for off-hours results. Microbiologic and clinical data were collected prospectively. Due to inconsistencies in instrument performance identified after the first month, two post-intervention periods (Group A = October 2018–January 2019; Group B = February 2019–mid-April 2019) were analyzed to assess quality improvement efforts during clinical roll-out.

**Results.** In the 6.5-month combined period, 690 unique BC samples were run on AP and reviewed by AST (417 in A; 273 in B). Performance of the technology improved, with 78.9% (329/417) of isolates in Grp A identified vs. 85.3% in Grp B (233/273). Percentage of runs with progression to antibiotic susceptibility improved from 76.1% to 92.3%. Over both time periods, AST intervened on 277 samples (Figure 1). Recommendations (bug-drug mismatch, de-escalation, dose optimization, and infectious disease consult) were accepted at a rate of 97.4%. Time from BC positivity to optimal therapy was 15.3 hours (Figure 2).

**Conclusion.** Implementation of AST with AP review resulted in rapid identification and antibiotic susceptibility results with early optimization of antimicrobial therapy. Highest impact was seen in the management of patients with resistant Gram-negative infections. Oversight of the implementation by a partnership of clinical microbiology and the antimicrobial stewardship team was critical in identifying real-time implementation issues and opportunities for quality improvement. Though real-world performance was slightly inferior to published trial data, the instrument’s exceedingly fast time to AS represents a significant advantage over other systems and enhances clinical care and patient safety particularly when paired with AST intervention.

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**Figure 1: AST Intervention Type**

![AST Intervention Type](image1.png)

**Figure 2: Post-implementation Time to Optimal Therapy**

![Post-implementation Time to Optimal Therapy](image2.png)

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

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1999. **Does Pharmacist-Driven Methicillin-Resistant Staphylococcus aureus PCR Nasal Screening Decrease Time to De-Escalation of MRSA Coverage in Patients with Pneumonia?**

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**Session:** 235. Antibiotic Stewardship: Diagnostics and Diagnostic Stewardship

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**Background.** Vancomycin and linezolid are antibiotics used in cases where methicillin-resistant *Staphylococcus aureus* (MRSA) is suspected, including in cases where MRSA is suspected to be the cause of pneumonia. MRSA nasal PCR has been shown to have a high negative predictive value when used to rule out MRSA pneumonia. The purpose of the current study was to determine whether a pharmacist-driven MRSA PCR nasal screening protocol would decrease the time to de-escalation or discontinuation of anti-MRSA therapy when utilized for pneumonia.

**Methods.** Patients were analyzed in two cohorts, those who received vancomycin or linezolid therapy from October 2012 to February 2013 (before pharmacist-driven MRSA PCR nasal PCR protocol; n = 88) and those who received vancomycin from October 2016 to February 2017 (pharmacist-driven MRSA nasal PCR protocol; n = 105). During the study period, pharmacists were given the authority, via protocol to order an MRSA nasal PCR when vancomycin or linezolid was ordered for the indication of pneumonia. Subsequently, after a negative MRSA nasal PCR, pharmacists would contact the prescriber, and let the prescriber know that the MRSA PCR was negative, and then discontinue anti-MRSA therapy. The primary outcome was duration in hours of active anti-MRSA therapy; Secondary outcomes evaluated were the number of anti-MRSA antibiotic doses ordered, and the number of vancomycin troughs ordered.

**Results.** Patients in the pre-pharmacist driven cohort received vancomycin or linezolid for a median of 44.19 hours, whereas in patients in the pharmacist-driven MRSA PCR protocol period received anti-MRSA therapy for a median of 19.1 hours (P < 0.0001). Additionally, prior to the initiation of the pharmacist-driven MRSA nasal PCR protocol, patients received 349 doses of anti-MRSA therapy, compared with 283 doses in the pharmacist MRSA nasal swab protocol group (P < 0.0009). There were also fewer vancomycin troughs ordered in the pharmacist MRSA nasal PCR protocol group (76 vs. 48, P < 0.0009).

**Conclusion.** A pharmacist-driven protocol for ordering MRSA nasal PCR led to a statistically significant decrease in the time to discontinuation of vancomycin or linezolid for suspected MRSA pneumonia when the MRSA nasal PCR was negative.

