P = .0001). After the intervention, 299 patients had an override. Of these, samples from 218 patients (72.9%) were negative, 50 orders (16.7%) were cancelled, and 28 samples (9%) were positive. **Conclusions:** Diagnostic stewardship, utilizing an electronic hard stop, was effective in reducing inappropriate *C. difficile* testing in the setting of promotility agents without delaying diagnosis of HO-CDI. This strategy combined with standard best practices can significantly reduce HO-CDI rates.

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Presentation Type:
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Subject Category: *C. difficile*

Prospective audit and feedback of *Clostridioides difficile* PCR at the time of ordering increases appropriateness of testing

Daniel Tassone, Matthew Hitchcock, John Markley, Michael Stevens

Background: Over-testing for *Clostridioides difficile* infection outside acute diarrheal illness without a clear alternative cause can lead to inappropriate diagnosis and treatment with antibiotic therapy. Preanalytical interventions such as education, order restriction, and electronic order assistance are common but are limited in effectiveness. As an alternative approach, our antibiotic stewardship program (ASP) implemented prospective audit and feedback (PAF) on *C. difficile* PCR orders to reduce inappropriate testing.

Methods: The study was conducted at a 399-bed, tertiary-care, Veterans' Affairs Medical Center and included adult inpatients and outpatients for whom *C. difficile* PCR testing was ordered. In the preintervention period from June through September 2019, the ASP was alerted to *C. difficile* PCR tests and collected data but did not intervene. From October 2019 to January 2020, the ASP performed real-time PAF at the time of ordering. Appropriateness of testing was determined based on whether there was a negative result in the prior 7 days and a 3-step review of clinical factors (Fig. 1). When possible, a direct conversation took place with the ordering provider. If not possible, a general note delineating appropriate clinical criteria for testing was generated. No PAF was done outside standard hours. The ASP recommended cancelling tests deemed inappropriate. Monthly test rates during the pre- and postintervention periods were compared using the Student t test with $\alpha = .05$, and test appropriateness was compared using the χ^2 test. All analyses were conducted using Microsoft Excel software. **Results:** During the preintervention period, a total of 418 tests were ordered (104.5 per month). This number decreased to 276 (69 per month) during the intervention period. (p **Conclusions:** Direct PAF at the time of *C. difficile* PCR ordering may increase test appropriateness and is associated with a reduction in overall testing, primarily by reducing the number of tests that are considered not appropriate on clinical grounds. PAF is effective but requires significant time investment by ASP staff and may not be a sustainable intervention over time.

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Subject Category: *C. difficile*

Evaluation of the genomic epidemiology and transmission of *Clostridioides difficile* infection across a community

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Background: *Clostridioides difficile* infection (CDI) is a major cause of morbidity and healthcare costs in the United States. The epidemiology of CDI has recently shifted, with healthcare-associated (HCA) CDI trending downward and community-associated (CA)-CDI becoming more prominent. The cause of this shift is not well understood but may be related to changing genomic epidemiology. We assessed *C. difficile* strains across a CDC Emerging Infections Program (EIP) site in Western New York, including strains from both HCA-CDI and CA-CDI cases to characterize predominating strains and putative transmission across epidemiological classifications and between index and recurrent cases. **Methods:** In total, 535 isolates of *C. difficile* were collected over a 6-month period in 2018 from the Monroe Country, New York, EIP site and were analyzed using whole-genome sequencing (WGS). Standard epidemiological definitions were used to classify cases as hospital onset (HO-CDI); community associated (CA-CDI); community onset, healthcare associated (CO-HCFA-CDI); or long-term care onset (LTCO-CDI). Recurrent cases were defined as those diagnosed within 8 weeks of an initial positive test. Multilocus sequence types (MLSTs) were assigned according to PUBMLST and single-nucleotide polymorphisms (SNPs) were determined using a modified CFSAN analytical pipeline. Cases resulting from putative transmission were defined as those separated by 0–1 core SNPs. **Results:** Of 535 isolates, 454 were from index and 81 were from recurrent cases. The index cases were comprised of CA-CDI (47.4%), CO-HCFA-CDI (24%), LTCO-CDI (8.1%), and HO-CDI (19.3%). Cases with recurrent disease mirrored the epidemiological distribution of the larger set. Common MLSTs included ST2 (12.3%), ST8 (10.5%), ST42 (7.9%), ST58 (4.9%), ST43 (4.5%), and ST11 (4.3%). The previously widespread epidemic strain,

