Perinatal Quality Collaborative (PQC)
SUCCESS STORY

North Carolina PQC Leads a National Project to Reduce Infections in the NICU

Summary

Newborns are at a greater risk for infections because their immune systems are not fully developed. Central line-associated bloodstream infections, or CLABSIs, are a major contributor to illness and death for infants in neonatal intensive care units (NICUs). NICUs face many obstacles in working to reduce CLABSIs. A significant portion of NICU patients are very preterm infants (born before 32 weeks of pregnancy have been completed) and require nutrition delivered through an intravenous line, or IV, until they can tolerate full feedings of breast milk or formula through a feeding tube.

The Perinatal Quality Collaborative of North Carolina (PQCNC) is a community of organizations, agencies, and individuals committed to making North Carolina the best place to give birth and be born. This is PQCNC's "Why." Following the success of their state CLABSI project, in partnership with the Health Research and Educational Trust, PQCNC led a national initiative to reduce CLABSIs in NICUs. This project, called National CLABSI or NCLABSI, was part of a national effort funded by the Agency for Healthcare Research and Quality (AHRQ).

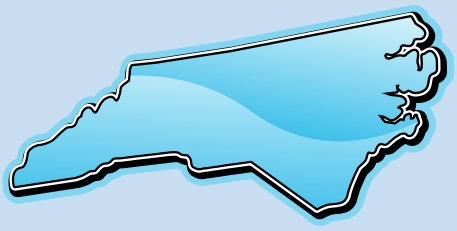
Challenge

PQCNC recruited eight additional state-based PQCs to participate in the NCLABSI project that included Colorado, Florida, Hawaii, Massachusetts, Michigan, New Jersey, North Carolina, South Carolina, and Wisconsin. A neonatologist, often along with a neonatal nurse or nurse practitioner, led each participating state-based PQC.

The NCLABSI project had the following three aims:

- Reduce CLABSI rates by 50%.
- Support and strengthen the participating state-based PQCs.
- Improve safety in participating NICUs.

The project had a short timeline, with a goal to complete all activities within 11 months.



This project resulted in an estimated:

- **131 infections** prevented.
- **14 to 41 death**s prevented.
- **$2.2 million** in excess costs avoided.

National Center for Chronic Disease Prevention and Health Promotion
Division of Reproductive Health

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Solution

In working to meet these goals, the participating PQCs took the following steps:

- **Developed an action plan and selected evaluation measures.** State leaders met to agree upon and finalize NCLABSI activities and key measures.
- **PQCNC created a web-based data collection system.** This system allowed participants to view their progress on evaluation measures in real-time.
- **Improved safety in NICUs.** Participants worked to prevent CLABSIs using the Comprehensive Unit-Based Safety Program (CUSP) training supported by the American Hospital Association and AHRQ.
- **Promoted collaboration.** Monthly clinical and CUSP calls built a tight bond among the participating PQCs, which supported sharing opportunities for improvement.
- **Encouraged partnerships.** PQCNC encouraged partnerships with families, providers, and multiple agencies at the state and national level who had not previously worked together.

Results

Within 11 months, CLABSI rates in the 100 participating NICUs representing 9 states decreased by almost 60%. The NCLABSI project prevented an estimated 131 infections that translated to an estimated 14 to 41 deaths prevented, and over $2.2 million in excess costs avoided. In addition, by encouraging state PQCs to develop new partnerships, PQCs built lasting relationships with state hospital associations, family and parent organizations, state public health and payer organizations, and between hospitals within states who had previously viewed themselves as competitors.

Sustaining Success

PQCNC found the following elements to be critical for success in NCLABSI as well as their work in North Carolina:

- States have a vital role in developing and carrying out quality improvement efforts. State PQCs should see it as core to their mission to assure that those closest to and most affected by the care (parents, families, providers and executive leaders at the local level) are the critical voices in designing state and national quality improvement initiatives.
- The key for a collaboration to succeed is to build transparency and trust.
- Data is vital to track progress, and comparative benchmarking without penalty supports culture change in hospitals, but data cannot become the work of a project.
- When NICUs in one state, a common environment of care, combine to work toward a common goal, they develop powerful partnerships that can spread cultural change and best practices effectively and efficiently.
- It is essential that project participants understand the "Why?" behind the project. All participating PQCs and partners understood the "Why" and were determined to reduce CLABSI rates.

Note: This success story, including background data and outcomes, reflects information as reported by PQCNC.

Resources

- CDC Perinatal Quality Collaboratives
- Perinatal Quality Collaborative of North Carolina
- Eliminating CLABSI, A National Patient Safety Imperative: Neonatal CLABSI Prevention
- Comprehensive Unit-based Safety Program (CUSP)
- How Great Leaders Inspire Action