2025. Impact of Automation Process on Microbiological Laboratory Efficiency Suhairienne Suady Barake, PhD; Janet Hindler, MLS (ASCP); Ying Tabak, PhD; Andrew Jasen, MPH; Letha Vankeerperm, MS; David Sellers, RN; and Fatma Levent, MD.

A retrospective analysis of electronically captured microbiological data from a BD research database was used to compare pre-installation (January-December 2013) vs. post-installation period (January-October 2016). Twelve common and clinically important organisms were assessed. The following reporting times were compared: First gram stain, Organism Identification (ID), First antimicrobial susceptibility (AST), and final AST. Reporting time was examined in a 24-hour spectrum divided into day (06:00-17:59) and night (18:00-05:59) shifts. Statistical analysis was performed with SAS software version 9.2. Data was analyzed using Chi-squared test. A p value of <0.05 was considered statistically significant.

**Results.** Overall 14,179 positive results were reported during the study period. Species were collected following time to results for bloodstream pathogens are critical to optimizing therapy, conventional methods can take days resulting in inappropriate use of broad-spectrum antibiotics. The automated Accelerate Pheno™ system (AXDX) provides ID in <90 minutes of positivity (30 Gram-positive, 20 Gram-negative, 2 yeast, 2 off-panel species). A 0.5 ml aliquot was placed in an Accelerate PhenoTest™ BC kit sample vial and run on AXDX. Current laboratory methods for ID (Biofire Filmarray BCID, VITEK® 2, or MALDI-TOF) and AST (VITEK® 2 or Microscan) were run in parallel as comparisons (SN) and specificity (SP) were calculated for ID and essential (EA) and/or categorical (CA), major (ME) and very major errors (VME) for AST. Positive predictive value (PPV) for the Monomicrobial call in fresh samples was calculated.

**Results.** Three samples were excluded (1 technical and 2 ID failures) and a total of 51 PBC samples were evaluated and analyzed. Following adjudication of discrepant results, AXDX demonstrated 100% SN and SP, with 97.7% EA and 96.8% CA compared with current laboratory methods. The single VME and 2 of 3 ME were adjudicated to AXDX. The two off-panel organisms did not result in ID or AST from AXDX. The PPV for the Monomicrobial call was 100%. Overall times to ID and AST were reduced by 18.5 hours and 31.2 hours, respectively.

**Conclusion.** The Accelerate Pheno™ system demonstrated high performance for both ID and AST of PBC much faster than current laboratory methods. Implementing this system will allow laboratories to provide clinicians with actionable results much sooner, enabling them to optimize therapy earlier to improve patient outcomes.

**Disclosures.** A. J. Blaschke, BioFire Diagnostics LLC; Collaborator, Have intellectual property in BioFire Diagnostics through the University of Utah and Investigator, Licensing agreement or royalty and Research support

2027. Reproducibility of Ceftolozane/Tazobactam MIC Results for Enterobacteriaceae and Pseudomonas aeruginosa Using MicroScan Dried Gram-negative MIC Panels

Amara Harrington, PhD; Sharon DesJarlais, MT (ASCP); Romney Humphries, PhD; Janet Hindler, MLS (ASCP); Maria Traczewski, BS; Denise Beasley, MT (ASCP); Regina Brookman, BS; Jennifer Chau, PhD; and Darcie Carpenter, PhD.

MicroScan panels were evaluated for reproducibility at three sites. For replicates, a total of 17 on- and off-panel organisms were tested on MSDGN panels at each site (14 Enterobacteriaceae and 3 Pseudomonas aeruginosa). Three replicates of each panel were tested each day for three days using the turbidity and Prompt™ method of inoculation. MSDGN panels were incubated at 35 ± 2°C and read on the WalkAway System, the autoSCAN-4 instrument, and read visually. Read times for the MSDGN panels were at 16–20 hours, FDA breakpoints (µg/mL) used for interpretation of MIC results were: Enterobacteriaceae ≤ 2/4 S, 4/4 I and ≥ 8/4 R. P. aeruginosa ≤ 4/4 S, 8/4 I and ≥ 16/4 R.

**Results.** Reproducibility among the three sites was greater than 95% for all read methods for both the turbidity and Prompt inoculation methods.

**Conclusion.** This multi-center study showed that Ceftolozane/Tazobactam MIC results for Enterobacteriaceae and P. aeruginosa obtained with the MSDGN panel are highly reproducible.

**Disclosures.** All authors: No reported disclosures.