

Abstract # 4600

Using Active Learning Methodology to Improve CLABSI Rates in the Adult ICU

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Purpose and Significance

An increasing Central Line Associated Blood Stream Infection rate (CLABSI) in the adult ICU led the clinical specialist to explore active learning methodology as a means to improve rates. Johnson City Medical Center is a 488-bed tertiary referral center for the regional service area encompassing NE Tennessee, SW Virginia, Western NC, and SE Kentucky.

Healthcare-associated infections impose significant patient and economic consequences. The adoption of evidence based practices (EBP) in the clinical setting is paramount to improving patient outcomes. There are many barriers to the adoption of EBP in the bedside clinical setting. Active participation of the direct care staff is an important strategy to help improve these outcomes.

Active Learning and the Nature of Groups

Active learning methodology is in place when learners are active participants in the acquisition and dissemination of new knowledge. Active learners improve their critical thinking, sustain their self-confidence, take responsibility for their own learning with a spirit of cooperation and collaboration.

Hospitals rely on groups to get work completed. In Tuckman's landmark work on group development, he theorized that groups mature through stages (*forming-storming-norming-performing-adjourning*) and in the maturity, the real work gets done.

Strategy and Implementation

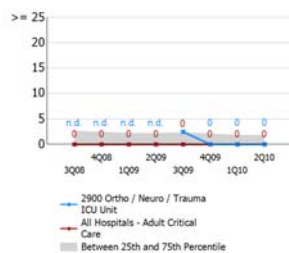
Active learning methodology was used as an innovative approach to help improve the CLABSI rates in the adult ICU. A group of interested nurses, a few from each of the adult ICUs (3), were brought together and, with the leadership of the clinical specialist, they worked together to learn about quality improvement and the EBP of the care of the central line.

Project highlights

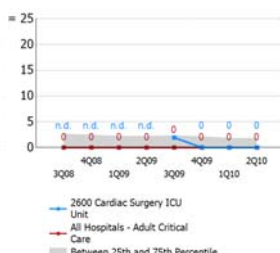
ICU CLABSI Team members:

- Learned how to conduct a literature search to defend their practice
- Brought newly found articles to the meetings and shared knowledge
- Developed a data collection tool and pre-test to collect baseline data
- Analyzed data to understand educational needs of team
- Developed teaching points in the form of informative posters using humor, statistics, pictures and placed a new poster weekly in each of the units
- Conducted peer-to-peer hands-on competency using a model from an old IV practice arm, an IV bag, and an outdated PICC line (over 70 nurses)
- Conducted a post-test and analyzed the data to assess learning
- Re-educated on a few topics from the post-test results
- Conducted another post-test several months later and analyzed learning, finding significant improvement in knowledge acquisition
- Developed a root cause analysis tool and conduct the root cause analysis of each CLABSI for their perspective units

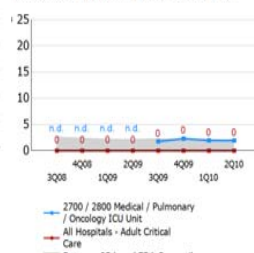
Central Line Associated Blood Stream Infections Per 1000 Central Line Days



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Conclusions and Implications for Practice

Pre/post test results indicate that nurses' knowledge was improved by education from their peers. Knowing that adult learners need to know the relevance of their behavior change, using NDNQI CLABSI benchmark rates was important. CLABSI rates improved from a 6 month high of 8.06/1000 device days (April 2008-August 2008) to a low of 1.1/1000 device days (FY10). By assisting a small group of nurses to develop leadership/teaching skills, an active learning approach helps engage direct care nurses in new knowledge acquisition. Some barriers to adoption of EBP can be overcome by the use of this approach leading to better patient outcomes.

