only patients who did not have a positive culture for *E. coli* in the preceding 12 months. Then we assessed the diagnostic accuracy of an antibiogram for *E. coli* to predict resistance for the isolates in the following calendar year, using logistic regression models with percentages in the antibiogram as dependent variables. We also set 5 stepwise thresholds at 80%, 85%, 90%, 95%, and 98%, and we calculated sensitivity, specificity, and accuracy for each antimicrobial. **Results:** Among 127 VHA hospitals, 1,484,038 isolates from 704,779 patients were available for analysis. The area under the ROC curve (AU-ROC) was 0.686 for ceftriaxone, 0.637 for fluoroquinolones, and 0.578 for trimethoprim-sulfamethoxazole, suggesting their relatively poor prediction performances (Fig. 1). The sensitivity and specificity of the antibiogram widely varied by antimicrobial groups and thresholds, with substantial trade-offs. Along with AU-ROC, these metrics suggest poor prediction performances when antibiograms are used as the sole prediction tool (Fig. 2). **Conclusions:** Antibiograms for *E. coli* have poor performances in predicting the risk of AMR for individual patients when they are used as a sole tool, and their contribution to the clinical decision making may be limited. Clinicians should also consider other clinical and epidemiologic data when interpreting antibiograms, and guideline statements that suggest antibiogram as a valuable tool for decision making in empiric therapy may need to be reconsidered. Further studies are needed to evaluate the contribution of antibiograms when combined with other patient-level factors.

Disclosures: None

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Presentation Type:
Poster Presentation - Poster Presentation
Subject Category: Antibiotic Stewardship
Using state claims data to explore first-line antibiotic prescribing for acute respiratory conditions—Minnesota, 2018–2019
Mari Freitas; Ashley Fell; Susan Gerbensky Klammer; Ruth Lynfield and Amanda Beaudoin

Background: Nationally, >30% of all outpatient antibiotics are unnecessary or inappropriate, and only 52% of outpatients with sinusitis, otitis media, or pharyngitis receive recommended first-line antibiotics. The Minnesota All Payer Claims Database (MN APCD) collects medical claims, pharmacy claims, and eligibility files from private and public healthcare payers. We analyzed claims to describe overall and firstline antibiotic prescribing for acute bronchitis, adult acute sinusitis, and pediatric patients. **Results:** We analyzed 3,502,013 respiratory events from 1,612,501 members. Acute bronchitis accounted for 179,723 events (5.1%), acute sinusitis accounted for 236,901 adult events (10%), and otitis media accounted for 232,226 pediatric events (19%). Also, 73,385 bronchitis diagnoses (~40%) had no associated antibiotic. Antibiotics were associated with 199,445 adult sinusitis events (84.2%), of which 89,386 (44.8%) were firstline antibiotics, and 190,962 pediatric otitis media events (82.2%), of which 126,859 (66.4%) were firstline antibiotics. Common antibiotic classes used when a firstline drug was not selected were macrolides (28.9%) and tetracyclines (26.8%) for adult acute sinusitis and cephalosporins (61.4%) and macrolides (30.6%) for pediatric otitis media. Compared to the least vulnerable quartile, the most vulnerable social vulnerability index (SVI) quartile had lower odds of receiving firstline antibiotics for adult acute sinusitis if antibiotics were prescribed (OR, 0.90; 95% CI, 0.87–0.94) and higher odds of receiving firstline antibiotics for pediatric otitis media if antibiotics were prescribed (OR, 1.16; 95% CI, 1.12–1.21). **Conclusions:** Improvement is needed in avoiding antibiotics for acute bronchitis and selecting firstline drugs for sinusitis and otitis media. Additional analyses adjusting for demographic, geographic, and prescriber factors are planned to better understand differences in prescribing appropriateness among Minnesotans.

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Subject Category: Antibiotic Stewardship
Heterogeneous OPAT regimens within and across infection diagnoses: Day-level medication use patterns among 2072 OPAT patients
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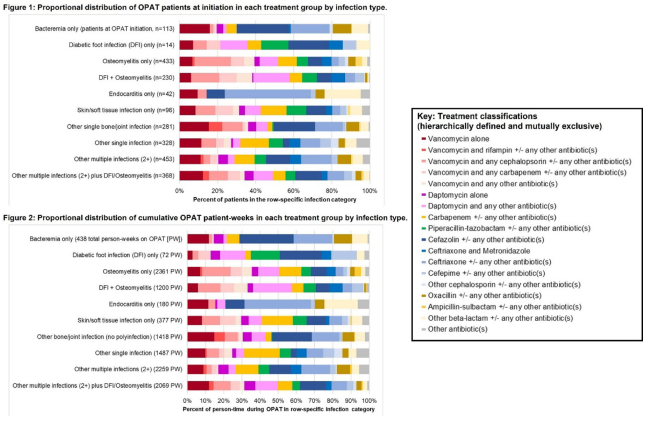
Background: Patients receiving outpatient parenteral antimicrobial therapy (OPAT) are often medically complex and require carefully tailored treatments to address severe and often concomitant infections. Our objective was to illustrate the heterogeneity in antimicrobials used for patients in OPAT, within and across infection diagnosis groups. **Methods:** We abstracted electronic health record data regarding day-level treatment into a registry of 2,358 OPAT courses (n = 2,072 unique patients) treated in the University of North Carolina Medical Center OPAT program during 2015–2022 (total, 11,861 person weeks; average, 7 OPAT weeks per patient). We classified infection diagnoses into 10 hierarchical or mutually exclusive categories (eg, bacteremia only, diabetic foot infection (DFI) only, osteomyelitis only) (Fig., vertical axes). Accounting for 64 antimicrobial medications and 520 cocktails administered for at least 1 patient day in our OPAT registry, we also defined 18 hierarchical or mutually exclusive classifications of treatment (eg, "daptomycin alone" or "daptomycin and any other antibiotic(s)" (Fig. key). We conducted 2 stratified analyses to describe the heterogeneity across infection diagnoses with respect (1) to medications used at OPAT initiation (patient as unit of analysis) and (2) to medications used throughout OPAT (person time as unit of analysis, allowing for differential OPAT course to other treatment classifications during follow-up). We present stacked bar charts to visualize the intersection between infection diagnosis and treatment group. **Results:** Among patients in this OPAT registry, 34.6% had osteomyelitis and/or DFI, 4.8% had bacteremia, and 44.6% had multiple infections (Fig. 1). The most common medications in initial OPAT regimens were vancomycin (30.8%



of OPAT patients), ceftriaxone (15.0%), and daptomycin (10.9%). We observed overall similarity between the distribution of treatment groups at initiation compared to cumulative person-time during the OPAT course (Figs. 1 and 2). However, we observed heterogeneity in medications by infection diagnosis (Figs. 1 and 2); for example, vancomycin was used in 39% of osteomyelitis cases but only 14% for endocarditis (Fig. 2). For several infection groups (eg, osteomyelitis, DFI, multiple infections, "other" single infections), no treatment classification exceeded 20% use (Figs. 1 and 2). **Conclusions:** Day-level data on medication use in this monitored registry of patients provided evidence of heterogeneity in the types of medications used throughout treatment in OPAT, which varies within and across infection diagnoses. These data highlight the need for multilayered ascertainment of medication exposure in this medically complex patient population to inform surveillance for adverse effects and guide comparative effectiveness research for postdischarge antibiotic treatment.