

Unit Based Infection Champion Impact on Reducing Hospital Acquired Infections

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RELEVANCE & SIGNIFICANCE

- Critically injured trauma patients often require central venous access for resuscitation and vasoactive medications that predispose them to central line associated blood stream infections (CLABSI).
- This complication can lead to increased length of stay, hospital costs, and mortality.
- The 2021 National Healthcare Safety Networks' standard infection ratio (SIR) in trauma critical care units for CLABSI was 0.725.
- For calendar year 2022, the SIR for CLABSI in a trauma critical care unit at an academic level 1 trauma center was 3 times greater than the national benchmark at 2.3.
- This unit deployed a nurse dedicated to reducing hospital acquired infections including CLABSI.

PURPOSE

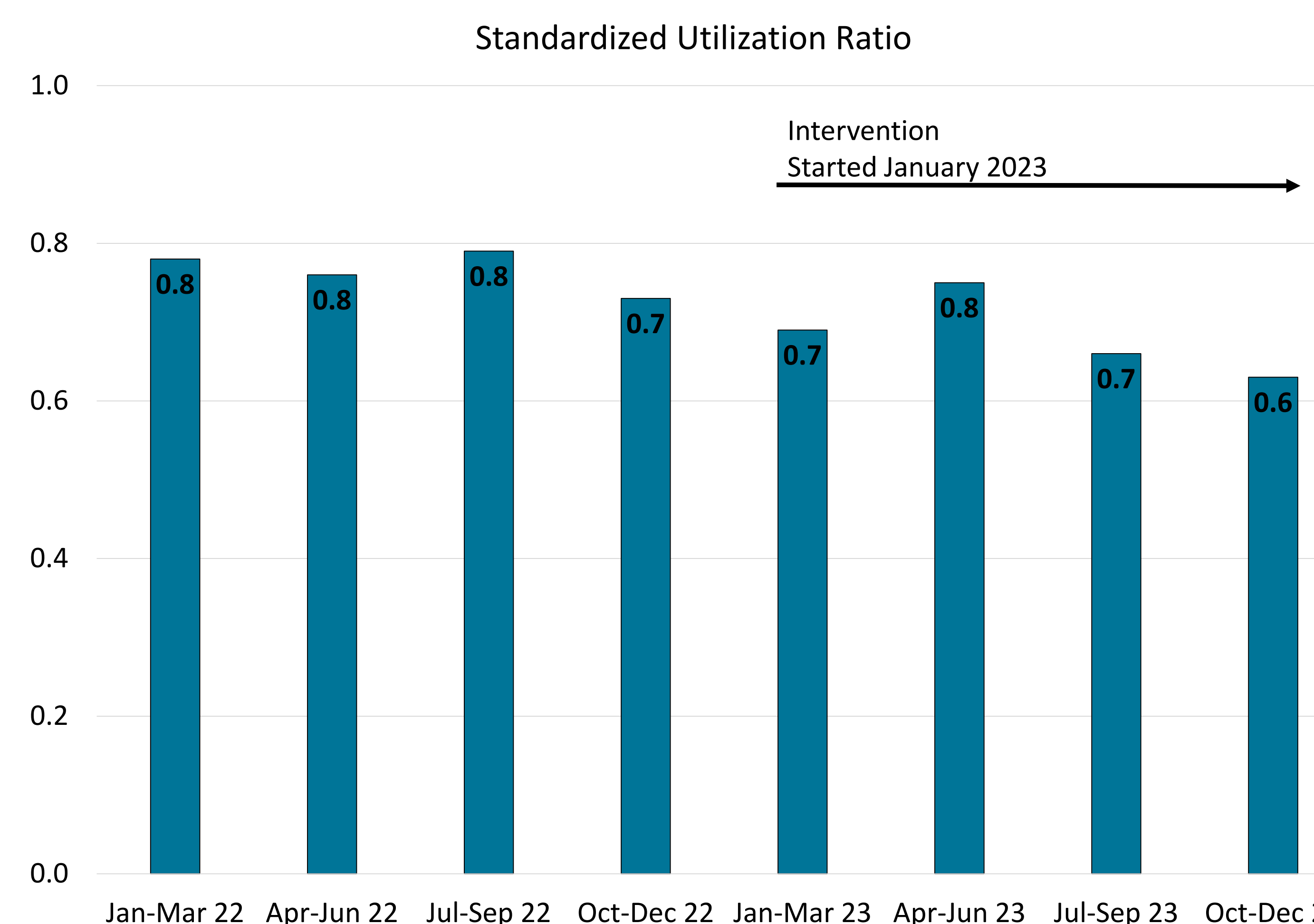
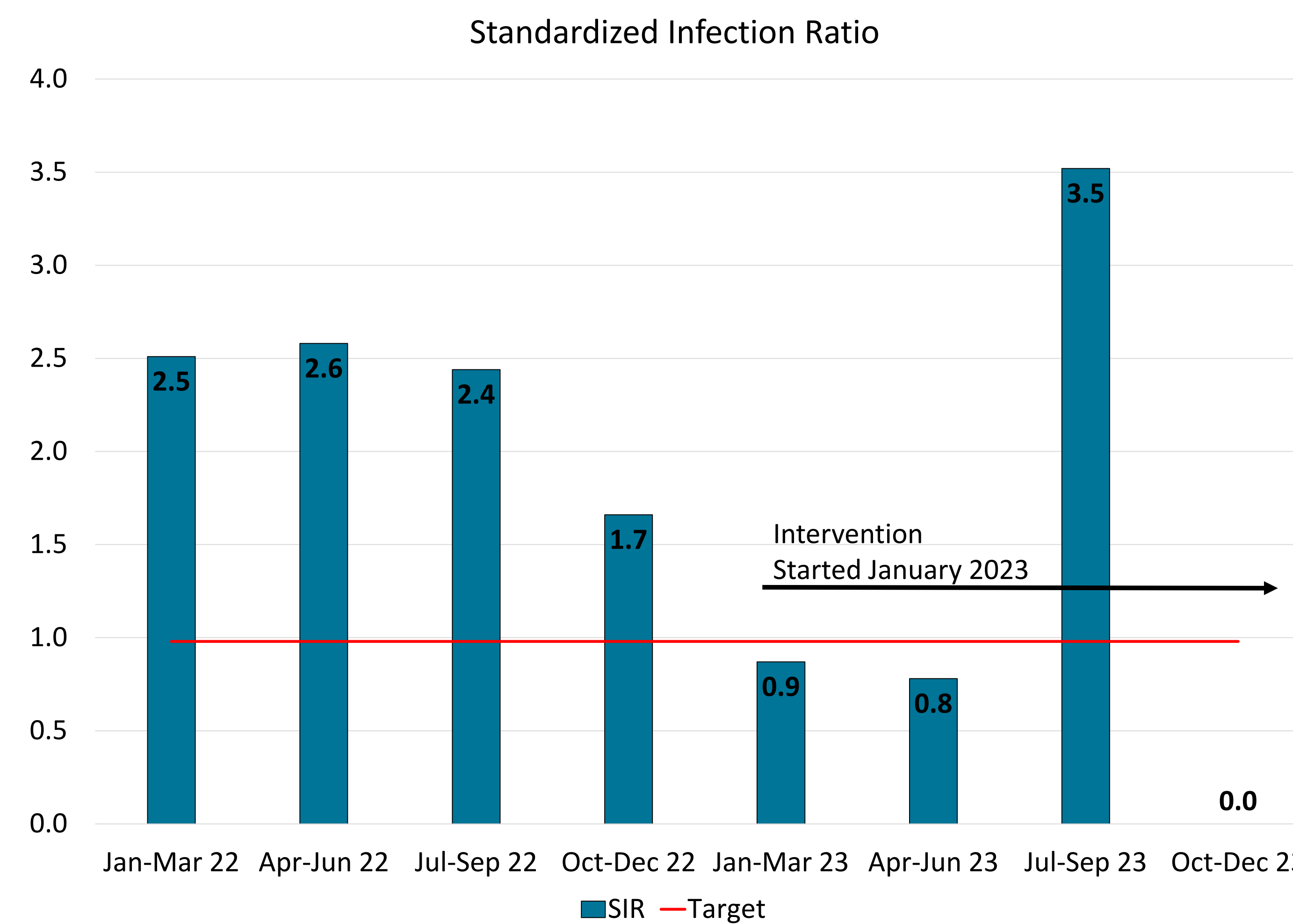
- The purpose of this initiative was to determine if having an individual dedicated to ensuring appropriate preventative practices were in place would reduce CLABSI.
- The goal of this project was to reduce the SIR below 1.0, indicating observed CLABSIs were less than predicted.

