The core of SeLux's technology is a novel assay for bacterial surface time. This assessment was performed based on how clinicians modified antimicrobial therapy were not made available to clinicians. These results were utilized to determine the unique blood cultures as part of the laboratory validation of the system. ACC results were not made available to clinicians. TTAT could have been improved in 11 patients (7%), with a median potential decrease in the TTAT of 2.3 hours [IQR, 0.8–20.7]. The median actual TTAT was 40.7 hours [IQR, 21.3–74.1]. If ACC results were available, improved TTOT could have been achieved in 19 patients (40%), with a median potential decrease in TTOT of 24.0 hours [IQR 15.3–34.9]. The TTOT would have been achieved by earlier de-escalation in 53/59 (88%) patients. ACC implementation could have led to decreases in antibiotic usage for cephalosporin (17% reduction of actual use), amoxicillin/clavulanate (8%), and vancomycin (5%).

Conclusion. Given the aggressive nature of empiric therapy and the availability of other rapid diagnostic tests at our center, ACC would have had a minimal impact TTAT. However, largely due to the ability to more rapidly de-escalate, ACC could have led to a more rapid TTOT in 40% of patients, and significantly reduced the use of broad-spectrum antimicrobials.

Disclosures. K. Kaye, Zavante Therapeutics, Inc: Scientific Advisor, Consulting fee.

2076. Expanded Antibiotic Menu Demonstration for Novel Rapid Phenotypic Antimicrobial Susceptibility Testing Platform

Erik Stern, PhD; Aleksandr Vasić, PhD; Kelly Flintte, PhD; Benjamin Spears, PhD; Nathan Purmort, MSEE; Felicia Giok, MS; Kayla DuPonte, BS; Sarah Scott, BS; Derek Puff, PhD; Frederick Floyd Jr., BS; Zhi Zhang, MS; Patrick Reilly, High School; Jamie Liu, High School; Emma Viveiros, High School; Nicholas Phelan, High School; Cicely Krebill, High School; Alex Flyer, PhD; David Smalley, PhD; David C. Howper, MD and Mary Jane Ferraro, PhD, PIDSA; SeLux Diagnostics, Charlestown, Massachusetts, 3American Esoteric Laboratories, Memphis, Tennessee, 4Division of Infectious Diseases, Massachusetts General Hospital, Boston, Massachusetts, 5Massachusetts General Hospital, Boston, Massachusetts

Session: 232. Diagnostics: Resistance Testing Saturday, October 6, 2018: 12:30 PM

Background. Extensive transitions to targeted therapies for infectious disease patients are paramount for optimal patient care and antibiotic stewardship. A next-generation phenotypic antimicrobial susceptibility test (AST) system that provides rapid results for broad menus of >30 antibiotics per patient sample is required. SeLux has developed a rapid, phenotypic AST platform that utilizes standard 384-well microplates. These consumables provide sufficient wells for simultaneous testing of newly approved antibiotics and broad selections of conventional antibiotics. Here, we demonstrate the platform's ability to produce fast, accurate results with newly approved and not-yet-approved antibiotics.

Methods. The core of SeLux's technology is a novel assay for bacterial surface time, which enables delineation of truly resistant bacteria from organisms that filament or swell in antibiotic concentrations above the MIC. AST was performed with the SeLux platform and compared with the CLSI broth microdilution reference method. Testing of 20 representative conventional antibiotics was performed on ≥90% with the CLSI reference method for all combinations tested (Figures 1 and 2). The platform returned results within 6.5 hours for ≥98% of the isolates tested to date. The SeLux platform's EA was ≥90% for all newly developed antibiotics, generous gifts from the manufacturers, was performed with ~20 to 50 isolates with representative MICs throughout the dilution series and encompassing the breakpoint region.

Results. Testing of conventional antibiotics showed essential agreements (EA) and categorical agreements (CA) ≥90% with the CLSI reference method for all combinations tested (Figures 1 and 2). The platform returned results within 6.5 hours for ≥98% of the isolates tested to date. The SeLux platform's EA was ≥90% for all newly developed antibiotics tested to date (Figure 3). For newly approved antibiotics, CAs were similarly ≥90% with very few major errors (Vme).

Conclusion. The SeLux platform's compatibility with 384-well microplates should transform the rate with which newly approved antibiotics gain use. By speeding the reporting of AST results, SeLux's platform will further enable hospitals to simultaneously improve patient care, decrease lengths-of-stay, and meet antibiotic stewardship goals.

