AMERICA'S ESSENTIAL HOSPITALS

A featured project from the Essential Hospitals Engagement Network (EHEN)

CONTRA COSTA HEALTH SERVICES

Contra Costa Regional Medical Center

Reducing Central-Line Associated Blood Stream Infections (CLABSI)

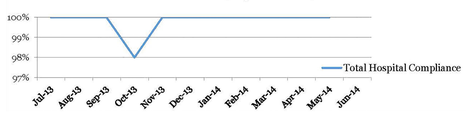
Problem Identified

Contra Costa Regional Medical Center patients that require central lines are frequently the most critically ill and fragile. Infections occurring in the blood stream as a result of invasive vascular central lines can have devastating effects and even contribute to death of a patient. The hospital recognized that eliminating or reducing the number of these infections would result in less suffering, improved outcomes, and decreased costs.

Interventions

Contra Costa created standard work for administering and care of central lines, which included education, dressing change practices, standard dressing kit, and documentation. Standard work changes also entailed "hard-wiring" elements of its Central Line Insertion Practice (CLIP) into electronic health records; creating dynamic safety checklists to reduce deviation from standard practice; and auditing by direct observation. The hospital expanded CLIP surveillance to all of its inpatient care units.

Total Hospital Compliance % with Central Line Insertion Practices July 2013 to June 2014



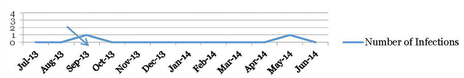
Leadership and Patient Engagement

The multidisciplinary improvement team at Contra Costa supported workflow design changes as well as improvement efforts of frontline staff. The team included physician and nurse champions. Staff nurses were mentored in line care by nurses with advanced training in peripherally inserted central catheters. Medical staff collaborated in rounds, discussions, device utilization, and problem solving.

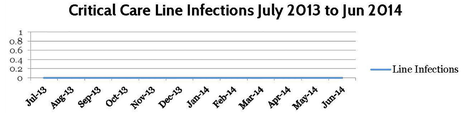
Outcomes

Contra Costa recorded only two CLABSIs in over a year after the intervention and achieved a 100 percent CLIP bundle compliance in both the intensive care unit and the intermediate care unit. The collaboration fostered by the intervention also improved staff communication and problem solving at all levels, including bedside staff. As a result, all patients had reduced risk of invasive vascular central line infections.

Number of Central Line Associated Bloodstream Infections housewide July 2013 to June 2014



Critical Care Line Infections July 2013 to Jun 2014



Lessons Learned

The efforts to minimize patient harm generated insights for future quality improvements, including the following:

- Creating dynamic checklists and audit forms and mapping the workflow provided invaluable insight into potential problems and increased understanding of expectations.
- The team found that small tests of change worked best.
- Data showing 100 percent compliance with little variation demonstrated a need to explore ways to sustain staff interest/dedication over time.
- Allowing staff to express their continuing education needs promoted buy-in for introducing new processes.

Strategies for Successful Replication

Recommendations for successfully reducing CLABSIs in a hospital setting include:

- a strong endorsement from executive leadership;
- developing a reliable, automated data collection tool to share data at the local level;
- expanding central line insertion safety practices to all inpatient units; and
- knowledge development of best practices in daily management of central lines among team members to form the basis for revision of infection prevention policies and practices.