Abstract:

BACKGROUND: Stony Brook University Hospital (SBUH) joined a Critical Care Learning Collaborative in fall 2004. The collaborative incorporated application of central line and ventilator bundles, multidisciplinary rounding, and daily goal sheets to improve patient outcomes. In a two-year period, the initiative spread to the medical, pediatric, cardiac, and neonatal ICUs.

METHODS: Despite some success, the goal of eliminating central line-associated bloodstream infections (CLABSIs) was not initially realized. In response, SBUH developed a standardized central line insertion credentialing program for residents. After further review of the residual central line infection data, it was evident that many of the lines became infected after day 7 of insertion. Evaluation of the line maintenance process revealed that nursing staff were not accessing the lines using the same level of sterile technique as used during insertion. As a result, a central line maintenance protocol was developed and deployed.

RESULTS: After cumulative efforts were undertaken, SBUH’s overall CLABSI rate decreased by 59% in a five-year period and by more than 80% in the most recent 12 months.

CONCLUSIONS: A critical feature of the approach that SBUH followed was to establish buy-in and oversight from the SICU leadership through a multidisciplinary team, which became the “learning laboratory” for many of the subsequent changes in practice. Also, the fundamental role of the Continuous Quality Improvement (CQI) Department’s quality management practitioner as facilitator cannot be overstated. “Hardwiring” of process changes augmented sustainability of improvements, as did a change in the health care team’s perception of central line infections—that is, from an “unavoidable complication” to “a failure.”