Figure 2. Inter-Reviewer Agreement *

A. All Cases (n=50)

	fellow 1	fellow 2	fellow 3	attending 1	attending 2	attending 3
fellow 1	*26%*	0.49 (0.20,0.79)	0.23 (-0.08,0.54)	0.27 (-0.02,0.57)	0.48 (0.19,0.77)	0.13 (-0.15,0.40)
fellow 2		*20%*	0.34 (0.02,0.66)	0.39 (0.10,0.67)	0.27 (-0.04,0.58)	0.03 (-0.24,0.30)
fellow 3			*22%*	0.35 (0.06,0.64)	0.23 (-0.08,0.54)	0.17 (-0.14,0.48)
attending 1				*32%*	0.18 (-0.12,0.47)	0.08 (-0.15,0.31)
attending 2					*26%*	0.13 (-0.15,0.40)
attending 3						*8%*

B. Cases not meeting NHSN criteria for CAUTI (n=34)

	fellow 1	fellow 2	fellow 3	attending 1	attending 2	attending 3
fellow 1	*12%*	0.15 (-0.35,0.65)	-0.06 (-0.51,0.39)	0.02 (-0.52,0.55)	0.26 (-0.25,0.77)	-0.03 (-0.36,0.31)
fellow 2		*12%*	0.14 (-0.40,0.68)	0.35 (-0.16,0.87)	0.10 (-0.45,0.64)	-0.23 (-0.53,0.07)
fellow 3			*21%*	0.33 (-0.16,0.82)	0.33 (-0.16,0.82)	-0.20 (-0.43,0.03)
attending 1				*26%*	0.24 (-0.30,0.78)	0.03 (-0.37,0.44)
attending 2					*18%*	0.03 (-0.37,0.44)
attending 3						*6%*

C. Cases meeting NHSN criteria for CAUTI (n=16)

	fellow 1	fellow 2	fellow 3	attending 1	attending 2	attending 3
fellow 1	*56%*	0.72 (0.33,1.00)	0.47 (0.06,0.87)	0.36 (-0.02,0.73)	0.53 (0.12,0.95)	0.28 (-0.25,0.81)
fellow 2		*38%*	0.47 (0.06,0.87)	0.36 (-0.02,0.73)	0.30 (-0.14,0.74)	0.28 (-0.25,0.81)
fellow 3			*25%*	0.35 (-0.03,0.73)	0.15 (-0.25,0.54)	0.39 (-0.02,0.80)
attending 1				*44%*	0.07 (-0.29,0.43)	0.09 (-0.21,0.40)
attending 2					*44%*	0.18 (-0.24,0.59)
attending 3						*13%*

* Responses grouped as "yes" vs "no or unclear"; diagonal squares (bold, italic) = % of responses that were yes; other cells contain Kappa statistic (95% CI) for pairs of reviewers

Figure 3: Inter-reviewer agreement allowing for three responses

A. All Cases (n=50)

	fellow 1	fellow 2	fellow 3	attending 1	attending 2	attending 3
fellow 1	*26%*	0.51 (0.24,0.79)	0.26 (-0.03,0.56)	0.28 (0.01,0.55)	0.26 (0.09,0.43)	0.14 (-0.09,0.37)
fellow 2		*20%*	0.34 (0.05,0.63)	0.36 (0.10,0.61)	0.22 (0.05,0.38)	0.07 (-0.15,0.28)
fellow 3			*22%*	0.41 (0.17,0.65)	0.09 (-0.08,0.26)	0.05 (-0.20,0.29)
attending 1				*32%*	0.06 (-0.13,0.24)	0.01 (-0.18,0.21)
attending 2					*26%*	0.04 (-0.14,0.21)
attending 3						*8%*

