

Reducing Central line-Associated Blood Stream Infections: Utilizing a Dedicated Peripheral Inserted Central Catheter Team Approach

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Purpose

- Quality improvement project to reduce central line-associated blood stream infections (CLABSI) and improve central line dressing change compliance in the hospital setting with utilization of current Peripheral Inserted Central Catheter Team (PICC) to oversee all central line dressing care

Methods

Project Design



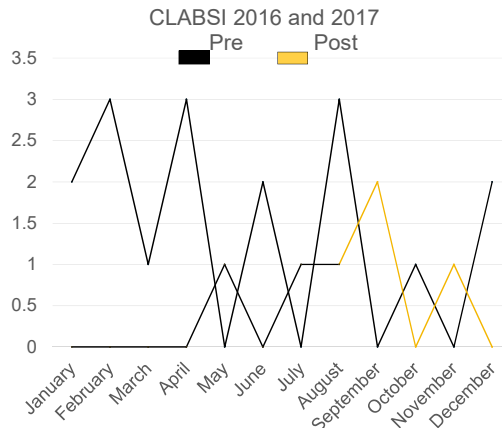
Setting/Target Population

- Inpatient hospital-based setting that includes all patients with central lines or temporary dialysis-access catheters

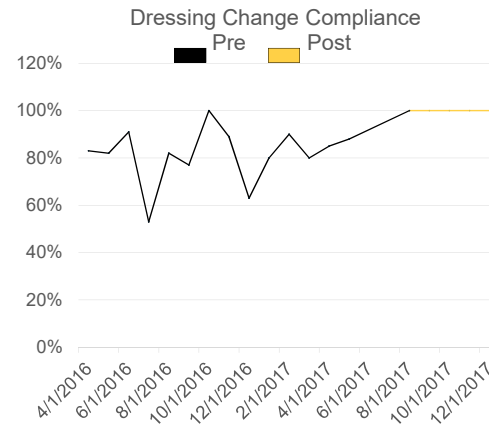
Outcomes Measurement

- Data collected from an 18-month retrospective chart review
- Data collection over a 4 month period with implementation of the quality improvement project compared with 18 month retrospective chart review

CLABSI 2016 and 2017



Dressing Change Compliance



Limitations

- Critically-ill burn patients with >40- 50% TBSA requiring long-term central line access with limited access availability caused increase in CLABSI as evidenced by CLABSI spike in September and November 2017
- Trauma patients requiring emergent central line access had femoral central line access placed versus subclavian line
- Medical/surgical, Burn and Trauma critical care patients located on same intensive care unit

Background

- CLABSIs are an unfortunate complication of central venous catheters or central lines
- Central lines provide direct and long-term access to systemic venous system via brachial, subclavian, femoral, or jugular veins.
- Central lines are used for blood product transfusions, fluid and corrosive medication administration, intravenous nutrition.
- CLABSIs are considered hospital-acquired infections (HAI)
- CLABSIs are the most expensive HAI ⇒ Medicare non-payment policy
- 80,000 confirmed CLABSI cases annually
- Increase morbidity and mortality rates
- Increase hospital length of stay
- 28,000 patients die each year from CLABSI's
- Account for over a billion dollars in hospital costs
- Cost is approximately \$45,000 per CLABSI

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Discussions

- This quality improvement project conducted supported the implementation of a dedicated PICC team to absorb the responsibilities of central line care in order to ensure sterile insertions, appropriately timed dressing changes, and proper maintenance of central lines in the hospital setting
- Reduction in mortality rates with reduction in CLABSI
- Reduced hospital-accrued costs ⇒ No Medicare reimbursement given CLABSI is considered an avoidable hospital-acquired infection (HAI)
- The quality improvement project reduced CLABSI rates from 17 in 2016 to 6 in 2017 which saved the hospital approximately \$500,000 in one year
- Dressing change compliance improved from 83% to 100% in 4 months with implementation of quality improvement project
- This quality improvement project has led to implementation of other quality improvement initiatives to reduce HAI ⇒ CAUTI, VAP, C-Diff

References

- Available upon request