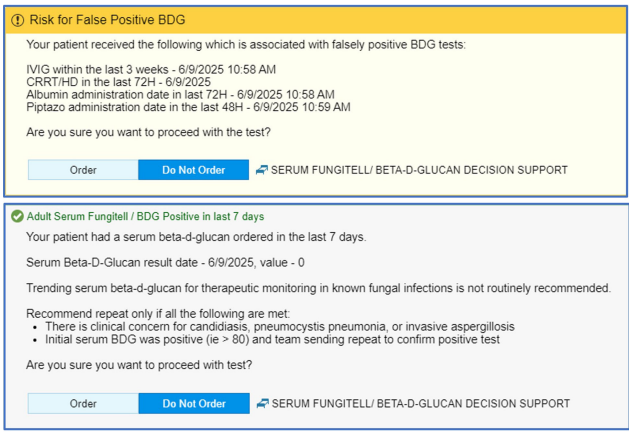
Presentation Type:
Poster Presentation
Subject Category: Diagnostic Stewardship

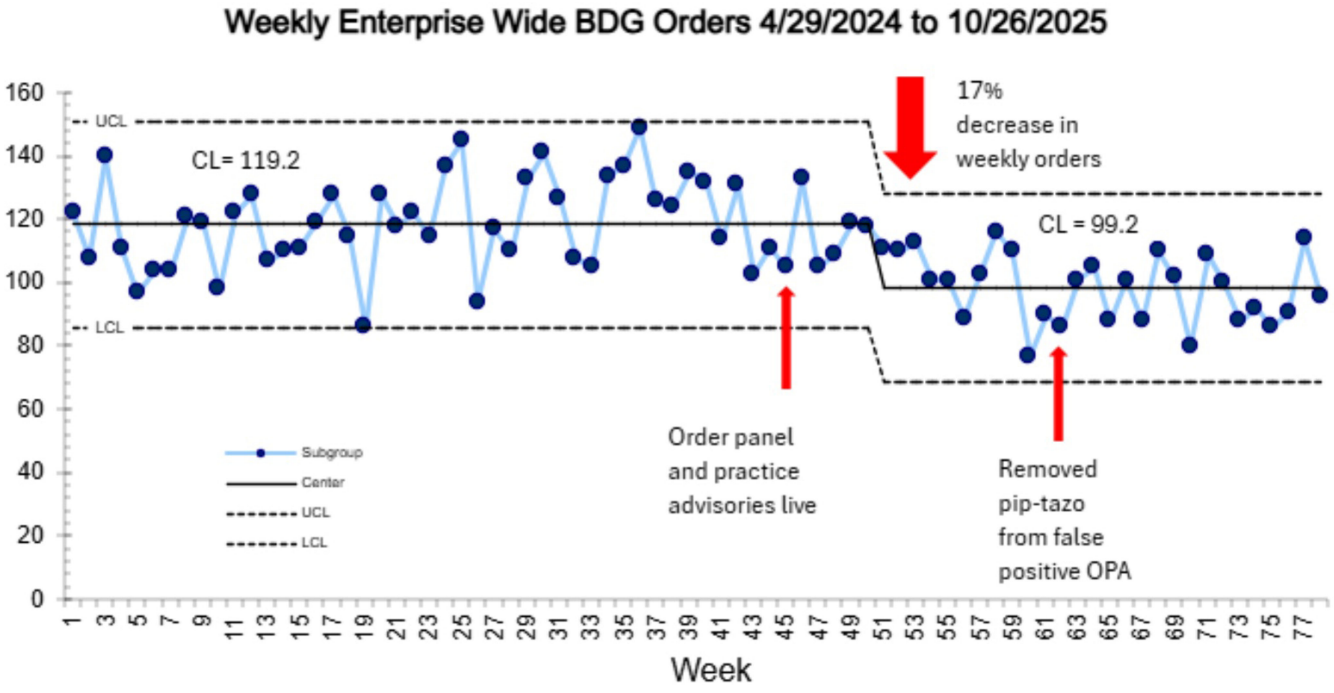
Diagnostic Stewardship to Reduce Beta-D-Glucan Testing Using Clinical Decision Support ‡

