

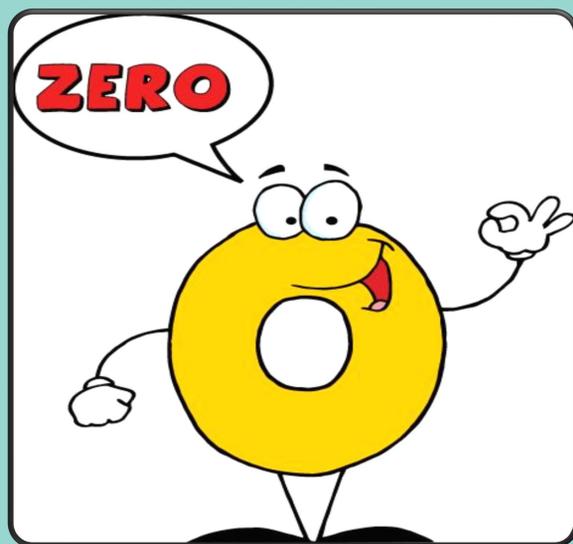
Prevention of CLABSI in Acute Hemodialysis Setting



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Background

Since 2015 the dialysis staff have been working to prevent and reduce central line associated bloodstream infections (CLABSI), associated with dialysis use. Central venous catheters (CVC) are the hemodialysis access for many patients in the hospital. During calendar year 2018, CLABSI rates were uncharacteristically high. Analysis showed 72% (13/18) were associated with dialysis use, this was the highest percentage since 2015. Prevention of CLABSI is key to saving lives because the leading cause of death for dialysis patients is bloodstream infections, secondary to cardiovascular disease (CDC, 2013). Additionally, these infections are associated with increased mortality, morbidity and healthcare costs. CLABSI are preventable (Kusek, 2015). Our goal is to effectively reduce CLABSI to zero in hemodialysis patients.



Zero CLABSI Related to Dialysis Use !

References

- Kusek, L. (2012). Preventing central line-associated bloodstream infections. *Journal of Nursing Care Quality*, 27(4), 283-287.
- Marschall, J., Mermel, L.A., Fakih, M., Hadaway, L., Kallen, A., O'Grady, N., P., ...Yokoe, D. S. (2014). Strategies to prevent central line-associated bloodstream infections in acute care hospitals: 2014 update. *Infection Control & Hospital Epidemiology*, 35, 753-771. doi:10.1086/591059
- U.S. Centers for Disease Control and Prevention (2013). CDC approach to BSI prevention in dialysis facilities (i.e., the Core Interventions for Dialysis Bloodstream Infection (BSI) Prevention). Retrieved from <http://www.cdc.gov/dialysis/prevention-tools/core-interventions.html>

Interventions

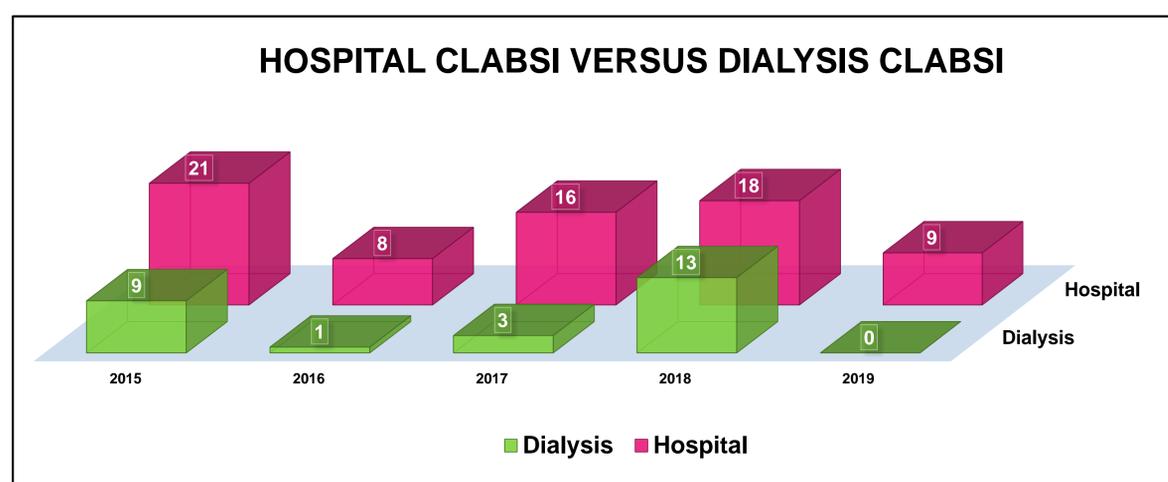
Starting in December of 2015, the following interventions were initiated to target patients receiving dialysis via a CVC in the 8-bed dialysis unit, ICU or step-down units.

- Auditing staff using the CDC audit tool for catheter connection and disconnection
- Staff education and competencies, patient education on the prevention of CLABSI
- Implementation of a CHG/alcohol swab to be used to scrub the hub before access every time
- Conversion from Heparin to prefilled Sodium Citrate 4% flushes for all dialysis patients
- Director support to ensure all staff are adhering to and following policy and procedures
- Hand hygiene education and observations
- Unit membership to CLABSI champions
- Surveillance and feedback using the National Healthcare Safety Network
- Root cause analysis of all CLABSI events were completed by a Vascular Access RN and Infection Control and reviewed with dialysis staff
- In 2019, the use of 2% CHG cloths was added, they are used on all patients with dialysis CVC, prior to dialysis. One cloth to wipe the CVC dressing and CVC limbs. Second cloth to wipe the chest skin around the CVC
- Commitment to scrub the hub every time for 15 seconds with CHG/alcohol wipes
- Wall clocks



Results

In 2019 the dialysis unit achieved the goal of ZERO CLABSI associated with dialysis use, which is a 100% reduction. Our 2019 CDC National Safety Network Standardized Infection ratio (SIR) was 0.508, reduced from the 2015 SIR of 1.06. The following results show the data since 2015 and the number of CLABSI associated with dialysis use versus total CLABSI for the hospital.



Conclusion

Today there is a growing demand for quality, cost effective, and error free care that uses evidenced based research information. CLABSI related to dialysis use are a preventable complication when scientific evidence-based interventions are utilized. It requires accountability and collaboration of everyone (Marschall et al., 2014). Targeted interventions proved to be successful for the dialysis unit in 2019 reaching the goal of ZERO CLABSI. This quality/safety issue is a continuous project which requires health care workers working with CVC to practice competently 100% of the time.