primary outcome was the proportion and predictors of OPAT complications. The secondary outcomes were OPAT completion rate, 30-day ED visit, and 30-day readmission rates related to OPAT complications. We used univariable and multivariable analyses using logistic regression models for the predictors of OPAT complications. Variables with p5 (OR, 0.281, 95% CI 0.101–0.784), but they were more likely to have received two antibiotics (OR, 2.265; 95% CI 1.155-4.442). However, no significant independent predictor OPAT complications was identified in multivariable regression analysis (Figure 2). OPAT completion rates were lower in patients with complications (59.1% versus 75.4%). The 30-day ED visit and 30-day readmission rates were significantly higher in the complication group (31.8% vs. 0 and 34.1% vs. 2.1%, respectively). **Conclusion:** Our study highlights the significant difference in treatment completion rates and higher incidence of ED visits and readmissions rates among those with OPAT complications. Although specific independent predictor was not identified, the association with multiple antibiotic therapies and telemedicine follow-ups suggests areas for further investigation.

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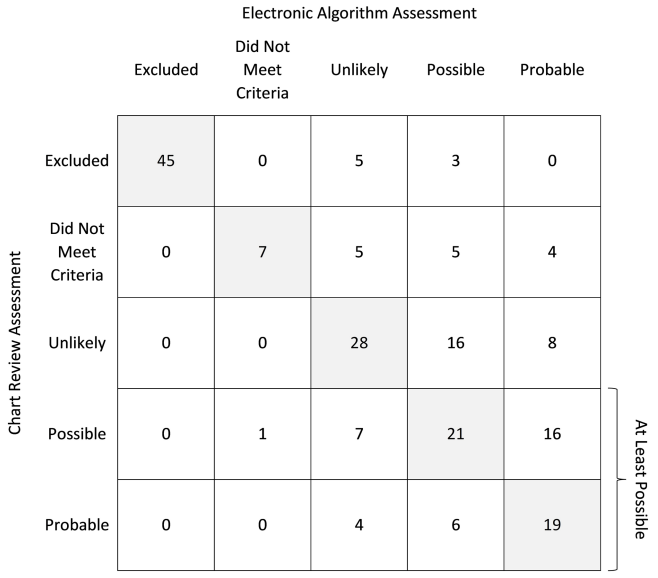
Evaluating the Generalizability of an Electronic Algorithm to Identify Vancomycin-Associated Acute Kidney Injury

Jerald Cherian, Johns Hopkins University School of Medicine; Margot Bjoring, UVA Health; Lindsay Donohue, UVA Health; Amy Mathers, University of Virginia; Heather Cox, University of Virginia Health; Stacy Park, University of Virginia; George Jones, The Johns Hopkins University School of Medicine; Vorsteg Abigail, The Johns Hopkins University School of Medicine; Alejandra Salinas, The Johns Hopkins University School of Medicine; Elizabeth O'Shaughnessy, FDA; Ramya Gopinath, FDA; Pranita Tamma, Johns Hopkins; Sara Cosgrove, The Johns Hopkins University School of Medicine and Eili Klein, The Johns Hopkins University School of Medicine

Introduction: Vancomycin-associated acute kidney injury (V-AKI) is a common adverse reaction; however, there is currently no method to systematically monitor its incidence. We previously developed and internally validated an electronic algorithm to identify cases of V-AKI using structured electronic health record data at the Johns Hopkins Hospital, which demonstrated excellent agreement with chart review (percent agreement 92.5%; weighted kappa coefficient 0.95), as well as excellent sensitivity (89.7%) and specificity (98.2%) in detecting at least possible V-AKI events. The objective of this study was to evaluate the generalizability of the V-AKI electronic algorithm. **Methods:** We identified a retrospective cohort of adult and pediatric patients who received ≥1 dose of intravenous vancomycin while admitted to University of Virginia (UVA) Medical Center from 1/2021-1/2023. An increase in creatinine (Cr) of ≥0.3 mg/dL within 48 hours or ≥50% increase in baseline Cr within 7 days, occurring after the first dose and up to 72 hours after the last dose of IV vancomycin, was considered a potential V-AKI event. The electronic algorithm was executed at UVA with only limited contextualization of hospital specific variables (e.g., procedure names). Patients were categorized as excluded/not meeting criteria, or as having an unlikely, possible or probable V-AKI event using a causality framework. A random subset of the cohort underwent chart review by a blinded reviewer for external validation. Percent agreement and a weighted kappa coefficient were calculated. The sensitivity and specificity in identifying at least possible V-AKI events was determined. **Results:** The electronic algorithm was validated using 200 cases and demonstrated 60.0% percent agreement with chart review (Figure). The weighted kappa coefficient was 0.75. The algorithm was 83.8% sensitive and 71.4% specific in detecting at least possible V-AKI events. Among the 80 discrepant cases, there was only a 1-category difference in 62.5% of cases. The most common reasons for discrepant assessments, which were partly due to inconsistencies in chart review, included disagreement regarding timing of AKI onset (18.6%) and whether renal function returned to baseline (16.3%). **Conclusions:** An electronic algorithm to identify V-AKI events was successfully implemented at another institution. Although agreement with chart review was only fair, sensitivity in detecting at least possible V-AKI events remained excellent. The electronic algorithm may be useful for systematically and reproducibly identifying V-AKI events across institutions in a scalable manner to inform stewardship interventions. However, further refinement of the algorithm and improvement in consistency of chart review assessments is needed.