B. Cases not meeting NHSN criteria for CAUTI (n=34)

	fellow 1	fellow 2	fellow 3	attending 1	attending 2	attending 3
fellow 1	*12%*	0.19 (-0.27,0.66)	-0.01 (-0.43,0.42)	0.07 (-0.43,0.56)	0.19 (-0.18,0.56)	0.06 (-0.25,0.38)
fellow 2		*12%*	0.15 (-0.29,0.60)	0.32 (-0.12,0.76)	0.22 (-0.17,0.62)	-0.19 (-0.49,0.10)
fellow 3			*21%*	0.42 (0.05,0.80)	0.24 (-0.06,0.54)	-0.26 (-0.45,-0.08)
attending 1				*26%*	0.21 (-0.15,0.58)	0.00 (-0.34,0.34)
attending 2					*18%*	-0.10 (-0.40,0.19)
attending 3						*6%*

C. Cases meeting NHSN criteria for CAUTI (n=16)

	fellow 1	fellow 2	fellow 3	attending 1	attending 2	attending 3
fellow 1	*56%*	0.72 (0.33,1.00)	0.47 (0.06,0.87)	0.32 (-0.03,0.67)	0.22 (0.02,0.42)	0.14 (-0.25,0.53)
fellow 2		*38%*	0.47 (0.06,0.87)	0.32 (-0.03,0.67)	0.17 (-0.01,0.34)	0.27 (-0.10,0.64)
fellow 3			*25%*	0.39 (0.05,0.73)	0.00 (-0.20,0.21)	0.24 (-0.12,0.60)
attending 1				*44%*	-0.06 (-0.27,0.15)	-0.01 (-0.25,0.24)
attending 2					*44%*	0.10 (-0.13,0.34)
attending 3						*13%*

* Responses grouped as "yes", "no", or "unclear" (separately); diagonal squares (bold, italic) = % of responses that were yes; other cells contain Kappa statistic (95% CI) for pairs of reviewers

especially in patients with abnormal genitourinary (GU) anatomy. Our study assessed inter-provider variability in diagnosing CAUTI in 50 such patients, including those meeting NHSN(National healthcare safety network) criteria. **Methods:** We included a random set of 50 adults (18+) with abnormal GU anatomy admitted to the University of Miami hospitals from January 2018 to November 2021 who had a urinary foley catheter and at least one positive urine culture during their hospitalization. Three Infectious disease fellows and three board-certified Infectious disease physicians independently reviewed each patient's chart, classifying them as having or not having a CAUTI. Inter-physician reliability was assessed using kappa statistics. **Results:** Our findings highlight substantial variation in clinician-determined CAUTI incidence among the 50 patients with abnormal GU anatomy, ranging from 8% to 32% (Figures 2,3). Inter-rater agreement on CAUTI diagnosis was generally poor (Kappa Hollenbeak CS, et al. The attributable cost of catheter-associated urinary tract infections in the United States: A systematic review. Am J Infect Control. 2018 Jul;46(7):751-757. Trautner BW, et al. Development and validation of an algorithm to recalibrate mental models and reduce diagnostic errors associated with catheter-associated bacteriuria. BMC Med Inform Decis Mak. 2013 Apr 15;13:48. Gafary M, et al. Catheter Associated Urinary Tract Infections (CAUTI) in Bladder Cancer Patients Post Cystectomy With a Neobladder, Open Forum Infectious Diseases, Volume 2, Issue suppl_1, December 2015, 293.

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Subject Category: CLABSI

The Next Target for Readmission Reporting? Exploring Readmission Rates of Patients with CLABSI

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Background: Multi-drug resistant organisms (MDROs) are a common cause of healthcare-associated infections, particularly central line-associated bloodstream infections (CLABSIs). Prior research has shown that MDROs cause up to 67% of CLABSIs and have up to a 37% increase in 30 day readmission, which is higher than readmission rates for other conditions reported to the Centers for Medicare and Medicaid Services (CMS). The objective of the study was to determine overall 90-day readmission rates, and if there was a difference in readmission rate within 90 days post discharge for patients who had a MDRO as the causative pathogen of their CLABSI compared to patients who did not have an MDRO. **Methods:** A retrospective analysis of patient data from a nine-hospital system was performed on patients who had a CLABSI and were discharged alive between January 1st, 2018, and December 31st, 2019. Basic descriptive statistics were performed, and the potential differences in readmission rates were examined using Chi-square analyses. **Results:** The overall readmission rate for all CLABSIs was 46.9%. The chi-square analysis determined there was not a significant difference in readmission rates in patients who had a MDRO CLABSI compared to patients with a non-MDRO CLABSI (59.1% vs. 44.6%, x2= 1.564 , p= 0.211). **Conclusion:** There was not a significant difference in readmission rates between patients with an MDRO CLABSI compared to a non-MDRO CLABSI. However, the overall readmission rate for this patient population was much higher than seen in previous literature and other publicly reported readmission rates. Additional research is recommended to explore if the increased CLABSI readmission rates seen are a unique finding to this health system.