Figure 1
Disclosures. E. Stern, SeLux Diagnostics: Board Member, Employee and Shareholder, Salary. A. Vacci, SeLux Diagnostics: Employee and Shareholder, Salary. K. Flettie, SeLux Diagnostics: Employee and Shareholder, Salary. B. Spears, SeLux Diagnostics: Employee and Shareholder, Salary. N. Parment, SeLux Diagnostics: Employee and Shareholder, Salary. E. Giok, SeLux Diagnostics: Employee and Shareholder, Salary. K. DaPonte, SeLux Diagnostics: Employee and Shareholder, Salary. S. Scott, SeLux Diagnostics: Employee and Shareholder, Salary. D. Puff, SeLux Diagnostics: Employee and Shareholder, Salary. F. Floyd Jr., SeLux Diagnostics: Employee and Shareholder, Salary. Z. Zhang, SeLux Diagnostics: Employee and Shareholder, Salary. P. Reilly, SeLux Diagnostics: Employee, Salary. J. Liu, SeLux Diagnostics: Employee, Salary. E. Viveiros, SeLux Diagnostics: Employee, Salary. N. Phean, SeLux Diagnostics: Employee, Salary. C. Krehll, SeLux Diagnostics: Employee, Salary. A. Flyer, SeLux Diagnostics: Consultant, Scientific Advisor and Shareholder, Consulting fee. D. Smalley, SeLux Diagnostics: Scientific Advisor and Shareholder, Consulting fee. D. C. Hooper, SeLux Diagnostics: Scientific Advisor, Consulting fee. M. J. Ferraro, SeLux Diagnostics: Scientific Advisor and Shareholder, Consulting fee.

2077. Assessment of the Clinical Impact of Rapid Identification with Same-Day Pentonic Antimicrobial Susceptibility Testing (Accelerate Phenom® System) on the Management of Bloodstream Infections in Adult Patients with Antibiotic Stewardship Intervention: A Retrospective Observational Study
Kathrin Ehren, MD; Arne Meißner, MD; Nathalie Jazmati, MD; Julia Ertel, MSc; Neerja Jung, MD; Janne Vehreschild, MD; Martin Hellmich, PhD; and Harald Seifert, MD; 1Institute for Medical Microbiology, Immunology and Hygiene, University Hospital of Cologne, Cologne, Germany; 2Department of Hospital Hygiene and Infection Control, University Hospital of Cologne, Cologne, Germany; 3Department I of Internal Medicine, University Hospital of Cologne, Cologne, Germany; 4Institute of Medical Statistics and Computational Biology, University Hospital of Cologne, Cologne, Germany
Session: 232. Diagnostics: Resistance Testing
Saturday, October 6, 2018: 12:30 PM

Background. Rapid initiation of appropriate antimicrobial therapy is crucial in managing severe infections, including bloodstream infections. Timely availability of microbiological results is essential to enable early de-escalation of empiric therapy, which is one of the key components of an effective antimicrobial stewardship program. The Accelerate Phenom® system (AXDX) is a novel technology for rapid identification and phenotypic antimicrobial susceptibility testing with promising results. Yet the impact of this technology on the clinical management and patient outcome still is unclear.

Methods. The University Hospital Cologne is a 1,464-bed tertiary care hospital. We conducted a retrospective before and after observational study and analyzed three groups with different diagnostic and therapeutic pathways following a change in the standard of care and recent integration of AXDX: conventional microbiological diagnostics with and without antimicrobial stewardship program (ASP) intervention from January 2015 to July 2015, rapid diagnostics (AXDX in addition to conventional standard) with ASP intervention from January 2017 to March 2018.

Results. n = 280 patients met inclusion criteria and n = 225 (conventional microbiological diagnostics n = 74/conventional diagnostics + ASP intervention n = 79/rapid diagnostics + ASP intervention n = 72) were included in the final analysis during the two study periods. There was no difference in clinical and demographic characteristics among the three groups. The use of AXDX significantly decreased time from positive blood culture to microbiomnism identification (ID) (median: 26 hours vs. 12.5 hours, P < 0.001) and susceptibility testing (AST) (median: 43.8 hours vs. 17.6 hours, P < 0.001) and improved time from Gram stain to optimal therapy (median: 20.1 hours vs. 7.4 hours, P < 0.01). ASP intervention alone without AXDX improved the proportion of patients on optimal therapy within 48 hours after Gram stain (62.2% vs. 77.2%, P < 0.05).