STRATEGY

- This project was deployed on a 24 bed trauma critical care unit at an academic level 1 trauma center.
- All patients admitted in calendar year 2022 and the first two quarters of 2023 with central venous catheters were included except for those patients requiring extracorporeal membrane oxygenation therapy.
- During this project, a registered nurse was dedicated as a unit-based infection prevention champion.
 - Conducted purposeful rounding on all patients with invasive tubes and catheters since January of 2023.
 - Ensured that these tubes and catheters met criteria for continued use. Any tube or catheter that did not meet criteria for use was discussed with the medical team for removal.
 - Inspect all connected tubing and dressings to ensure that all preventive practices were in use.
 - Replaced any compromised dressings and applied alcohol impregnated caps to exposed injection ports.
 - Informed the bedside nurse of these interventions.
 - Shared findings with unit and hospital leadership to monitor compliance with infection prevention strategies.

RESULTS

- The CLABSI SIR was reduced by 44% from calendar year (CY) 2022 to 2023 with the SIR below 1 in three of those 2023 quarters.
- Similarly the central line standardized utilization ratio (SUR) was reduced from 0.77 in CY 2022 to 0.68 in CY 2023, an 11% reduction in central line use.



IMPLICATIONS FOR PRACTICE

- Engagement of frontline staff has been found to promote behavior change associated with improved compliance with infection prevention strategies.^{2,3}
- During this time, the unit was experiencing high registered nurse vacancy rates and utilization of travel and contract staff. While a systematic review of travel nurses and patient outcomes did not establish a consistent relationship between travel nurses and patient outcomes, adverse associations may be related to staffing levels or work environments within the unit.⁴
- The champion in this case may avert negative effects by ensuring hospital prevention measures are adhered to regardless of the care provider. Similar results were found when a "compliance coach" was deployed at a large academic medical center in 2017.⁵ Staff and managers reported that the coach provided actionable information and improved central line maintenance in multiple areas over the intervention period.⁵
- In conclusion, significant improvements in CLABSI may occur with focused intervention carried out by a dedicated champion.

NEXT STEPS

- Expand the role of the Infection Champion role to other units
- Pilot use of similar roles to ensure preventative measures are in place for other hospital related complications (e.g., hospital acquired pressure injuries, falls)

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