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The Mechanics, Art, and Value of Central Line Stewardship

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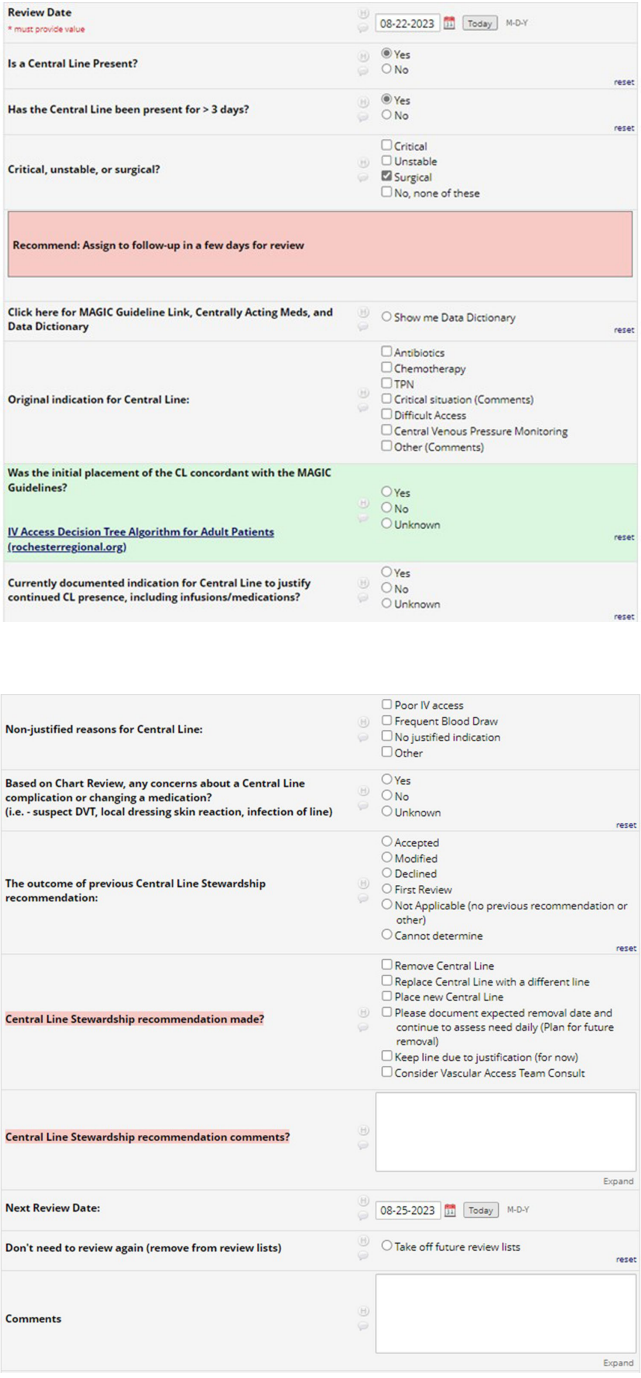
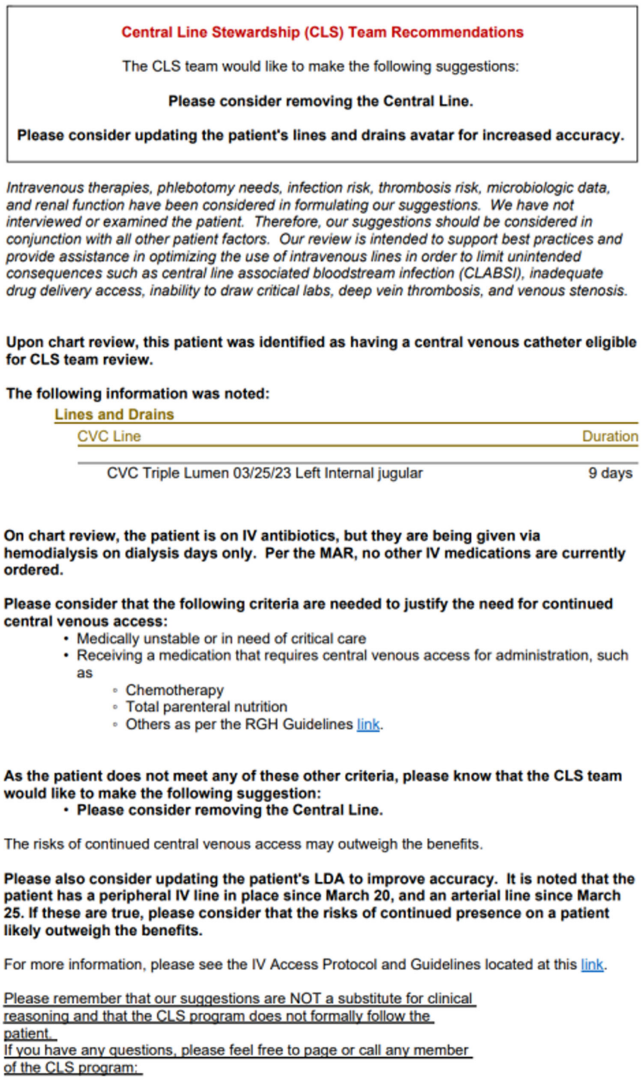
Background: Central venous catheter (CVC) utilization and central-line associated bloodstream infection (CLABSI) have increased nationwide. Busy providers can easily overlook the recommended practice of daily assessment of the ongoing indication for CVC. Prospective audit and