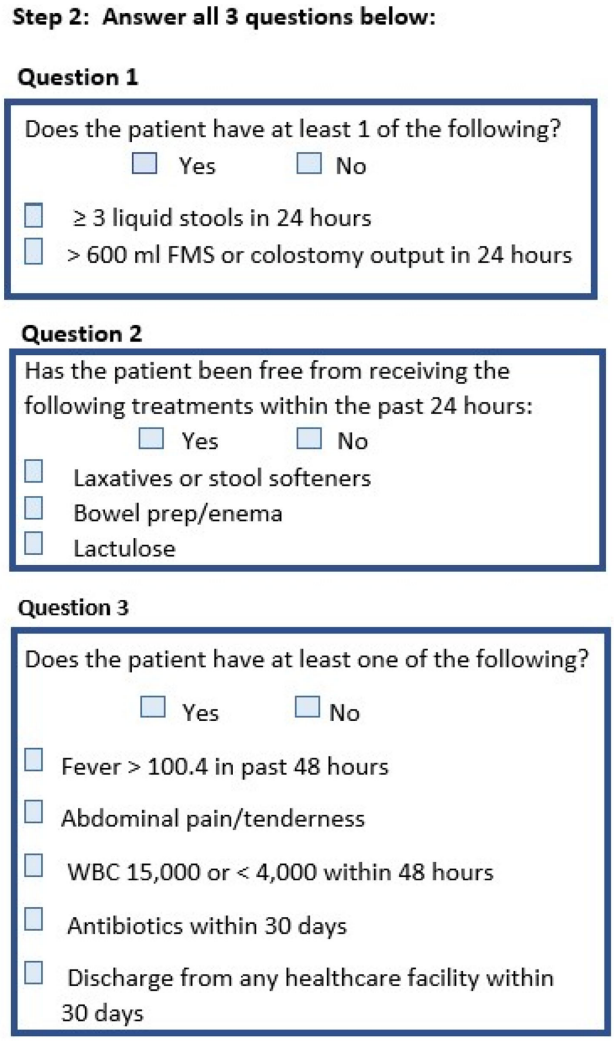

Fig. 1.

NAP1/ST1/RT027 accounted for **Conclusions:** The genomic epidemiology of *C. difficile* across this large community cohort demonstrated a diverse group of strain types that was similarly distributed across epidemiological classifications and between index and recurrent cases. SNP analysis indicated that direct transmission between cases was uncommon.
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Subject Category: CLABSI
Peripheral intravascular catheter-associated bloodstream infection in the medical–surgical ICU
Nancy Hogle; Patrick Burke and Thomas Fraser

Background: Prompt removal of unnecessary central venous catheters (CVC) may reduce central-line–associated bloodstream infection (CLABSI). Primary non–central-line–associated hospital-acquired bloodstream infection (BSI), including peripheral intravascular (PIV) catheter-associated bloodstream infection (PIVABSI) remains a problem. Hospitals use CLABSI surveillance data to measure patient safety, yet this measure alone fails to describe the burden of total intravascular device-related infection. We described non-CLABSI primary BSI due to PIV in our medical–surgical ICU population. **Methods:** Hospital-wide surveillance for primary hospital-acquired BSI, including CLABSI, was conducted in accordance with NHSN protocol. We measured PIV catheter days and central-line days using a database including nursing device documentation and patient census data to count the number of patients with 1 or more devices in place in each location, counted at the same time each day. By substituting the role of the CVC with short or midline PIV in NHSN CLABSI surveillance protocols, we performed surveillance for PIVABSI. We defined PIVABSI as a patient without CVC and either a short or midline catheter in place for >2 calendar days on the date of BSI. Patients with BSI and both CVC and PIV were counted as CLABSI. We compared CVC and PIV utilization and the incidence density of CLABSI and PIVABSI in 8 medical and surgical ICUs at our large teaching hospital. We used OpenEpi version 3.01 software to test the hypothesis that the incidence density of CLABSI would be significantly different from that of PIVABSI. **Results:** From January to September 2021, there were 16 CLABSIs and 12 primary non–central-line–associated hospital-acquired BSIs, all 12 were PIVABSIs. Of these 12, 8 had >1 PIV in place and none were midlines. There were 13,418 central-line days, 10,897 short and midline peripheral IV days, and 22,415 patient days, resulting in device utilization ratios of 0.60 and 0.49, respectively. The incidence density of CLABSI was 1.2 per 1,000 central-line days, although the incidence density of PIVABSI was 1.1 per 1,000 peripheral IV days ($P = .84$). There was no difference in pathogens between the 2 groups. **Conclusions:** PIVABSI represented more than one-third of the total primary hospital-acquired BSIs in our medical and surgical ICUs. Total BSI surveillance is feasible. Efforts to reduce CLABSI should be part of a broader strategy to decrease total hospital-acquired BSI from all vascular access devices.
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Subject Category: CLABSI
Blood-culture ordering practices in patients with a central line at an academic medical center—Iowa, 2020
Elias Kovoor; Takaaki Kobayashi; Lorinda Sheeler; Alexandra Trannel; William Etienne; Oluchi Abosi; Stephanie Holley; Mary Kukla; Angie Dains; Kyle Jenn; Holly Meacham; Beth Hanna; Alexandre Marra; Meredith Parsons; Bradley Ford; Melanie Wellington; Daniel Diekema and Jorge Salinas