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Background: Beta-D-glucan (BDG) is a blood test that supports invasive fungal infection diagnoses, but is often over-ordered approximately 50% of the time, particularly in low-risk patients or for fungi not associated with BDG production. High rates of inappropriate use and frequent false positives, often driven by certain clinical scenarios or medication interactions, can lead to repeat testing and unnecessary procedures and treatment. While audit-and-feedback interventions can reduce test misuse, they are not feasible or sustainable for most hospitals. We implemented diagnostic stewardship of BDG through a guideline-based order panel with embedded decision support and interruptive alerts to replace a standalone test (figure 1). This quality improvement (QI) study aimed to reduce the use of BDG in the adult inpatient setting by 20% by 3/2026. **Methods:** From 3/5 -10/25/25, a multi-disciplinary team implemented this QI project at 8 campuses using iterative Plan-Do-Study-Act cycles. The primary outcome was the number of weekly BDG tests ordered across all campuses. Process measures included the number of interruptive alerts, the rate of duplicate tests, and adherence to order panel recommendations regarding appropriate host factors for BDG testing. Data was collected via the electronic health record. Statistical process charts (SPC) were used to display and analyze data, and Associate Process Improvement rules were applied to detect special cause variation. **Results:** Across the health system, the average weekly serum BDG orders decreased by 17% (figure 2). The false-positive and repeat-test alerts fired on average 76 and 8 times/week, respectively. Due to frequent false-positive alerts, low-impact factors (e.g., piperacillin-tazobactam) were removed, reducing average weekly false positive alerts from 101 in the first half of the intervention to 52. 77% of the false positive alerts were among patients on internal medicine, critical care, and oncology services. Based on chart review of 50 medicine, critical care, and oncology patients, approximately 51% of false-positive OPAs led to successful test interruption (i.e. delayed BDG ordering by ≥6 hours). The percentage of weekly duplicate tests decreased from 23% pre-intervention to







‡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.

https://doi.org/10.1017/ash.2026.10577 Published online by Cambridge University Press

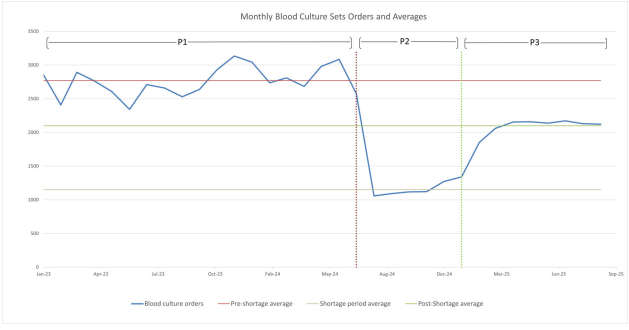
20% during the intervention. Accurate adherence to the order panel in this subset was 76%. **Conclusion:** In this study, we successfully implemented scalable BDG diagnostic stewardship, achieving a sustained 17% reduction in weekly BDG orders and nearly reaching the 20% target after 32 weeks. Further optimization of OPAs, along with provider feedback and education, may yield additional improvements.

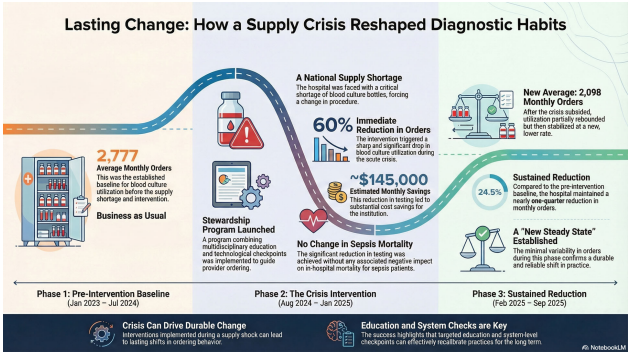
Antimicrobial Stewardship & Healthcare Epidemiology 2026;6(Suppl. S1):s95–s96
doi:10.1017/ash.2026.10577

Presentation Type:
Poster Presentation
Subject Category: Diagnostic Stewardship
Long-Term Sustained Reduction in Blood Culture Utilization Following Crisis-Driven Stewardship‡

