



Implementation of Bloodstream Infection Surveillance of All Vascular Access Devices and Notification Process in a Large Academic Medical Center

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Background

Bacteremia is a serious condition that results in high morbidity and mortality rates, increase cost, and prolongs hospital stay. To decrease bloodstream infections (BSI), we begin surveillance of all vascular access devices using a comprehensive metric for the identification of peripheral line-associated bloodstream infections (PLABSI) and notification process for PLABSIs. PLABSI surveillance aims to identify missed opportunities with vascular access maintenance bundle (VAMB) elements and gaps in processes and systems.

Objectives

Upon completion, participant will be able to:

- Describe what is a PLABSI?
- Describe process for identifying PLABSI
- Determine if PLABSIs are a possible significant source of bacteremia.

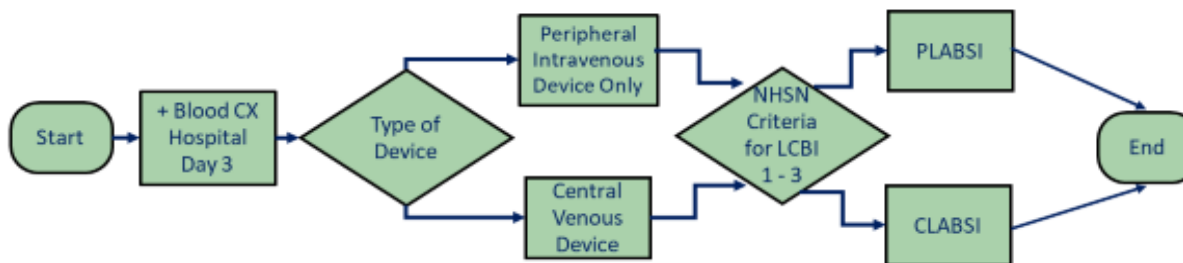
Methods

All positive blood cultures were reviewed and patients with central-line (CL) were eligible for central line-associated BSI (CLABSI). Patients with peripheral intravenous line (PIV) and no CL were eligible for PLABSI. All metrics of National Healthcare Safety Network (NHSN) BSI criteria were followed to identify PLABSI, with the exclusion of Mucosal Barrier Injury Laboratory-Confirmed Bloodstream Infection (MBI-LCBI). Once identified, PLABSI notification was shared with the relevant stakeholders. PLABSI rate was calculated using PIV days, which were collected using the same criteria as NHSN CL days.

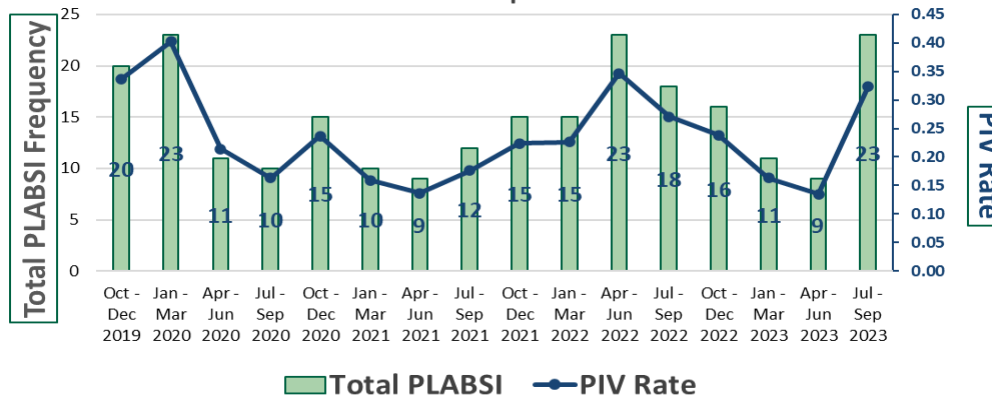
Results

In fiscal year (FY) 2020, there were 64 PLABSIs with 229,363 PIV days, with an infection rate of 0.28 per 1000 PIV days. In FY2021, PLABSIs decreased to 46 with PIV days of 260,247 and a rate of 0.18 per 1000 PIV days. However, an increase occurred in FY2022 with 71 PLABSIs and 266,139 PIV days, the rate increased to 0.27 per 1000 PIV days. Finally, in FY2023 a reduction was seen with 59 PLABSIs and rate of 0.22 per 1000 PIV days, despite an increase in PIV days to 272,065.

PLABSI Process Flow Chart



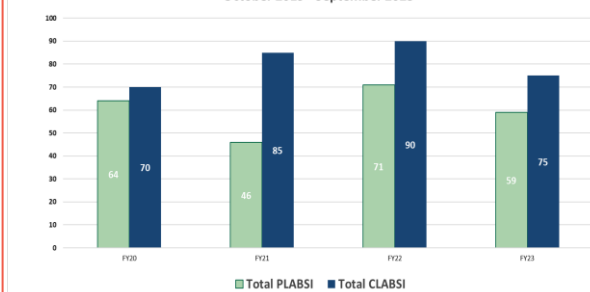
Housewide PLABSI Counts By Quarter October 2019 - September 2023



Conclusion

Monitoring all vascular access devices is crucial to reducing morbidity, mortality, and healthcare costs. A comprehensive approach helps to identify missed opportunities in adhering to maintenance bundles, highlights process/system gaps, and supports continuous quality improvement. Healthcare facilities can enhance patient safety and outcomes by implementing robust notification processes and addressing identified issues, while minimizing the burden of bloodstream infections.

Housewide PLABSI & CLABSI Counts By Fiscal Year October 2019 - September 2023



References

National Healthcare Safety Network (NHSN) patient safety component manual. [2024 NHSN Patient Safety Component Manual \(cdc.gov\)](https://www.cdc.gov/nhsn/patient-safety-component-manual/)

Disclosures

No disclosures