applied to determine the SUR required to achieve the goal SIR. The six individual model–recommended SUR values were combined using bootstrap resampling: drawing 1,000 samples (with replacement) from the six SUR estimates, computing the mean each time to produce an ensemble recommendation, and then taking the 5th and 95th percentiles of those means as a 90% confidence interval. **Results:** Over the study timeframe, the aggregated system SUR was 0.742 and aggregated SIR was 0.774 . The comprehensive analysis recommended that the system adopt an SUR target of 0.650 (90% Confidence Interval: 0.645–0.655) to achieve the central line SIR goal (Figure 1). **Conclusion:** The analysis allowed the healthcare system to set a personalized goal, using data from the member hospitals, for SUR performance. This allowed identification of hospitals that needed to focus on further interventions to decrease central line use, versus those that should pivot their CLABSI prevention interventions to other focuses.

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Poster Presentation
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CLABSI designation following hepato-pancreato-biliary surgery‡

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Background: Patients undergoing hepato-pancreato-biliary (HPB) surgery routinely need central venous access for chemotherapy or parenteral nutrition. Common postoperative complications of HPB surgeries include cholangitis and transient bacteremia from biliary tract manipulation. Previous studies have suggested that the National Healthcare Safety Network (NHSN) criteria that designate bacteremia secondary to infections such as cholangitis, may be too strict to account for these situations, resulting in central line associated bloodstream infection (CLABSI) misattribution. **Methods:** This retrospective study evaluated bacteremia events within 30 days of an HPB surgical procedure among patients ≥ 18 years old at a large academic medical center in the United States. The study period included January 1, 2024 through October 31, 2025. HPB procedures were identified using operative codes mapped to HPB surgeries by NHSN with bacteremia cases identified electronically. CLABSI cases, as established by NHSN criteria, underwent manual chart review to understand the clinical context. **Results:** There were 1,143 HPB surgeries within the study period. Bacteremia was detected in 35 of them (3.1%). Five of these were ruled in as CLABSI. CLABSIs occurred at an average of 9.6 days postoperatively and 7.6 days after central line placement or access. CLABSIs were due to Enterococcus faecalis, Candida krusei, Prevotella species, Klebsiella oxytoca, and Staphylococcus aureus. Three of the CLABSIs had clinical evidence of cholangitis, but imaging findings were insufficient to meet NHSN criteria for an intraabdominal infection. These cases included transient bacteremia within 24 hours of biliary manipulation (drain placement for a portobiliary fistula, n=1, and drain capping, n=2). The other two CLABSI cases did not undergo biliary manipulation during their hospitalization and had no clear evidence of secondary infection. **Conclusion:** A substantial number of CLABSIs in HPB surgical patients may represent misattribution. Consideration to the unique infection risks of HPB surgical patients such as transient bacteremia related to drain placement and exchange could minimize CLABSI misattribution in this patient population. Ellsworth, M. G., Ausborn, V., Patel, B., Chang, P., & Ostrosky-Zeichner, L. (2023). 2419. Increasing Misattribution of Bacteremia as CLABSIs by NHSN Definitions: A Tertiary Care Center Perspective. Open Forum Infectious Diseases, 10(Suppl 2), ofad500.2039. https://doi.org/10.1093/ofid/ofad500.2039

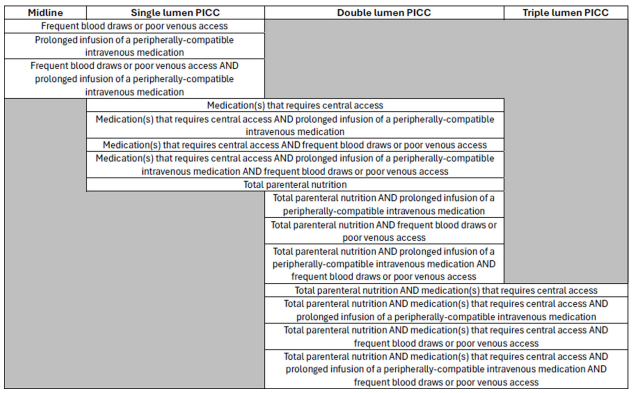
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Subject Category: CLABSI
PICC and Midlines: Evaluating Lumen Selection Appropriateness and Associated Complications‡

