBW and late preterm for 24h).
 - % of low-risk mothers with diabetes who decided to do ABE that completely filled their antenatal breast milk collection sheet
- Balancing measure:**
 - % of low-risk mothers with diabetes who delivered before term (<37 weeks) because of ABE.

⁸Example of proper labeling of an ABE storage container and a picture of the syringe storage container found in the brochure



RESULTS

Fig 1. Pie Charts showing types feeding for newborns at risk for hypoglycemia, and with the addition of PHDM has led to more breast milk feeding in Epoch 2



OUTCOME MEASURES

Fig 2. P-Chart showing increase exclusive breast milk feeding in Epoch 2 vs. Epoch 1 by 8% for all deliveries as documented in the FWB Perinatal Score Card

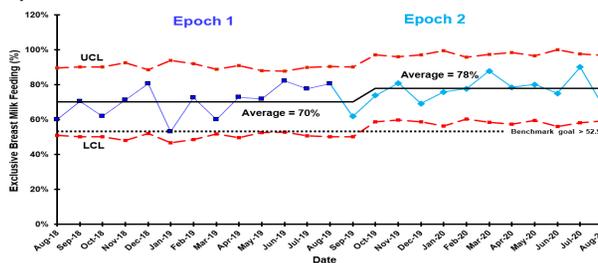


Fig 3. P-Chart showing increase exclusive breast milk feeding in Epoch 2 vs. Epoch 1 by 20% for newborns at risk for hypoglycemia

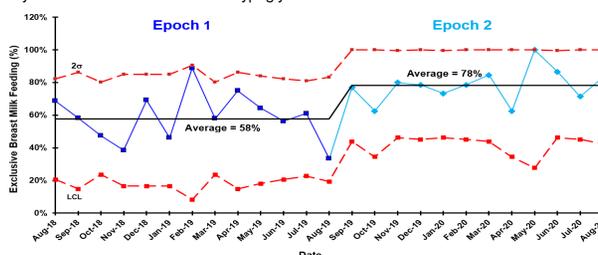


Fig 4. G-Chart Gunston showing decrease of consecutive formula feeding in Epoch 2 vs. Epoch 1 for newborns at risk for hypoglycemia who got glucose gel

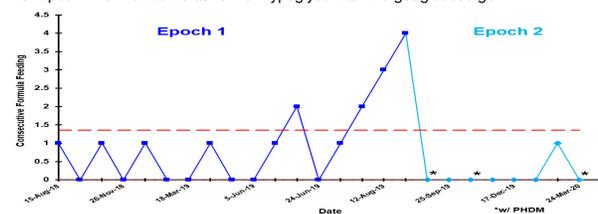
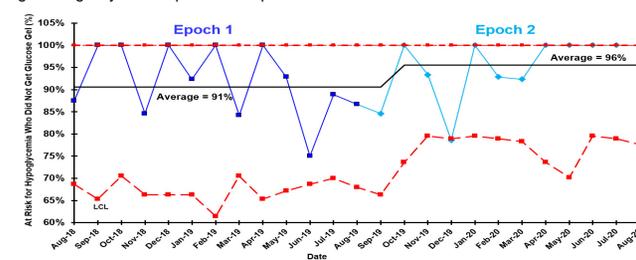
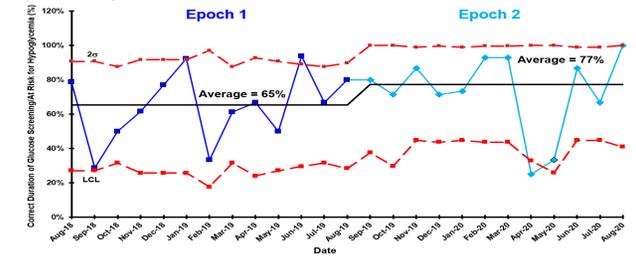


Fig 5. P-Chart showing increase in newborns at risk for hypoglycemia who did not get glucose gel by 5% in Epoch 2 vs. Epoch 1



PROCESS MEASURES

Fig 6. P-Chart showing increase in correct duration of blood sugar screenings by 12% in Epoch 2 vs. Epoch 1



- 100% of low-risk mothers with diabetes (N = 38) who decided to do ABE gave their antenatal breast milk collection sheet prior to delivery. They expressed a median (25th-75th Percentile) of 0.35ml (0ml – 24.5ml) and a range of 0ml to 309ml.

BALANCING MEASURE

- There were no low-risk mothers with diabetes who delivered before term because of antenatal breast milk expression.

CONCLUSION

- We successfully increased the frequency of breast milk feeding for those at risk for neonatal hypoglycemia by antenatal breast milk expression and use of pasteurized human donor milk.

NEXT STEPS

- Additional PDSA cycles are needed to improve adherence to the protocols and continued education of mothers about the advantages of breastfeeding.
- Implementation of ABE in the other Froedtert Health Hospitals (Froedtert Menomonie Falls Hospital and Froedtert Hospital, Milwaukee).
- Pre and post survey for low-risk mothers with diabetes on their knowledge and experiences on ABE.

REFERENCE

¹Forster DE., et al. Advising women with diabetes in pregnancy to express breastmilk in late pregnancy (Diabetes and Antenatal Milk Expressing [DAME]): a multicenter, unblinded, randomized controlled trial *Lancet* 2017;389:2004-2013.