

Perinatal Quality Collaborative (PQC) SUCCESS STORY

Massachusetts PQC Works to Improve Breast Milk Use in the NICU

Summary

Health professionals agree that breast milk provides the best source of nutrition for most babies, including infants born preterm (before 37 weeks of pregnancy have been completed). Breast milk can also protect babies from illness, such as necrotizing enterocolitis, a serious intestinal disease most often seen in preterm infants.

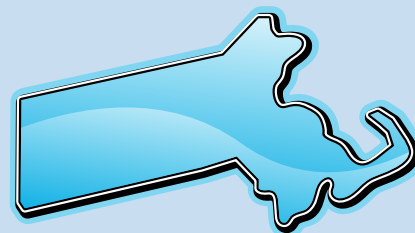
The Neonatal Quality Improvement Collaborative of Massachusetts (NeoQIC) is dedicated to improving the health of newborns throughout the state. The NeoQIC and the Massachusetts Perinatal Quality Collaborative, in partnership with the state department of health and the local chapter of the March of Dimes, formed the Perinatal Neonatal Quality Improvement Network of Massachusetts to combine public health, advocacy, and quality improvement to achieve the best possible health outcomes for families.

In 2014, NeoQIC reviewed statewide data on breast milk use and practices to support the use of breast milk in level III neonatal intensive care units (NICUs). Level III NICUs are hospital nurseries that provide care for babies who are critically ill, born very preterm, or with a very low birthweight.

Challenge

The NeoQIC found that the rate of breast milk use among very low birthweight babies in hospital NICUs varied greatly, from about 50% to 80%. In addition, NeoQIC noted that the rates of breast milk use among very low birthweight babies differed by race or ethnicity. Finally, NeoQIC found that NICUs varied significantly in their practices to support the use of breast milk, and all NICUs reported a need for improved staff education.

As a result of these findings, in January 2015, NeoQIC launched a statewide initiative to support mothers in providing breast milk for very low birthweight babies in NICUs, with an additional focus on reducing racial and ethnic differences in the use of breast milk.



Achieved 100% (10/10) participation among level III NICUs in the state.

87% of participating hospitals are providing breast milk education during prenatal visits.

Increased the rate (from 40% to 65%) of first breast pumping or hand expression within 6 hours after delivery.



Solution

Toward this goal, NeoQIC invited all level III NICUs to participate and took the following steps:

Developed evaluation measures. After a literature review and discussion with experts, NeoQIC developed a key driver diagram to guide the project, including process and outcome measures.

Built a system to support rapid data collection, analysis, and feedback. Participating hospitals entered their progress into a centralized database. The NeoQIC analyzed the data and distributed quarterly reports showing individual and group performance over time.

Promoted shared learning and progress. The NeoQIC provided education to participating hospitals on quality improvement methods and practices to improve breast milk use, such as parent education, increased skin-to-skin contact between mothers and babies, early and frequent breast pumping, and preparation for continued breastfeeding after returning home from the hospital. The NeoQIC also promoted open sharing of progress among hospitals and shared learning through monthly newsletters, bimonthly webinars, biannual statewide meetings, and regular site visits.

Performed qualitative interviews and developed educational materials. The NeoQIC held qualitative interviews with families and developed tailored educational materials to understand and address racial differences in breast milk use.

Results

As a result of their efforts, the NeoQIC has accomplished the following:

- Recruited 100% (10/10) of level III NICUs in Massachusetts to participate, along with key partners, such as the Massachusetts Department of Public Health.
- Held 14 webinars, 5 statewide in-person meetings, and 13 site visits during January 2015–July 2017.
- Developed educational materials for families that are available in multiple languages.
- Collected data related to breast milk on more than 1,500 very low birth weight infants.

In addition, NeoQIC improved performance on key process measures (i.e., breast milk education and time to first pumping or hand expression):

- Increased the rate of breast milk education during prenatal visits from 65% at baseline in 2015 to 87% in April 2017.
- Increased the rate of first breast pumping or hand expression within 6 hours after delivery from 40% at baseline in 2015 to 65% by April 2017.
- Slightly increased the rate of very low birth weight infants receiving their mother's milk at hospital discharge or transfer from 63% at baseline in 2015 to 65% by April 2017.

As a result of the improvement on key process measures, NeoQIC expects to see significant improvement in the percentage of very low birthweight infants receiving their mother's milk by the end of 2017.

Sustaining Success

The NeoQIC learned that open sharing of data, challenges, and best practices by each hospital team was a key strategy in driving this initiative forward. In addition, NeoQIC found that change requires multidisciplinary collaboration among labor, delivery, and postpartum hospital staff to ensure that women are supported throughout their experience, from before their baby's birth to after they return home from the hospital.

Resources

- [CDC Perinatal Quality Collaboratives website](#)
- [NeoQIC website](#)
- [NeoQIC's human milk educational materials](#)
- For more information about this project, contact Meg Parker, MD, Human Breast Milk Initiative Chair at margaret.parker@bmc.org