An Evidence-Based Initiative to Reduce Healthcare Acquired Infections
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Problem:
A 40-bed Medical/Cardiac Intensive Care Unit at a large tertiary care hospital focuses efforts to decrease the incidence of enteric-related hospital acquired infections (HAI).

Evidence:
Literature reveals that hand hygiene is the most important strategy in prevention of HAIs (CDC, 2011), but environmental factors also contribute to the development of infections. Evidence shows that cross-contamination occurs with the use of shared electrocardiogram (EKG) leads (Sokalski, et al 1992) and antibiotic-resistant bacteria has been cultured from EKG lead wires even with proper cleaning (Jancin, 2004). Studies also show that hospital curtains are a potential source for HAIs (Trillis, et al., 2008).

Strategy:
An interdisciplinary team developed a three-phase approach to decrease HAIs. In the first phase, current hand hygiene practices were evaluated with an action plan to improve compliance. The second phase involved the replacement of non-disposable for disposable EKG leads and; the third phase involved eliminating privacy curtains from patient rooms.

Practice Change:
Current Hand hygiene practices were changed to the ‘five moments of hand hygiene’ (Sax, 2007). Non-disposable EKG leads were replaced with disposable EKG leads for single-patient use and privacy curtains were eliminated from patient rooms.

Evaluation:
Although successful, the results cannot be solely attributed to this initiative. Other system-led initiatives were introduced concurrently, i.e.; the use of the Bio-patch™ for central line insertions.

Results:
Eleven months of data collection showed a reduction of 47% in the incidences of Clostridium-difficile toxin and 60% reduction in the incidence of enteric-related central line associated bloodstream infections (CLABSI). Through continuous educational reinforcements, hand hygiene compliance showed an increase of 33%.

Recommendations:
With limited research to support financial justification to remove curtains in direct care areas, we would like to propose future studies to our organizational system, demonstrating the ROI (Return of investment) by decreasing HAIs.
Lessons Learned:
Revision of hand hygiene practices and controlling environmental factors, such as, using disposable EKG leads and avoiding privacy curtains, can prevent person-to-person transmission of bacteria and decrease HAIs.

Bibliography:


Eikstein, B., Ecktein, E., & al., e. Reduction of Clostridium difficile and vancomycin-resistant Enterococcus contamination of environmental surfaces after an intervention to improve cleaning methods. BMC Infectious Disease Journal, 7 (61).