Background: The IDSA has a clinical definition for catheter-related bloodstream infection (CRBSI) that requires ≥1 set of blood cultures from the catheter and ≥1 set from a peripheral vein. However, because blood cultures obtained from a central line may represent contamination rather than true infection, many institutions discourage blood cultures from central lines. We describe blood culture ordering practices in patients with a central line. **Methods:** The University of Iowa Hospitals & Clinics is an academic medical center with 860 hospital beds. We retrospectively collected data for blood cultures obtained from adult patients (aged ≥18 years) in the emergency department or an inpatient unit during 2020. We focused on the first blood cultures obtained during each admission because they are usually obtained before antibiotic initiation and are the most important opportunity to diagnose bacteremia. We classified blood-culture orders as follows: CRBSI workup, non-CRBSI sepsis workup, or incomplete workup. We defined CRBSI workup as ≥1 blood culture from a central line and ≥1 peripheral blood culture (IDSA guidelines). We defined non-CRBSI sepsis workup as ≥2 peripheral blood cultures without cultures from a central line because providers might have suspected secondary bacteremia rather than CRBSI. We defined incomplete workup as any order that did not meet the CRBSI or non-CRBSI sepsis workup. This occurred when only 1 peripheral culture was obtained or when ≥1 central-line culture was obtained without peripheral cultures. **Results:** We included 1,150 patient admissions with 4,071 blood cultures. In total, 349 patient admissions with blood culture orders (30.4%) met CRBSI workup. 62.8% were deemed non-CRBSI sepsis workup, and 6.9% were deemed an incomplete workup. Stratified by location, ICUs had the highest percentage of orders with incomplete workups (8.8%), followed by wards (7.2%) and the emergency department (5.1%). In total, 204 patient admissions had ≥1 positive blood culture (17.7%). The most frequently isolated organisms were *Staphylococcus epidermidis* (n = 33, 16.2%), *Staphylococcus aureus* (n = 16, 7.8%), and *Escherichia coli* (n = 15, 7.4%) **Conclusions:** Analysis of blood culture data allowed us to identify units at our institute that were underperforming in terms of ordering the necessary blood cultures to diagnose CRBSI. Being familiar with CRBSI guidelines as well as decreasing inappropriate ordering will help lead to early and proper diagnosis of CRBSI which can reduce its morbidity, mortality, and cost.
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Subject Category: CLABSI
The evaluation of central-line–associated bloodstream infection (CLABSI) preventability at an academic institution
Leon Hsueh; Daniel Uslan and Annabelle De St. Maurice

Background: In 2008, the hospital-acquired conditions (HACs) initiative labeled central-line–associated bloodstream infections (CLABSIs) as preventable "never events" that could no longer be reimbursed by Medicare. However, some patients have inherent unpreventable etiologies for bacteremia, such as obstructive biliary malignancies. We assessed the number of CLABSIs that were reasonably preventable. **Methods:** We examined all CLABSI cases at 2 academic medical centers over a 2-year period (2019–2021). We established 3 categories of CLABSIs: (1) preventable CLABSI (pCLABSI); (2) end-of-life CLABSI (EOL-CLABSI), which were CLABSIs that were caused by underlying disease processes in patients who were nearing the end of their lives due to a debilitating comorbidity; and (3) definition-based (dCLABSI), which met NHSN criteria for a CLABSI but, based on the pathogen and the clinical situation, likely occurred as a consequence of a patient's comorbidities. Two experienced infectious diseases physicians (D.U. and A.S.M.) reviewed the charts of each patient with a CLABSI and, based on expert opinion, determined the category for each