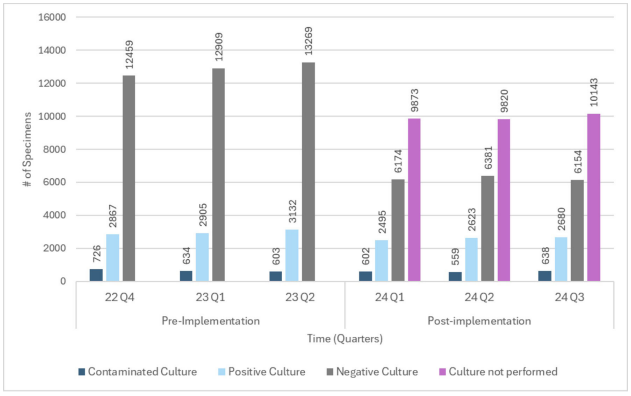
Presentation Type:
Poster Presentation
Subject Category: Diagnostic Stewardship
Impact of Urinalysis Reflex to Urine Culture Program on Antibiotic Use
Adam Zimilover[1], Sammy Cheng[2], Erika Orner[3], Kelsie Cowman[3], Phyu Thwe[3], Wendy Szymczak[3] and Inessa Gendlina[4]
[1]Montefiore Medical Center - Albert Einstein College of Medicine; [2]Albert Einstein College of Medicine; [3]Montefiore Medical Center and [4]Einstein Montefiore

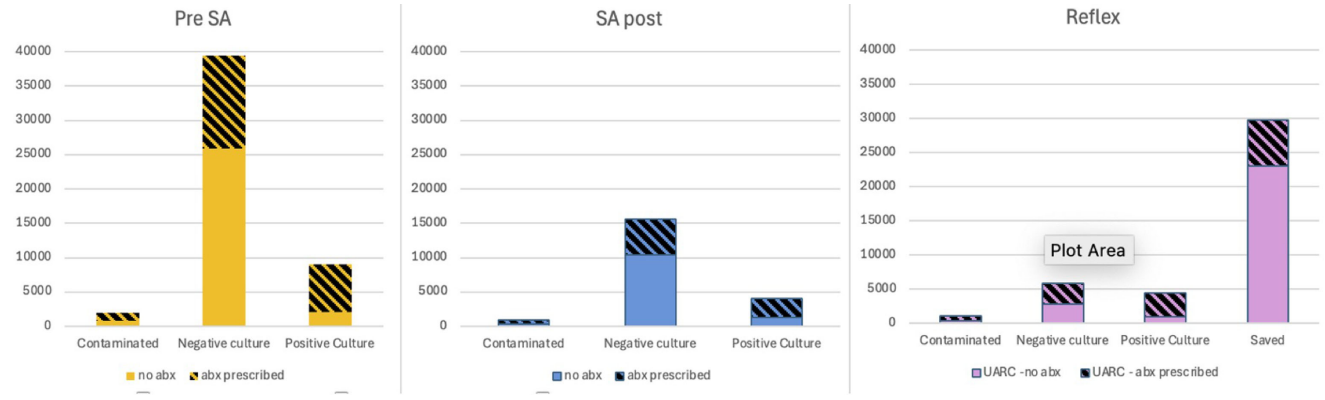
Background: Urinalysis (UA) with reflex to urine culture (UARC) protocols aim to optimize diagnostic testing and reduce unnecessary antibiotic use in hospitalized patients. By limiting urine cultures to cases where initial urinalysis results meet predefined criteria, UARC protocols can minimize false-positive results and reduce overtreatment. This study examines the impact of a UARC protocol implemented across a hospital system on urine culture volume and antibiotic utilization. **Methods:** A UARC protocol was implemented at our institution, performing urine cultures for UA specimens with ≥5 WBC/HPF. This study was an interrupted time-series analysis that compared the pre-implementation period (October 2022–June 2023) and the post-implementation period (January 2024–September 2024), with data elements abstracted from the electronic medical record. Antibiotic exposure within 48 hours before and 168 hours after urine specimen collection was evaluated. Comparisons were made using chi-square and Wilcoxon rank-sum tests, with p-values A total of 107,646 urine specimens were analyzed with 49,504 in the pre-implementation period and 58,142 post-implementation. Following UARC introduction, only 51.3% of reflex orders continued on to urine culture (29,836/58,142). Overall urine specimen orders resulting in antibiotic utilization decreased from 39.2% to 33.5% (p Implementing a UARC protocol significantly reduced urine culture volumes and antibiotic utilization, demonstrating its effectiveness in diagnostic and antimicrobial stewardship. While overall antibiotic use decreased, the unchanged treatment duration among recipients suggests complete courses were maintained with the reduction in culture orders serving as the mechanism driving this change. These findings support UARC protocols as valuable tools for reducing antibiotic use and optimizing healthcare resources. Further research should refine reflex criteria and assess long-term clinical outcomes.