Disclosure: Lindsay Donohue: Advisor – Abbvie

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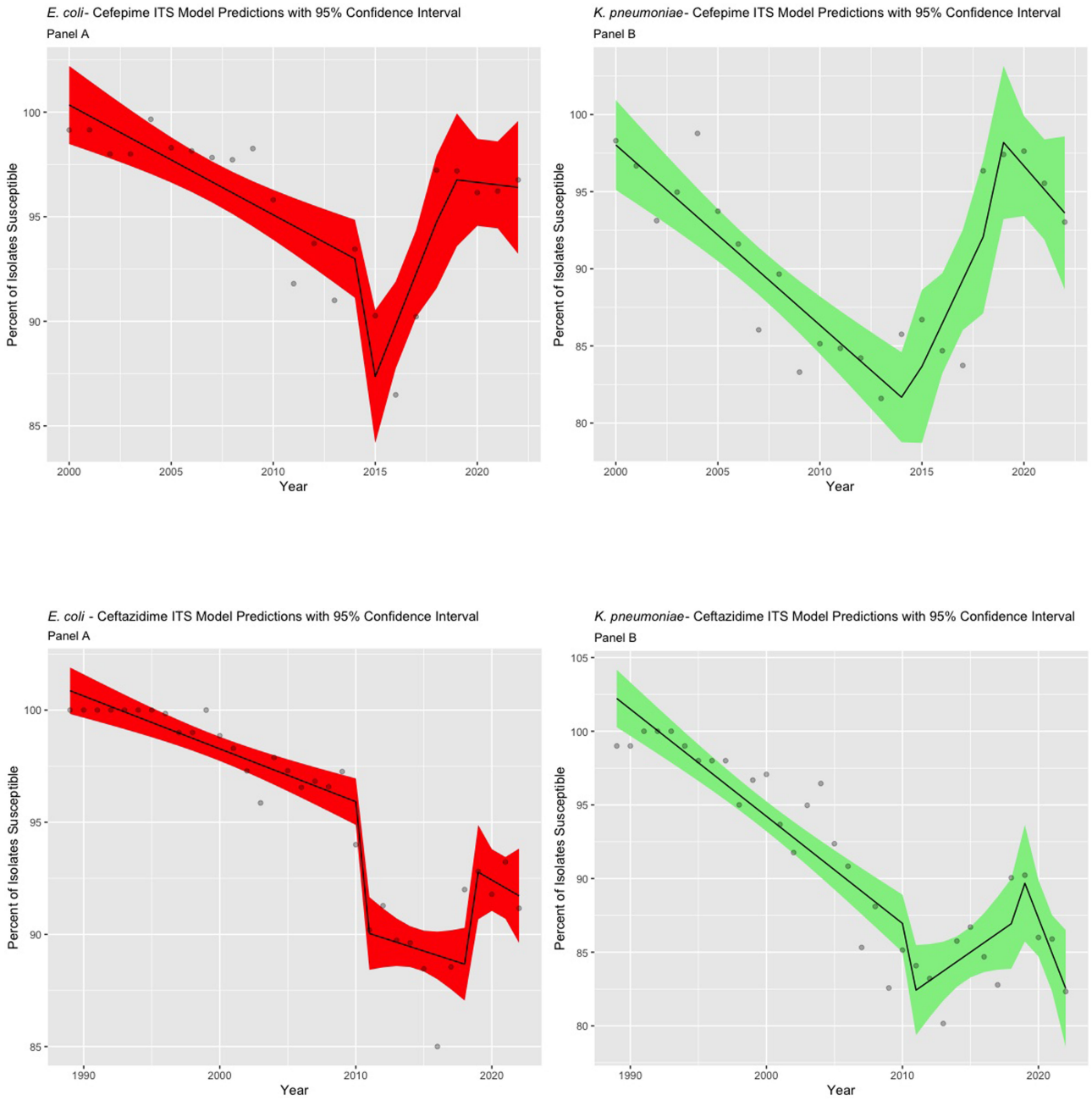
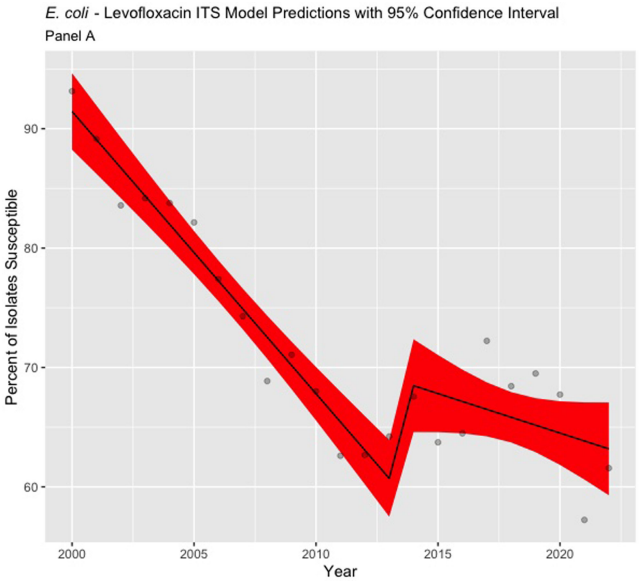
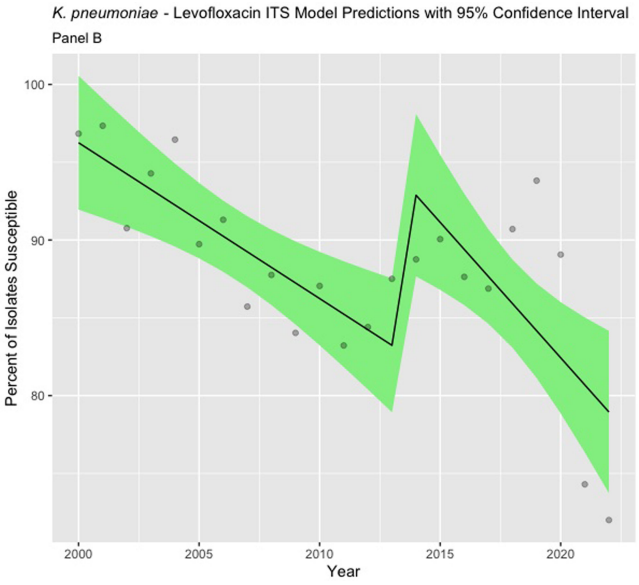
Impact of MIC Breakpoint Changes for Enterobacterales on Trends of Antibiotic Susceptibilities in An Academic Medical Center

David Evans, Emory University, Rollins School of Public Health; Marisa Winkler, Department of Pathology and Laboratory Medicine, Emory University School of Medicine, Atlanta GA; Eileen Burd, Department of Pathology and Laboratory Medicine, Emory University School of Medicine, Atlanta GA; Ashley Jones, Emory University Hospital Midtown; Trinh Vu, Emory University Hospital Midtown; James Steinberg, Emory University Hospital Midtown and Jesse Jacob, Emory University