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between January 2014 and October 2017. A manual chart review was performed. Sensitivity (SEN), specificity (SPEC), PPV, and NPV were calculated for NE prediction. Vancomycin use was quantified during the same period. Linear models with predict intervals (PI) were generated to identify potential outbreaks, which were linked to monthly NE counts defined as a binary factor.

Results. A total of 220 NE cases were electronically identified for vancomycin at NM (n = 197) and HF (n = 23). Random cases were matched 1:1 (NM = 200) and 1:5 (HF = 115) to controls for manual review. At NM and HF, 35 and 24 true positives were identified, respectively. Thus, overall SEN and SPEC were 93.7% and 75.1% and PPV and NPV were 95.7% and 98.1%, respectively. Linear models revealed 11 potential outbreak periods at HF and 5 at NM. A PI of 80% showed a combined SEN below 10% and SPEC above 90%, respectively.

Conclusion. The methodology was generalizable across two centers. In the pilot review, our method was highly sensitive and an effective screening tool for NE identification. Antibiotic consumption trends did not correlate with NE. In summary, the NE classification was sensitive in assessment of antibiotic appropriateness, whereas consumption alone does not predict NE.

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2001. Assessment of Real-world Effectiveness of a Rapid Blood Culture Diagnostic Panel at a Veterans Affairs Medical Center Jordan Chiaisson, PharmD; James B. Cutrell, MD; James B. Cutrell, MD; Jodkowski Tomasz, PharmD; Winter Smith, PharmD; Marcus Kouma, PharmD; VA North Texas Health Care System, Dallas, Texas; UT Southwestern Medical Center, Dallas, Texas; Ben and Mayeet Fish College of Pharmacy, University of Texas at Tyler, Dallas, Texas

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Background. Rapid blood culture diagnostics can improve patient outcomes, particularly when paired with robust interventions such as 24/7 stewardship coverage. We sought to determine the clinical impact of a rapid blood culture identification (BCID) panel (BioFire® FilmArray Multiplex PCR) in an established antimicrobial stewardship program (ASP). In addition to clinician education, BCID results were reviewed by the ASP team during weekday business hours, for an average of 2 hours daily based on availability.

Methods. Data on demographics, blood cultures, antimicrobial use, length of stay and mortality were collected on inpatients at the VA North Texas Health Care System with at least one positive blood culture for bacterial or yeast isolates from March 2017 to June 2017 (pre-BCID) and from March 2018 to June 2018 (post-BCID). The primary outcome was a composite of time to optimal therapy from blood culture collection, defined as escalation, de-escalation, discontinuation, or optimization of antimicrobials retrospectively adjudicated based on final culture results. Secondary outcomes included time to effective therapy, total days of therapy (DOT), length of stay, and 30-day mortality and readmission rates.

Results. 195 patients were screened with 130 patients included in the study. No significant differences in baseline characteristics were observed between groups (Table). The one-month arm included in the pre-BCID arm with 69 in the post-BCID arm. Median time to optimal therapy was 82.9 hours (IQR, 12.8–99.8) in the pre-BCID arm and 33.9 hours (IQR, 11.2–64.8) in the post-BCID arm (p = 0.005) (Table). No significant change in 30-day mortality or 30-day readmission rates was observed in the pre-BCID arm and 0.03 in the post-BCID arm (Figure 1).

Conclusions. Introduction of BCID into the daily workflow of our ASP resulted in a significant reduction in time to optimal therapy for bloodstream infections. DOT for pre-BCID and post-BCID groups, respectively (Figure 1).

Table 1: Baseline Characteristics

| Characteristic | Pre-BCID (n=69) | Post-BCID (n=68) | p-value |
|----------------|----------------|----------------|---------|
| Age (median [IQR]) | 67 (69–73) | 67 (61–72) | 0.5961 |
| Sex, Male (%) | 98% (60) | 96% (66) | 0.372 |
| Race (%) | White 54% (31) | 57% (39) | 0.781 |
| African American | 36% (22) | 39% (27) | 0.719 |
| Other | 10% (6) | 4% (3) | 0.219 |
| Baseline SGR > 1.5 mg/dl (%) | 20% (15) | 2% (16) | 0.852 |
| Active Cancer (%) | 15% (9) | 7% (5) | 0.156 |
| Causative Organism (%) | Gram-positive 52% (12) | 51% (35) | 0.843 |
| Gram-negative 48% (20) | 46% (32) | 0.664 |
| Yeast 2% (1) | 3% (2) | 0.488 |
| MDR History (%) | 16% (10) | 23% (16) | 0.334 |

