Table 1: Types of surgery and the antibiotic consumption

Type of Surgery	Total number of patients	Total LOT	Total DOT	Average days of LOT	Number of patients with c/s
Non-Infective Elective surgery	36	158	296	4.4	6
Closed fracture	8	45	89	5.6	0
Open fracture without Infection	26	168	377	6.4	1
Infection(open/closed)	24	217	350	9	23

Presentation Type:
Poster Presentation
Subject Category: Antibiotic Stewardship
Seven versus 14 Day Antibiotic Treatment Duration in Patients with Bacteremia: A Meta-Analysis of Randomized Controlled Trials
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Background: Bacteremia is associated with significant morbidity and mortality. At least 14 days of antibiotic treatment has traditionally been the standard of care. However, shortening the duration of antibiotic therapy is a key strategy for improving antimicrobial stewardship. This meta-analysis of randomized controlled trials (RCTs), including the recently published BALANCE trial, seeks to identify the duration of antibiotics needed to optimize this mortality benefit by comparing seven versus 14 days of antibiotic duration. **Hypothesis:** The mortality risk ratio (RR) in the 7-day group is similar to 14-day group. **Methods:** Multiple electronic databases and trial registries were searched on December 29, 2024, for RCTs reporting mortality outcomes in patients with bacteremia treated for seven versus 14 days of antibiotics. We estimated the effect of these two-treatment durations using random-effects meta-analyses with the generic inverse variance method. Subgroup analyses were conducted to assess the impact of the source of bacteremia on mortality. **Results:** Four eligible RCTs consisting of 4,794 patients with bacteremia, were included. Median age was 71 years (interquartile range (IQR): 69-73), and 47% (IQR: 45%-49%) were male. Of the patients with bacteremia, 87% had gram-negative bacteria and 13% gram-positive bacteria. Patients with Staphylococcus aureus bacteremia, severe immune compromise, prosthetic heart valves, syndromes with well-defined requirement for prolonged treatment such as infective endocarditis or osteomyelitis, single positive blood culture with common contaminant, Candida or other fungi were excluded. Overall mortality rate was 8%. The RR for 90-day and 30-day mortality between 7 versus 14 days was 0.92 (95% CI: 0.79 – 1.06) and 0.92 (95% CI: 0.96-1.12), respectively. Median antibiotic-free days were higher in the 7-day group than 14- day group (19 days vs 14 days, p=0.03). The rates of Clostridioides difficile infection were similar in two groups (1.6% vs 1.5%, p=0.97). Subgroup analysis indicated no effect modification by the source of bacteremia. The risk of bias was assessed as low. **Conclusions:** This systematic review and meta-analysis of RCTs found no difference in mortality between 7- and 14-day treatment durations in low-risk patients with non-Staphylococcus aureus bacteremia. Reducing antibiotic treatment for uncomplicated gram-negative and gram-positive bacteremia to 7 days is a critical antibiotic stewardship intervention.

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Impact of Electronic Health Record Embedded Guidance on Contaminated Blood Cultures and Anti-MRSA Agent Utilization
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Background: Blood culture contamination is a large burden on the health system with significant excessive costs and antimicrobial use. In 2024, a national blood culture shortage required intensive conservation strategies regarding blood culture collection. We developed clinical guidance on blood culture utilization and embedded it in electronic health record (EHR). Our goal is to evaluate its impact on blood culture utilization and anti-MRSA agent usage at our institution. **Methods:** The antimicrobial stewardship team provided educational communication, and blood culture bottle conservation strategy (BCBCS) recommendations that were embedded into the EHR in July 2024 (Figure 1). Patient charts with a laboratory identified blood culture growing a contaminant in December 2023 (prior to BCBCS) and October 2024 (post-BCBCS) were reviewed. Patients were excluded if they had another clinically relevant pathogen in blood cultures, were discharged prior to blood culture result, or died within 48 hours of blood culture result. Information on anti-MRSA agent (vancomycin, linezolid, daptomycin, ceftaroline) days of therapy (DOT), total hospital blood culture volume, blood culture contamination rates, and ID consultation was collected. **Results:** 54 patients pre-BCBCS and 29 patients post-BCBCS were reviewed. Anti-MRSA DOT in patients reviewed with contaminated cultures was 161 pre-BCBS and 56 post-BCBCS (Table1). Overall blood culture volume and contamination rate were reduced post BCBCS implementation (Table 2). Total hospital anti-MRSA DOT was noted to be less post EHR guidance as well (1529 pre-BCBCS and 1279 post-BCBS). **Conclusions:** Reduction in both the volume of blood culture collection and overall contamination rate contributed to a reduction of anti-MRSA therapy at our institution. These results highlight the impact that diagnostic stewardship may have on antimicrobial stewardship metrics.