Antimicrobial Stewardship & Healthcare Epidemiology 2025;5(Suppl. S2):s92
doi:10.1017/ash.2025.320



Presentation Type:
Poster Presentation
Subject Category: Diagnostic Stewardship
Durable Impact of Computerized Clinical Decision Support for C. difficile Testing
Stacy Park[1], Heather Cox[2], Lindsay Donohue[3] and Amy Mathers[4]
[1]University of Virginia Health System; [2]University of Virginia Health and [3]UVA Health

Background: Overdiagnosis of C. difficile in hospitalized patients is common and contributes to misdiagnosis, unnecessary treatment, and overestimation of nosocomial infection rates. Many institutions, including ours, have implemented computerized clinical decision support (CCDS) with reductions in testing rates, but long-term data on the impact of such interventions are limited. **Methods:** A previously reported CCDS intervention paired with education campaign and trainee financial incentive was implemented December 2016. A laxative alert was added in 2018 and testing changed from NAAT only to two-step testing in 2020. Hospital-onset C. difficile cases have been reviewed by members of the antimicrobial stewardship team in real time for diagnostic and antimicrobial prescribing opportunities for improvement (OFIs) since 2016, with a stable workflow for unit leadership notification and data entry in RedCap since June 2023. Diagnostic OFI categories are based on themes from early iterations of this



case-based review process and include: clinical criteria not met, stool criteria not met, alternative explanation for diarrhea, smells like C. difficile, test of cure, duplicate test, delayed collection, delayed testing, and other. We analyzed reviews from 6/1/2023-12/31/2024 and further classified diagnostic OFI determinations as "No OFI", "Inappropriate", or "Appropriate with process OFI". During the study period there was no ongoing financial incentive or concerted diagnostic stewardship educational campaign, though feedback continued to be provided to individuals and groups based on case reviews, and a single question regarding C. difficile testing was maintained in annual re-training. **Results:** There were 144 HO-CDI cases reviewed with no diagnostic OFI in 98 (68%). Testing was inappropriate in 16 (11%). Testing was appropriate with process OFIs in 30 (42%). The most common process OFIs were other-stool documentation (11), delayed testing (7), other-lack of discussion with preexisting ID consult (6), and delayed sample collection (5). In cases with delayed testing, earlier testing was not prevented by CCDS in any case. Conclusions: We found relatively low rates of inappropriate testing (11%) over a time period seven years out from initial implementation of CCDS without ongoing active house wide diagnostic stewardship initiatives. Carefully designed and implemented CCDS can be a valuable tool that facilitates sustained improvement and allows resources to be allocated to new efforts. We additionally observed no cases of delayed diagnosis attributable to CCDS with combination of established institutional criteria for testing and two-step testing.

Antimicrobial Stewardship & Healthcare Epidemiology 2025;5(Suppl. S2):s92–s93
doi:10.1017/ash.2025.322

Presentation Type:
Poster Presentation
Subject Category: Diagnostic Stewardship

Sustained Impact of EMR Best Practice Guidance on Blood Culture Bottle Utilization

Inessa Gendlina[1], Adam Zimilover[2], Gregory Weston[3], Ruchika Jain[3], Priya Nori[4], Marilou Corpuz[5], Erika Orner[5], Sammy Cheng[6], Julia Piwoz[4] and Wendy Szymczak[7]
[1]Einstein Montefiore; [2]Montefiore Medical Center - Albert Einstein College of Medicine; [3]Montefiore Medical Center and Health System Bronx NY; [4]Montefiore Health System; [5]Montefiore Medical Center; [6]Albert Einstein College of Medicine and [7]Montefiore Medical Center

Background: Blood cultures are essential for the accurate diagnoses of sepsis and bacteremia and have been recommended and used liberally as part of the diagnostic workup. Previous studies have shown that judicious use of blood cultures is safe in both adults and children (PMID 31942949). In the summer of 2024, BD BACTEC experienced a national shortage of blood culture media bottles, prompting institutions nationwide to implement measures to conserve supplies. Our institution rapidly implemented a blood culture diagnostic stewardship program, adopting a tiered approach including refining guidelines for blood culture orders via institution-wide education, and leveraging EMR both via best practice advisories (BPAs) on appropriate culturing and ordering restrictions. In this study, we evaluate the impact of these interventions and the post-restriction effects of EMR-based education. **Methods:** Prior to the shortage, no clinical decision support existed in the EMR to guide the blood culture ordering process. Initial measures implemented in July 2024 included a BPA highlighting appropriate indications for ordering initial and follow-up blood cultures (PMID 39136555; ASM Blood Culture Bottle Inventory Management and Clinical Conservation During Supply Shortages). In August 2024, restrictions were introduced, limiting orders to one set per 72 hours, with case-by-case overrides managed by an Infectious Diseases-led diagnostic stewardship team. After supplies improved in November 2024, restrictions were lifted, but the BPA-based clinical guidance was retained. Blood culture volumes were monitored across three phases: pre-shortage, during restrictions, and post-restriction. **Results:** Blood culture volume decreased by approximately 50% immediately following the introduction of BPAs and further decreased to 75% of pre-shortage levels during the restriction period. Post-restriction, at 2 months follow-up, culture volume has stabilized and sustained at over 50% lower than pre-shortage levels. **Conclusion:** The implementation of in-EMR best practice guidance, and temporary restrictions during a blood culture media shortage, led to significant reductions in blood culture order volume, even after lifting restrictions. These findings support the role of diagnostic stewardship interventions in promoting lasting changes in provider behavior. Utilizing EMR to support best practices and aligning blood culture practices with evidence-based indications, can reduce unnecessary testing and improve resource utilization. Further research is needed to evaluate the impact of these changes on patient outcomes.

Antimicrobial Stewardship & Healthcare Epidemiology 2025;5(Suppl. S2):s93
doi:10.1017/ash.2025.323