Results. An antibiotic was prescribed in 37% of visits in which a respiratory tract diagnosis was coded. Of these prescriptions, 69% were inappropriate. Demographics associated with inappropriate prescribing included advance practice provider vs. physician (72% vs. 58%, $P = 0.02$), family medicine vs. internal medicine (75% vs. 63%, $P = 0.01$), board certification after vs. before 1997 (75% vs. 63%, $P = 0.02$), and practice in a non-teaching vs. teaching clinic (73% vs. 51%, $P < 0.001$). Rate of antibiotic prescribing in visits where any respiratory tract diagnosis was coded ($R^2 = 0.23$, $P < 0.001$) and rate of antibiotic prescribing in visits where a respiratory tract diagnosis that almost never requires an antibiotic was coded ($R^2 = 0.24$, $P < 0.0001$) were most strongly correlated with inappropriate prescribing.

Conclusion. Rate of antibiotic prescribing in visits where any respiratory tract diagnosis was coded and rate of antibiotic prescribing in visits where a respiratory tract diagnosis that almost never requires an antibiotic was coded may be useful proxies to estimate the rate of inappropriate prescribing for ARTIs. This study could inform ambulatory antibiotic benchmarking metrics and interventions to decrease inappropriate antibiotic prescribing for ARTIs in ambulatory settings.

Disclosures. All authors: No reported disclosures.

1814. External Validation of Precision Antibiotic Therapy for Enterococcal Bloodstream Infections

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Background. ILÚM Heath Solutions, an infectious diseases software platform, developed precision antibiotic therapy (PAT) software to guide selection of therapy using data science, patient-specific factors, as well as historical patient, pharmacy, and microbiologic data. PAT reports percentages reflecting likelihood of susceptibility across a panel of antibiotics, identifying patients at high risk for resistant organisms. PAT has previously demonstrated high accuracy for predicting susceptibility of *Enterobacteriaceae* in bloodstream infections (BSIs) and risk for multi-drug resistance. The objective of this study was to validate PAT predictive capabilities in enterococcal BSIs and to assess accuracy in risk-stratifying patients for vancomycin-resistant *Enterococcus* spp. (VRE).

Methods. This retrospective cohort study included patients with an index enterococcal BSI from January 2016 through December 2016. The primary outcome was the performance characteristics of PAT in accurately predicting the risk of VRE, elaborated with sensitivity and specificity rates across varying PAT thresholds. Receiver operating characteristics (ROC) curve analyses were performed to identify an acceptable PAT threshold to define high risk for VRE. Brier score calculations were used to compare accuracy of PAT predictions to that of the institutional antibiogram.

Results. ROC curve analysis (Figure 1) demonstrated an area under the curve of 0.94, indicating excellent discrimination. The Brier scores for the institutional antibiogram and PAT software were 0.067 and 0.075, respectively, representing a similar degree in accuracy. Species-level Brier scores for the institutional antibiogram and PAT were 0.043 and 0.065, respectively, for *E. faecalis* and 0.093 and 0.073, respectively, for *E. faecium*.

Conclusion. PAT software was able to discriminate enterococcal BSIs resistant and susceptible to vancomycin. Similar to previous results seen with *Enterobacteriaceae*, PAT may be useful to accurately predict susceptibilities for *Enterococcus* spp., particularly for *E. faecium*.

Figure 1.

Area under ROC curve = 0.9435
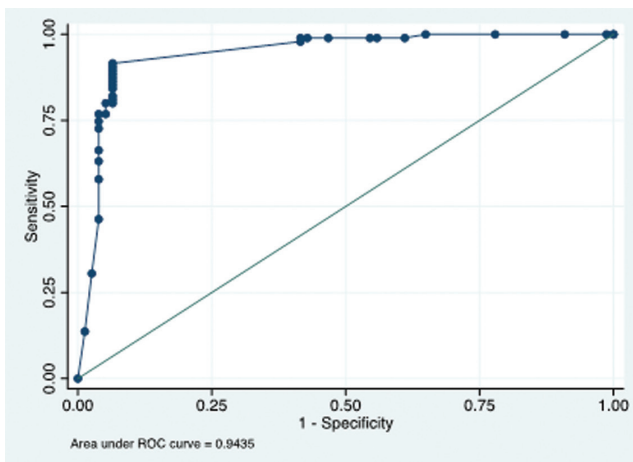
Disclosures. **S. Overly**, ILÚM Health Solutions: Consultant, Salary. **J. Mehta**, ILUM Health Solutions: Consultant, Salary.