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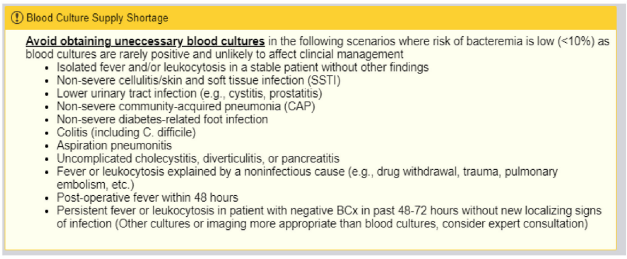
Table 1

	December 2023	October 2024	% Decrease post implementation
Patients with contaminated cultures per review, n	54	29	
Days of Anti MRSA Agent therapy, n	161	56	65.22%
ID Consultation pertaining to contaminated cultures	4	1	75%

Table 2

	December 2023	October 2024	% Decrease post implementation
Hospital wide blood culture volume, n	2302	1395	39.4
Overall lab defined contamination number, n	68	34	50
Overall lab defined contamination rate, %	3	2	33.3
Overall days of therapy of anti-MRSA agents in hospital, n	1529	1279	16.3
Overall days of therapy of anti-MRSA agents in hospital per 1000 patient days, n	67.8	54.5	19.7

Figure 1



Presentation Type:
Poster Presentation
Subject Category: C. difficile
Discordance between symptom presentation and testing for Clostridioides difficile among hospitalized VA patients
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Background: Presence and documentation of clinical symptoms of Clostridioides difficile infection (CDI) prior to diagnostic testing is not well-described. The Infectious Diseases Society of America (IDSA) guidelines recommend that patients have ≥3 episodes of unexplained loose stool in the previous 24 hours before testing. In populations predisposed to chronic non-infectious diarrhea, such as those undergoing chemotherapy or with chronic gastrointestinal (GI) illness, more explicit signs of infection may be needed. Our objective was to evaluate CDI symptoms that proceeded testing in a cohort of inpatient Veterans with chronic GI illness or undergoing chemotherapy. **Methods:** This retrospective cohort study included Veterans hospitalized at 8 VA facilities from January 1st, 2019-December 31st, 2022, who were tested for CDI, and were receiving chemotherapy or had chronic GI illness. Charts reviewed identified the following symptoms in the 24 hours prior to testing: greater than 3 loose stools in 24 hours, bloody stool, nausea, vomiting, abdominal pain, fever (temperature ≥100.4°F), and white blood cell count >10,000/mm3. The presence of 3 loose stools in 24 hours alone was deemed the minimal indication for CDI testing, while the presence of any additional symptoms was considered high indication for testing. CDI treatment was defined as at least one dose of metronidazole, oral vancomycin, or fidaxomicin ±7 days from testing. Chi-square tests assessed the association between indication for CDI testing and test positivity. **Results:** A total of 676 tests for 577 unique patients were reviewed (69.1% White, 94.5% male, mean age=68.3 years). Most had a chronic GI illness (90%); colitis, and presence of a gastrostomy were the most frequently reported. Only 14% of CDI tests were positive. The minimal indication for CDI testing was present for 243 tests (36%). 190 tests (28%) were ordered for patients with symptoms highly indicative of CDI. Of the negative tests, 55% were associated with at least one dose of CDI treatment. There was no association between test indication and test positivity (p-value=0.82). **Conclusion:** In a population predisposed to chronic non-infectious diarrhea, nearly two thirds (64%) of those tested did not meet the minimum requirement (3 documented loose stools in 24 hours). This may partly explain the low-test positivity rate of 14%. Over half of negative tests were associated with CDI treatment. Future work should focus on diagnostic stewardship to improve documentation of loose stool and other CDI symptoms prior to testing to reduce unnecessary testing and overtreatment.