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Background: Faced with a national blood culture (BC) bottle shortage, our institution implemented a diagnostic stewardship intervention relying on multidisciplinary teams' education to enhance provider awareness, along with technological checkpoints. This initial effort resulted in a 60% reduction in BC orders and an estimated monthly savings of approximately $145,000, with no change in in-hospital sepsis mortality. The initial report covered the post-intervention period up to January 2025. As bottle availability normalized, acute-phase restrictions ended, while key stewardship components were deliberately maintained. The electronic medical record (EMR) best practice advisory (BPA) remained active, paired with continued clinician education and ongoing monitoring of blood culture utilization to reinforce appropriate practice. We subsequently evaluated the durability of this stewardship approach, focusing on long-term utilization drift and the net sustained reduction in blood culture use after the acute supply crisis resolved. **Methods:** We conducted a retrospective review of BC utilization at a 438-bed tertiary care academic center. The study compared the Pre-Intervention Baseline (P1: January 2023-July 2024) against the two post-intervention phases: the acute shortage (P2: August 2024–January 2025) and the sustainability phase (P3: February 2025–September 2025). The stewardship intervention in P3 included an EMR-based BPA, along with ongoing education and monitoring. The primary outcome was the mean monthly BC orders. Statistical stability in P3 was assessed using 95% confidence intervals (CI). **Results:** Blood culture utilization averaged 2,777 sets per month during the pre-intervention period (P1). Following the acute shortage (P2), utilization partially rebounded and then stabilized at a lower plateau during the eight-month sustainability phase (P3) at 2,098 monthly orders. This represents a sustained 24.45% reduction compared with the pre-intervention baseline. The stability of P3 is supported by a narrow 95% confidence interval (1,909.92 to 2,186.08) and a low margin of error of ±88.08 orders, confirming that the reduction reflects a reliable new steady state. **Conclusion:** Our long-term evaluation shows that a diagnostic stewardship intervention implemented during an acute supply shock resulted in a durable shift in practice. Even after the shortage was resolved, monthly blood culture utilization remained nearly one-quarter below baseline and stabilized with minimal variability, indicating the establishment of a reliable new steady state. These findings highlight that targeted education and system-level checkpoints can drive lasting reductions in unnecessary testing and recalibrate ordering behavior well beyond the immediate crisis.





Presentation Type:
Poster Presentation
Subject Category: Diagnostic Stewardship
Comparison of Automated Antimicrobial Susceptibility Testing Instruments' Results to Broth Microdilution Results ‡

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Background Use of automated antimicrobial susceptibility testing (AST) instruments are common in clinical microbiology laboratories, in part due to the quick turnaround time and automated result reading. Given the wide variability in validation and each individual instrument's algorithms and parameters, AST data between clinical laboratories is not guaranteed to be comparable. Accurate AST is critical to ensure appropriate antimicrobial prescribing practices. In Tennessee little is known about the comparability of AST testing amongst clinical labs. This study aims to quantify differences in clinical automated testing instrument (ATI) performance when compared to broth microdilution (BMD). Methods Clinical laboratory AST data from Phoenix (PHX) and Microscan (MS) instruments were obtained for carbapenem-resistant Enterobacterales (CRE) and carbapenem-resistant Acinetobacter baumannii (CRAB) via the Multi-site Gram-Negative Surveillance Initiative. Data were received from the residents of seven select counties in Tennessee from 2019–2024. Identified isolates were sent to the Tennessee State Public Health Laboratory's Antimicrobial Resistance Lab Network (ARLN) program for additional testing, including BMD AST, which was used as the reference standard. Agreement between ATIs and BMD breakpoint interpretations were measured using a weighted Cohen's Kappa calculated in SAS 9.4. Results There were 401 isolates included in this study. Eleven antibiotics were evaluated for agreement between MS and BMD, and ten were evaluated for agreement between PHX and BMD, shown in Table 1. Six antibiotics and four antibiotics showed lower agreement to BMD for PHX and MS respectively. Both MS and PHX showed near perfect agreement (κ<0.81) for four antibiotics. Additionally, MS and PHX both showed moderate agreement (κ<0.41) for five antibiotics, two of which were imipenem and meropenem. Agreement between ATI and BMD was poor for ertapenem across both MS and PHX, with the data showing clinical ATI are over-reporting resistance compared to BMD. Agreement between MS and BMD was also poor for cefotaxime (0.39). Conclusion While this study only evaluated a subset of isolates tested at the clinical laboratory, it still demonstrates that clinical AST instruments results are not necessarily comparable, with half of the

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https://doi.org/10.1017/ash.2026.10577 Published online by Cambridge University Press