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Background: Midlines and peripherally-inserted central catheters (PICC) have increased in use due to their ease of insertion, low insertion risk to patients, and relatively low cost. Three common complications are central line-associated bloodstream infection (CLABSI), upper extremity deep venous thrombosis (DVT), and lumen occlusion. The literature reports PICC-associated CLABSI rates of 0.5-2.1 per 1000 catheter days, DVT rates of 1.4 to 9.5%, and lumen occlusion 5 to 16.1%. Both CLABSI and lumen occlusion are more common in multi-lumen than in single lumen (SL) PICC. Our objective is to evaluate the appropriateness of midline and PICC lumen selection, to assess for rates of complication, and to identify targets for clinical decision support intervention. **Methods:** Setting. This is a retrospective cohort study of adult patients ≥18 y.o. with a midline or PICC placed by the Vascular Access Team (VAT) between 1/1/24 and 6/30/25 at a 500-bed academic safety net and teaching hospital. Data abstraction. Indication for line placement was determined by VAT consultation order or manual chart review. Upper extremity DVT was screened by ICD10 codes and confirmed through manual chart review. CLABSI was determined through cross-reference to National Healthcare Safety Network data. Alteplase administration was used as a surrogate for lumen occlusion. Appropriateness criteria. Appropriateness of midline and PICC lumen selection was determined by adapting the Michigan Appropriateness Guide for Intravenous Catheters and Michigan Multi-Lumen Appropriateness Criteria (Figure 1). **Results:** Six hundred twelve midline (n=97, all SL) or PICCs (n=515) were placed into 524 patients in the study period (SL PICC, n=213; double lumen [DL] PICC, n=243; triple lumen [TL] PICC, n=59). The indication for line differed based on the line type (Table 1). The majority of midlines (95.9%) and SL PICCs (99.5%) were deemed appropriate; in contrast, 74.1% of DL PICC and 3.4% of TL PICC were considered appropriate. Complications of midline and PICC were rare (CLABSI: 0.19 per 1000 line days; DVT: 1.1%; lumen occlusion: 11.8%). Any complication occurred in 12.9% of cases and was more common in multi-lumen as compared to SL devices (i.e. midline or SL PICC) (19.9% vs 6.1%, P). **Conclusion:** Opportunities exist to reduce multi-lumen PICC insertion. This may decrease device-related complications. Optimizing lumen selection

Figure 1. Criteria used to assess appropriateness of midline and peripherally-inserted central catheter lumen selection.



‡The abstract titles in this supplement have been corrected since original publication. A notice detailing the changes has been published at https://doi.org/10.1017/ash.2026.10802.

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Table 1. Indication for insertion, duration, and ordering service for midline and peripherally-inserted central catheters

Variable	Midline n = 97	Single lumen PICC n = 213	Double lumen PICC n = 243	Triple lumen PICC n = 59	P
Indication for line placement, n (%)					<.0001
Total parenteral nutrition	4 (4.1)	5 (2.4)	135 (55.6)	31 (52.5)	
Medication(s) that requires central access	0 (0)	4 (1.9)	49 (20.2)	15 (25.4)	
Prolonged infusion of a peripherally-compatible intravenous medication	30 (30.9)	195 (90.6)	45 (18.5)	21 (35.6)	
Frequent blood draws or poor venous access	78 (80.4)	18 (8.5)	45 (18.5)	17 (28.8)	
Inpatient duration of line, median (Q1,Q3) days	4.8 (2.8, 10)	1.1 (0.18, 3.2)	7.8 (4.1, 15.9)	8.4 (4.5, 15.1)	<.0001
Duration of hospitalization, median (Q1,Q3) days	13.9 (6.8, 27.2)	7.8 (4.4, 14.0)	16.4 (9.2, 31.0)	20.5 (11.6, 28.6)	<.0001
Ordering service, n (%)					<.0001
Hospitalist or internal medicine	37 (38.1)	119 (55.9)	63 (25.9)	9 (15.3)	
Pulmonary and critical care	13 (13.4)	5 (2.3)	35 (14.4)	19 (32.2)	
Surgery	26 (26.8)	11 (5.2)	116 (47.7)	24 (40.7)	

through clinical decision support may improve patient safety and vascular access outcomes.