feedback (PAF) is widely used and the gold standard for antibiotic stewardship programs (ASP), but reports involving PAF for device use are scarce. Therefore, we decided to evaluate the usefulness and feasibility of PAF for reducing device utilization and ultimately CLABSI rates at our 528-bed tertiary care hospital. **Methods:** A PAF-based Central Line Stewardship (CLS) initiative was launched in February 2023, with a team of hospitalists, infectious diseases physicians, health informatics, vascular access nurses, and infection preventionists. On business days, CVC line-lists were exported from the electronic medical record (EMR), into a REDCap (Research Electronic Data Capture) database for team members to evaluate, in real-time, all non-ICU CVCs in place for more >72 hours (Figures 1 and 2). For CVCs eligible for stewardship, CLS members placed Legal-approved note into the patient's EMR, advising CVC removal or alternative IV access (Figure 3). CVCs continued to be audited until removal or patient discharge. Recommendation outcomes were tracked over the subsequent 72 hours for acceptance. Standardized Utilization Rates (SUR) and Infection Rates (SIR) were calculated and compared using the National Healthcare Safety Network. **Results:** Between February and August 2023, the CLS team reviewed 861 CVCs, representing 581 unique patient encounters, and made 622 recommendations. Recommendations to remove or replace the CVC represented 23.5% (146) of reviews, and 57% of these CVCs were removed within 3 days. 95% of removed lines had no adverse outcomes and did not require reinsertion. Hospital-wide CVC utilization decreased 18.7% from a SUR of 1.006 in the previous year, to 0.818 during the 7-month pilot period ($p < 0.001$). In the 4 months following the pilot period, decreased CVC utilization was sustained with an SUR of 0.797. Non-ICU CLABSI SIR decreased from 1.282 in 2022 to 1.024 in 2023 (p=0.36). Average time physician required for CLS review approximated a 0.4 full-time equivalent a week. The intervention was well received, with requests for expansion to urinary catheters. **Conclusion:** CLS safely and significantly reduced device-utilization; directly via documentation and recommendation, and indirectly through increased awareness and the Hawthorne Effect. Examples of the "art" of CLS include when to leave a discoverable note and how to determine ongoing need for CVC in a fragile patient.

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