ICU
MANAGEMENT & PRACTICE

Intensive Care Units for Newborns in Nine American States See Sharp Drop in Bloodstream Infections

Central line associated bloodstream infections (CLABSIs) in newborns were reduced by 58 percent in less than a year in hospital neonatal intensive care units (NICUs) participating in an Agency for Healthcare Research and Quality patient safety program. Frontline caregivers in 100 NICUs in nine states relied on the program's prevention practice checklists and better communication to prevent an estimated 131 infections and up to 41 deaths and to avoid more than $2 million in health care costs.

CLABSIs are healthcare-associated infections (HAIs) that cause serious illness and death in infants as well as adults. A central line is a tube (catheter) that goes into a patient's vein or artery and ends in the central bloodstream. In newborns, especially premature infants, central lines can remain in place for weeks or months to provide nutrients and medications as babies become able to function on their own.

Health care teams in the project states, caring for a total of 8,400 newborns, used AHRQ's Comprehensive Unit-based Safety Program (CUSP) to improve safety culture and consistently implement catheter insertion and maintenance guidelines. CUSP is customizable and helps hospitals understand and apply the science of safety and take actions to improve teamwork and communications. This 11-month project used CUSP to help clinical teams focus on safe practices and appropriate steps when using central lines based on guidelines from the Centers for Disease Control and Prevention.

Each state-based team was led by a neonatologist who worked with the state's hospital association to implement the project. When the project began, participating NICUs had an overall infection rate of 2.043 per 1,000 central line days. At the end of the project, that rate was reduced to 0.855 per 1,000 central line days, a relative reduction of 58 percent. For more information on how NICUs achieved this reduction, visit http://www.ahrq.gov/qual/clabsi-neonatal/.

"The CUSP framework brings together safety culture, teamwork and best practices—a combination that is clearly working to keep these vulnerable babies safer," says AHRQ Director Carolyn M. Clancy, M.D. "These remarkable results show us that, with the right tools and dedicated clinicians, hospital units can rapidly make care safer."

The nine-state project in NICUs is part of a larger AHRQ-funded effort to implement CUSP to prevent CLABSIs nationwide. Preliminary results of the larger project were announced in September 2012; final results from the national implementation project are now available and show that CLABSIs were reduced by 41 percent in adult ICUs. The final report is available at http://www.ahrq.gov/qual/clabsi-final/.

AHRQ provided funding to the Health Research & Educational Trust (HRET), the educational arm of the American Hospital Association (AHA), to conduct both projects. For the NICU project, HRET partnered with the Perinatal Quality Collaborative of North Carolina and the Missouri Center for Patient Safety to support Colorado, Florida, Hawaii, Massachusetts, Michigan, New Jersey, North Carolina, South Carolina and Wisconsin.

"The successes of the project are proof that a great deal of improvement can happen in a relatively short timeframe," says Maulik S. Joshi, Dr.P.H., president of HRET and senior vice president of the AHA. "We are excited by the outcomes of the collaborative, and we look forward to applying what we've learned about leveraging existing infrastructures to spread improvement in ongoing and future projects."

AHRQ's HAI Program contributes to the U.S. Department of Health and Human Services' National Action Plan to Prevent Healthcare-Associated Infections (http://www.hhs.gov/ash/initiatives/hai/index.html) and the Partnership for Patients (http://www.healthcare.gov/compare/partnership-for-patients), which offer a coordinated approach to making care safer by drawing on the strengths and expertise of the HHS agencies.

Details about AHRQ's CUSP projects, including a report on the NICU project and the final report from the national implementation project, are available at http://www.ahrq.gov/qual/hais.htm. AHRQ's CUSP toolkit, which was developed from the national implementation project and used in the NICU project, is available at http://www.ahrq.gov/cusptoolkit/.

Editor's note: The concept of CUSP was first developed by Peter J. Pronovost, M.D., Ph.D., director of the Armstrong Institute and senior vice president for patient safety and quality at Johns Hopkins University, with funding from AHRQ. It was first tested statewide in over 100 adult ICUs in Michigan hospitals (the Michigan Keystone ICU Project) and then expanded to other states. Now, hospitals nationwide are using CUSP as a result of the national implementation project.

Source: Agency for Healthcare Research and Quality (AHRQ)

www.ahrq.gov

Published on : Wed, 30 Jan 2013