Background: The Clinical & Laboratory Standards Institute (CLSI) recommends use of annual antibiograms to help guide empiric antibiotic therapy. Because CLSI periodically updates minimum inhibitory concentration (MIC) breakpoints, we assessed the impact of these updates on longitudinal trends in antibiotic susceptibility rates for Escherichia coli and Klebsiella pneumoniae at a single academic medical center in Atlanta, GA. **Methods:** Susceptibilities for cefepime, ceftazidime, and levofloxacin in E. coli and K. pneumoniae were extracted from hospital antibiograms from 1988 to 2022. Starting in 1995, intensive care units (ICUs) and wards had separate annual antibiograms, which we combined using weighted averages to create annual overall hospital antibiograms. After summarizing the frequency of isolates tested and susceptibilities using medians and interquartile ranges (IQR), we conducted an interrupted time series analysis using linear segmented regression models, to evaluate the level changes and trends in susceptibility, before and after CLSI MIC breakpoints were updated for ceftazidime (2010 and 2017), cefepime (2014 and 2017), and levofloxacin (2013). **Results:** Among 21,214 E. coli, there was a median of 291 [IQR: 104, 555] isolates tested annually. Similarly, among 8,686 K. pneumoniae isolates, the median was 125 per year (IQR: 76, 178). Prior to the MIC breakpoint changes, baseline susceptibility trends of both





	Klebsiella pneumoniae		*E. coli*	
	% Susceptibility	*p-value*	*% Susceptibility*	*p-value*
	Cefepime			
Trend 1988-2013	-1.2	< 0.01	-0.5	< 0.01
Level Change in 2014	-0.8	0.84	-8.1	< 0.01
Trend 2014-2017	2.8	0.01	2.5	< 0.01
Level in 2018	7.6	0.110	2.1	0.47
Trend 2018-2022	-5.5	0.04	3.1	0.05
	Ceftazidime			
Trend 1988-2009	-0.7	< 0.01	-0.2	< 0.01
Level Change in 2010	-5.2	0.02	-5.7	< 0.01
Trend 2010-2017	0.6	< 0.01	-0.2	0.85
Level Change in 2018	5.1	0.14	4.5	< 0.01
Trend 2018-2022	-3.75	0.01	-0.4	0.80
	Levofloxacin			
Trend 1988-2012	-1.0	< 0.01	-2.4	< 0.01
Level Change in 2013	11.4	< 0.01	8.4	< 0.01
Trend 2013-2022	-1.7	0.25	-0.7	< 0.01

organisms to all 3 antibiotics significantly declined at a rate between 0.2% to 2.4% per year (Table 1). For cefepime (Figure 1), susceptibility decreased annually during 1988 – 2013 for both E. coli (-0.5%) and K. pneumoniae (-1.2%). There were no significant level changes but there were trend changes after 2018, for E. coli (+2.1%) and K. pneumoniae (– 5.5%). For ceftazidime (Figure 2), significant level changes occurred after 2010 for both organisms (E. coli: -5.7%; K. pneumoniae: -5.2%). For levofloxacin (Figure 3), the breakpoint update in 2013 lead to significant level change in susceptibility (E. coli: +8.4%; K. pneumoniae: +11.4%). **Conclusion:** Overall, we observed a consistent decrease in antibiotic susceptibility in E. coli and K. pneumoniae over three decades, with immediate increases in the level change of susceptibility when MIC breakpoints were changed, followed by a decreasing trend. These findings highlight the importance of longitudinal surveillance and MIC breakpoint changes to inform antimicrobial stewardship strategies.

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Understanding the Impact of Narrow Spectrum Beta-Lactam Use on Overall and Broad-Spectrum Antimicrobial Utilization in South Carolina

Kayla Antosz, ASC-SC, University of South Carolina College of Pharmacy; Sarah Battle, University of South Carolina, Prisma Health-Midlands; Pamela Bailey, University of South Carolina, Prisma Health-Midlands; Hana Winders, Prisma Health-Midlands, Brandon Bookstaver and Majdi Al-Hasan, University of South Carolina School of Medicine

Background: The standardized antimicrobial administration ratio (SAAR) is a metric utilized to measure antimicrobial use within and between hospitals by comparing observed to predicted antimicrobial days of therapy. However, it remains unknown whether narrow-spectrum beta-lactam (NSBL) use adds to overall antimicrobial utilization or substitutes broad-spectrum agents. This muti-hospital cohort study examined the impact of NSBL use on overall antimicrobial utilization and the correlation between the use of NSBL and various broad-spectrum antimicrobial categories in South Carolina (SC) hospitals. **Methods:** SAARs were collected from all hospitals in SC that reported antimicrobial use (AU) data to the National Healthcare Safety