**Table 2: Clinical Outcomes Pre- and Post-BCID Implementation**

| Outcome | Pre-BCID (n=69) | Post-BCID (n=68) | p-value |
|---------|----------------|----------------|---------|
| Time to Optimal Therapy (hours median [IQR]) | 82.9 (12.8–99.8) | 33.9 (11.2–64.8) | 0.005 |
| Time to Effective Therapy (hours median [IQR]) | 6.2 (1.1–15.5) | 2.6 (0.6–7.6) | 0.294 |
| Length of hospitalization (days median [IQR]) | 11 (8–19) | 10 (6–13) | 0.059 |
| Total duration of antibiotics (days median [IQR]) | 8 (6–14) | 9 (6–12) | 0.332 |
| 30-day mortality (%) | 11.5% (7) | 4.3% (3) | 0.128 |
| 30-day readmission rate (%) | 17.9% (12) | 10.1% (7) | 0.117 |

Disclosures. All authors: No reported disclosures.

2002. BioFire® FilmArray® Pneumonia Panel: A POWERFUL Rapid Diagnostic Test for Antimicrobial Stewardship Daikus Fukawakau, MD; Brian Kim, PharmD; Arthur Jeng, MD; David Geffen School of Medicine at UCLA, Los Angeles, California; Olive View-UCLA Medical Center, Sylmar, California

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Background. BioFire® FilmArray® Pneumonia Panel (BFPP) is a multiplex PCR panel that identifies 33 common bacterial and viral pathogens seen in community- and hospital-acquired pneumonias. It rapidly identifies these pathogens in addition to 7 antibiotic resistance genes on sputum and bronchoalveolar lavage samples in 1 hour. As one of the test centers for this panel, our institution utilized this panel for clinical and laboratory use. We reviewed the impact of BFPP on antimicrobial stewardship, particularly its role in early discontinuation of empiric antibiotics and prompt initiation of optimized targeted therapy.

Methods. We retrospectively reviewed all cases by which BFPP was ordered. We reviewed medical records of each case to identify the results of the panel, culture data, antibiotics used, and subsequent clinical intervention.

Results. 43 tests were ordered in total. 17 were for clinical use by an infectious disease specialist and 26 were randomly obtained by the microbiology lab. All 17 clinical cases were intervened upon with the following interventions: discontinuation of anti-pseudomonal antibiotics (8 cases), discontinuation of anti-MRSA antibiotics (5 cases), discontinuation of azithromycin (4 cases), discontinuation of carbapenem (1 case), prevention of inappropriate antibiotic escalation or initiation of inappropriate antibiotics (2 cases), and early IV to PO transition (3 cases). Of the random 26 samples ordered by lab, 13 had opportunities for antibiotic de-escalation if a physician were notified of the results. Viruses were identified in 15 samples with coronavirus being the most common. Virus was the sole pathogen in 9 of the 15 samples. Bacterial pathogens were identified in 20 samples that were reported as normal flora by conventional culture; none of these cases led to or potentially could have led to antibiotic escalation as the sole intervention.

Conclusion. Clinical use of BFPP had 100% intervention rate with all interventions leading to de-escalation of antibiotics or prevention of inappropriate antibiotics use. Though over-identification of colonizers is a potential limitation, BFPP is a powerful tool for antibiotic stewardship that results in rapid interventions to achieve optimal targeted therapy.

Disclosures. All authors: No reported disclosures.

2003. Vancomycin Discontinuation Is Supported by-negative Nasal Methicillin-Resistant Staphylococcus aureus (MRSA) in Patients with Pneumonia Katherine A. Pleasants, PharmD; Karly Low, PharmD; Sara A. Lucas, PharmD; BCPS; Audrey Kivlehan, PharmD; Ronald G. Washburn, MD; Ralph H. Johnson Vet. Medical Center, Charleston, South Carolina

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**Figure 1:** Days of Select Broad Spectrum Antimicrobials

| Antimicrobials | Pre-BCID | Post-BCID |
|----------------|---------|----------|
| Vancomycin     | 4.0     | 3.0      |
| Piperacillin–tazobactam | 3.8 | 2.8 |