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Subject Category: C. difficile
Characteristics of Patients with Hospital Onset Clostridioides difficile Infections in a Safety Net Hospital
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Background: Clostridioides difficile infections (CDI) are a leading cause of health-care associated morbidity and costs. University Health Truman Medical Center is a longstanding 238-bed safety net hospital in Kansas City, MO, where there was an increase in hospital-onset (HO) CDIs in 2024. To improve our infection prevention and control measures, we sought to study these HO CDI cases. **Methods:** Using a retrospective cohort study design and electronic health records, we retrieved data for inpatients who were identified as having HO CDI by our department of infection prevention and control in 2024. HO CDI was defined as a positive test for toxigenic Clostridioides difficile (C. difficile) polymerase chain reaction (PCR) performed on unformed stool collected on hospital day > 3 (with preagreed intuitional criteria in place). Data included demographic and epidemiological variables, comorbidities, onset of diarrhea and timing of stool collection, length of stay (LOS) and exposures (within prior 6 months) to hospitalization, surgery, and/or medications including laxatives, proton-pump inhibitors, immunosuppressants and antimicrobials. **Results:** In 2024 there were 20 HO CDI cases (versus 9 in 2023) with consequent increase in the CDI rate per 10,000 patient days and the standardized infection ratio. The characteristics of the CDI cases (percentage; mean ± standard deviation) were as follows. Most cases were females 60%. The mean age was 61 ± 18 years and BMI 28 ± 11 kg/m2. Recent hospitalization was common; 50% of cases had been hospitalized within 28 days and 70% within 6 months of their positive C difficile test. All cases had one or more comorbid conditions while one patient (5%) had past history of CDI. The median LOS was 18 days with frequent room changes and 35% of cases had an intensive care unit exposure. All had received systemic antibiotics either singly or in combination and the most commonly used agents included cephalosporins (90%) and penicillins with beta-lactamase inhibitor (35%). Laxative use was common (65%) as were history of surgery (55%) and intravenous contrast exposure (50%). Most cases (70%) were treated with oral vancomycin with three cases receiving a taper/prophylaxis, while five cases received fidaxomicin; there was one case of recurrence. **Conclusions:** Recent hospitalization and laxative use were high among HO CDI cases in a safety net hospital, raising concern for potential over-diagnosis. Switching to a two-step C difficile stool testing algorithm (PCR+ toxin enzyme immunoassay), though more costly, would be a useful mitigation strategy.

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Subject Category: CAUTI
Optimizing Diagnostic Stewardship: Reducing CAUTI Rates Through Urine Culture Decision-Making in the ICU
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Background: Approximately half of all fevers in intensive care units (ICUs) are attributed to noninfectious causes. Despite this, most providers routinely culture urine from patients with indwelling urinary catheters who develop a new fever, which can lead to overdiagnosis and unnecessary antibiotic use. This study evaluated the impact of transitioning from a urinalysis (UA) with reflex to culture order to a stand-alone UA with microscopy in the Surgical and Neurosciences Intensive Care Unit (SNICU) on the frequency of urine cultures ordered and Catheter-Associated Urinary