Conclusion. Use of AXDX significantly reduced time to ID and AST by 12.5/26.2 hours. In combination with ASP intervention AXDX significantly reduced time to optimal therapy by 13.1 hours, ASP intervention alone also improved the proportion of patients on optimal therapy within 48 hours.

Disclosures. K. Ehren, Accelerate Diagnostics Inc.: Research Contractor, Research support. A. Meißner, Accelerate Diagnostics Inc.: Research Contractor, Research support. J. Hellmich, Accelerate Diagnostics Inc.: Research Contractor, Research support. H. Seifert, Accelerate Diagnostics Inc.: Research Contractor, Research grant.

2078. Adherence to Laboratory Screening Recommendations for Neonatal Herpes Simplex Virus Infection at a Tertiary Children's Hospital
Deitdre Lewis, MD; Benison Lau, MD; and Michael Klatte, MD; 1Internal Medicine/Pediatrics, Baystate Medical Center, Springfield, Massachusetts; 2Department of Pediatrics, University of Massachusetts Medical School – Baystate, Springfield, Massachusetts
Session: 233. Diagnostics: Virology
Saturday, October 6, 2018: 12:30 PM

Background. Though American Academy of Pediatrics (AAP) publications detail the precise laboratory evaluation to perform for suspected neonatal herpes simplex virus (HSV) infection, significant practice variability persists. The primary aim of this study was to assess adherence to AAP laboratory testing guidance for neonatal HSV at our hospital. Other aims included: (1) comparing adherence rates for infants tested due to concern for symptomatic infection with those screened due to maternal genital lesion presence at birth and (2) determining the rate of infected infants among those tested.

Methods. Chart review was performed for infants ≤42 days old hospitalized from February 1, 2013–June 30, 2016 and tested for HSV. Subjects were categorized as asymptomatic neonates born to mothers with active genital HSV lesions at delivery or as symptomatic with concern for neonatal HSV disease. Those tested as outpatient and asymptomatic newborns of mothers with a history of genital HSV but no active lesions at delivery were excluded. Demographics and maternal HSV status were collected. Evaluations were classified as complete or incomplete based on AAP recommendations.

Results. Of 245 subjects, 24 (10%) were asymptomatic newborns of mothers with lesions at delivery, while 221 (90%) were tested due to possible symptomatic disease. Only 4/245 (1.6%) had HSV infection. Complete evaluations were more likely for asymptomatic infants (P < 0.01), but only 27 total subjects (11%) had a complete evaluation. Blood PCR and surface cultures were omitted most frequently—missing from 196 (80%) and 150 (61%) evaluations, respectively. Of those lacking surface cultures, 58 (39%) had surface PCRs. CSF PCRs were not obtained for 118/221 (53%) symptomatic evaluations. No association was found between known maternal history of genital HSV prior to delivery and evaluation completeness (P = 0.19).

Conclusion. Adherence to AAP testing recommendations for neonatal HSV was poor, though evaluation completeness was more likely for asymptomatic infants of mothers with lesions at delivery than for symptomatic infants. Despite a low incidence of neonatal HSV, education regarding appropriate laboratory testing is needed. Bundling computerized electronic orders for testing may improve adherence.

Disclosures. All authors: No reported disclosures.

2079. The Relation Between Panel Reactive Antibody Assay and Cytomegalovirus Reactivation in Seropositive Solid Organ Transplantation Recipients
Da-Eun Kwon, MD; Kyoung Hwa Lee, MD; Yoonja La, MD; Seul G. Yoo, MD; Sang Heon Han, MD, PhD; Young Goo Song, MD, PhD; Jae Geun Lee, MD; Ku Ha Huh, MD, PhD; Myoung Soo Kim, MD, PhD; Jin Sub Choi, MD, PhD; Soon Il Kim, MD, PhD and Yu Seun Kim, MD, PhD; 1Division of Infectious Diseases, Department of Internal Medicine, Gachon Severance Hospital, Yonsei University College of Medicine, Seoul, Korea, Republic of (South); 2Department of Transplantation Surgery and Research Institute for Transplantation, Yonsei University College of Medicine, Seoul, Korea, Republic of (South); 3Department of Surgery, Yonsei University College of Medicine, Seoul, Korea, Republic of (South)
Session: 233. Diagnostics: Virology
Saturday, October 6, 2018: 12:30 PM

Background. Cytomegalovirus (CMV) can lead to severe morbidities and mortalities including pneumonia in particular as well as graft dysfunction through indirect immunosuppression in solid-organ transplantation recipients. High degree of HLA