Mother’s breast milk for very low birth weight (VLBW; <1,500) is critical because it reduces risk of serious intestinal infections (necrotizing enterocolitis; NEC) and bloodstream infections, and improves brain development. Therefore, the NeoQIC Human Milk Quality Improvement (QI) Collaborative, comprised of 10 of 10 Level 3 NICUs in Massachusetts, worked to improve mother’s milk in this vulnerable population across the state.

**GOALS**
- Increase the rate of any and exclusive mother’s milk use in the 24 hours prior to discharge/transfer among VLBW infants
- Reduce racial/ethnic disparities in rate of any and exclusive mother’s milk use

**VON BASELINE DATA (2011-2014)**
To set a baseline for our collaborative, we examined VON data from 2011-2014 among Level 3/4 Massachusetts NICUs, and found that use of any mother’s milk at discharge/transfer varied by from 46% to 86%, with substantial variation among racial/ethnic groups.

**ABOUT THE 3-YEAR COLLABORATIVE (Funded by the W.K. Kellogg Foundation)**
- **Key Driver Diagram:** Based on the evidenced-based hospital practices to promote mother’s milk
- **REDCap Database:** Captured robust human milk metrics over the NICU hospitalization
- **Hospital Teams:** Multidisciplinary teams made up of neonatologists, perinatal specialists, nurses, dieticians, lactation consultants, families
- **Leadership Team:** Experts in QI coaching, QI data management, and breastfeeding for NICU populations
- **Education materials for families:** Written materials in 8 languages; Videos in English/Spanish; freely available: [http://www.neoqic.org/humanmilk/human-milk-educational-materials](http://www.neoqic.org/humanmilk/human-milk-educational-materials)

**QUALITY IMPROVEMENT WORK**
Hospital teams completed over 60 Plan-Do-Study-Act (PDSA) cycles focused on improvements in 4 target areas: (1) parental education; (2) early milk expression; (3) mother’s milk continuation; and (4) preparation for direct breastfeeding in the home environment. QI education was provided through monthly homework and newsletters, quarterly webinars, bi-annual conferences, and leadership site visits. Teams openly shared their on-going successes and challenges which translated to rapid learning and momentum. We made parent education videos and written materials in multiple languages that are freely available at [www.neoqicma.org](http://www.neoqicma.org).

**RESULTS**
- 2,086 VLBW infants entered into our database, as of 12/2017
- 82% of VLBW infants with any mother’s milk at 1 month, and 64% with any mother’s milk at discharge/transfer
- There have been notable improvements in our process measures focused on the first month of life, but not our outcome of mother’s milk at discharge/transfer
- No change in NEC, any late-onset sepsis, and infant growth
- VLBW infants with Hispanic mothers have the lowest rate of mother’s milk at discharge/transfer (48%), compared to non-Hispanic black (57%) and non-Hispanic white (70%)

**NEXT STEPS**
- Our leadership team plans to move our work to other areas of the US, with the on-going focus to improve mother’s milk use for vulnerable, VLBW infants and reduce racial/ethnic disparities that exist

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