1815. Effects of Syndrome-Based Antimicrobial Stewardship Prospective Audit and Feedback Interventions on Antimicrobial Use in an Urban Community Hospital

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Background. Establishing antimicrobial stewardship programs (ASP) in community hospitals with limited resources can be challenging. Many hospitals do not have infectious disease (ID) trained pharmacists (PharmD) available. We implemented a comprehensive ASP with syndrome-based prospective audit and feedback at an urban community hospital.

Methods. ASP was implemented at a 151-bed urban community hospital in October 2017. PharmD training on syndrome-based treatment guidelines, including definitions, severity, empiric regimens, de-escalation, and duration was created. Prospective audit by PharmDs was established. This program was implemented and overseen by an ID physician. Days of therapy per 1,000 patient-days (DOT/1,000) was assessed 3 months before and after ASP. Prospective audit and feedback data were reviewed.

Results. At 3 months, antimicrobial use decreased (370 vs. 350 DOT/1,000) while the proportion of oral antimicrobials used increased (32% vs. 43%). Antibiotic expenditures decreased by 11% ($42,500 vs. $37,900). Most cases reviewed by prospective audit (58%) fit pre-determined syndromes (Figure 1). Soft tissue and urinary tract infections were the most common syndromes. Interventions occurred in 53% of cases. De-escalation from broad-spectrum agents was more successful in noncritical care settings (Figure 2).

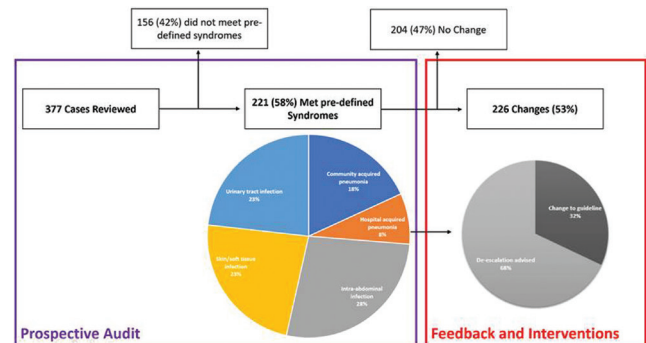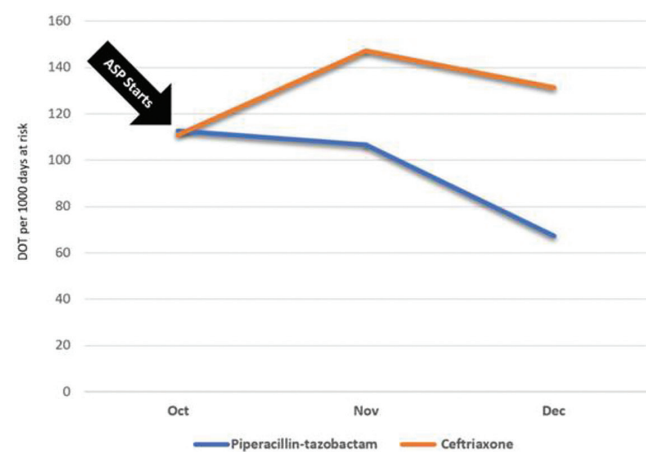**Figure 1.** ASP syndrome-based prospective audit and feedback.

Figure 2. Antimicrobial use in medical surgical units after implementation of ASP.

Conclusion. Syndrome-based prospective audit and feedback was successfully implemented in an urban community hospital with non-ID trained PharmDs using ID physician leadership. Our program led to a decrease in antibiotic use, increase use of oral alternatives, and decreased antibiotic expenditures. Empiric use of broad-spectrum agents was common at our facility. ASP likely contributed to an increase in ceftriaxone and decrease in piperacillin–tazobactam use in medical-surgical floors. Stewardship in critically ill patients remains a challenge. Clear guidelines and access to an ID physician are necessary to provide adequate support for PharmDs without ID-specific training and can help curb antibiotic use. Expanding the list of syndromes may further impact antimicrobial use.

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