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Evaluation Of The Use of Antibiotic Locks For the Treatment and Prevention of CLABSI‡

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Background: Central-line associated bloodstream infections (CLABSI) are defined as bacteremia, or fungemia, in patients with a central intravascular device and no other apparent source of infection. In cases where devices are not removed, treatment of CLABSI involves eradication of intraluminal infection with systemic antibiotics and supratherapeutic concentrations of antibiotics inside the catheter, creating an antibiotic lock. Antibiotic locks can also be used in selected high-risk individuals and those with recurrent CLABSI for prevention. In this review, we evaluated the use of antibiotic locks for the treatment and prevention of CLABSI at South Texas Veterans Health Care System (STVHCS) to assess if use has been in accordance with standard of care. Methods Retrospective data review of STVHCS electronic medical records from 2020-2025. Data collected is limited to age, catheter type, purpose of antibiotic lock (treatment or prevention), organism targeted, antibiotic used for lock, duration, use of systemic antibiotics, and if the intervention was successful at 30 and 90 days. Appropriate lock used was defined as in accordance with the IDSA 2009 CLABSI treatment guidelines, or the 2022 SHEA compendium. Results Data available demonstrated that over the past 5 years there have been 18 instances of antibiotic lock use in 16 patients. Of this population, 13 of 18 lines involved were tunneled hemodialysis catheters with the remaining being ports (3), and tunneled central lines (2). Six of these instances were used for prevention of CLABSI due to long-term hemodialysis catheters/recurrent CLABSI, while the remaining 12 were used as treatment. Per IDSA CLABSI guidelines, removal of a catheter was recommended for 8 of 18 cases, (Staphylococcus aureus, Enterococcus spp., and metastatic infection). Of those cases, 6 patients had removal of catheter, whereas the remaining 2 patients had catheter salvage. The retention of the catheters were in accordance with IDSA guidelines as they received systemic antibiotics with concomitant lock therapy and had no alternative venous access and removal was contraindicated. We found at 30 days, all patients had survived. Whereas at 90 days, 4 patients had expired due to other all-cause mortality and unrelated to recent CLABSI infection. Conclusions Based on this retrospective review, there were 18 instances of antibiotic lock therapy that appeared to be in accordance with clinical guidelines for both prevention and treatment of CLABSI. This data review is part of the antibiotic stewardship program and will be used to develop future quality improvement processes.

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Healthcare-Associated Bloodstream Infections in an Adult ICU in Vietnam: Findings From a Multi - Year Infection Prevention Surveillance‡

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Background: Healthcare-associated bloodstream infections (HABSIs) are major cause of morbidity and mortality in intensive care units (ICUs), particularly in low - and middle-income countries (LMICs). However, ICU-level surveillance data describing the epidemiology and antimicrobial resistance pattern of bloodstream infections in Vietnam remain limited. **Methods:** We conducted a restrospective descriptive study using routine infection prevention and control (IPC) surveillance data from an adult ICU at a tertiary infection diseases hospital in Hanoi, Vietnam. All laboratory-confirmed HABSI episodes recorded between October 2023 and December 2025 were included. Cases were identified using standardized national IPC surveillance definitions aligned with CDC/NHSN principles. Demographic characteristics, exposure to invasive devices, microbiological profiles and antimicrobial resistance patterns were analyzed. **Results:** A total of 134 HABSI episodes were identified. Male patients accounted for 73.9% (99/134) of cases. Most infections occurred among critically ill ICU patients with prolonged ICU stays and exposure to invasive devices. Central venous catheters were present in the majority of HABSI episodes 84.3% (113/134), suggesting a high level of exposure to intravascular devices. Gram-negative organisms predominated (82 episodes) with Acinetobacter baumannii was the most frequently identified pathogen (20.9%), followed by Klebsiella pneumoniae (15.7%) being the most frequently isolated pathogens. A high proportion of isolates demonstrated multidrug resistance, with 67.1% (55/82) of gram -negative isolates exhibiting carbapenem resistance, predominantly a mong A.baumanii and K.pneumoniae . In addition, fungal bloodstream infections due to Candida species accounted for 30 episodes (22.4%). **Conclusion:** HABSI in this adult ICU were associated with frequent central venous catheter use and a high burden of antimicrobial resistance, particularly carbapenem-resistant gram-negative bacteria dominated by Acinetobacter baumanii. The substantial proportion of candidemia further highlights the complexity of bloodstream infections in critically ill patients. These findings underscore the importance of strengthening facility-based IPC surveillance, optimizing central line care practices, and integrating stewardship interventions in high-risk ICU settings in Vietnam.

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Hub to Heart: Reducing CLABSIs in High-risk Pediatric Population Through a Back-to-Basics Competency to Support Evidence-based Practice‡

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Background: Central line-associated bloodstream infections (CLABSIs) remain a challenge in pediatric care, particularly among medically complex patients requiring prolonged catheterization. Critically ill and

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