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.

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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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Presentation Type:
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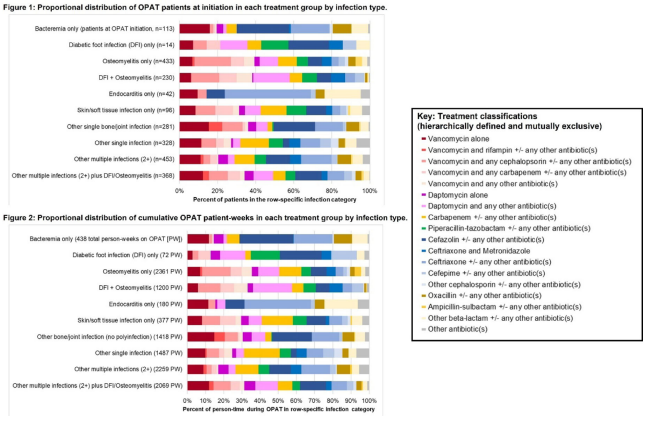
Subject Category: Antibiotic Stewardship
Heterogeneous OPAT regimens within and across infection diagnoses: Day-level medication use patterns among 2072 OPAT patients
Madison Ponder; Renae Boerneke; Asher Schranz; Michael Swartwood; Claire Farel and Alan Kinlaw

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.

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Presentation Type:
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Subject Category: *C. difficile*
Impact of early identification of patients meeting testing criteria for *Clostridioides difficile* on standard infection ratios
Brad Krier; Eric Gomez-Urena; Kristin Schultz and Ashley Brooks

Background: *Clostridioides difficile* infection (CDI) poses a health burden to patients and a financial burden to hospital systems. Timely identification of CDI patients can reduce the impacts by allowing for prompt treatment and ensuring that proper isolation precautions are in place to prevent spread. It also ensures correct CDI event categorization according to the NHSN. Community-onset (CO) CDI cases are tested on or prior to hospital day 3, and hospital-onset (HO) CDI are tested on or after hospital day 4. The objective of this study was to determine the effectiveness of utilizing an electronic health record (EHR) report to reduce CDI standard infection ratios (SIRs) by identifying potential CDI cases prior to hospital day 4. **Methods:** From August of 2021 to September 2022, an EHR report was implemented in a 5-hospital healthcare system in the Midwest to identify patients with 3 or more type 6 or 7 stools in a 24-hour period based on Bristol stool chart classification. All inpatients with 3 or more type 6 or 7 stools in 24 hours without an active order for a *Clostridioides difficile* test were listed. Patients with a laxative in the previous 48 hours, tube feedings without fever or leukocytosis, or a known cause of diarrhea were excluded. The attending provider of the patients meeting criteria were notified with a recommendation to test for *C. difficile* or provide alternative reason for symptoms. **Results:** In total, 26 patients were tested for *C. difficile* using polymerase chain reaction testing. Of those tested, 5 (19.2%) tested positive for *C. difficile*. There were 13 HO-CDI cases for the healthcare system during this period, for an SIR of 0.351. If the early identified cases were not identified until after hospital day 3, the SIR had the potential to have been 35.6% greater at 0.476. **Conclusions:** We were able to identify 5 CDI cases prior to hospital day 4 using an early identification report during this 13-month period. Although these cases may have been identified without the use of the EHR report, we were able to obtain a timely CDI diagnosis, potentially limiting the spread of *C. difficile* and preventing an increase in the CDI SIR by 35.6%. An EHR report to identify patients meeting *C. difficile* testing criteria may be an effective way to identify CO-CDI prior to HD 4 and thus reduce CDI SIR

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Subject Category: *C. difficile*
Effects of a hard stop for *C. difficile* testing: Provider uptake and patient outcomes
Danielle Doughman; David Weber; Nikolaos Mavrogiorgos; Shelley Summerlin-Long; Michael Swartwood; Alexander Commanday; Lisa Stancill; Nicholas Kane and Emily Sickbert-Bennett Vavalle

Background: *Clostridioides difficile* infection (CDI) is a serious healthcare-associated infection responsible for >12,000 US deaths annually. Overtesting can lead to antibiotic overuse and potential patient harm when patients are colonized with *C. difficile*, but not infected, yet treated. National guidelines recommend when testing is appropriate; occasionally, guideline-noncompliant testing (GNCT) may be warranted. A multidisciplinary group at UNC Medical Center (UNCMC) including the antimicrobial stewardship program (ASP) used a best-practice alert in 2020 to improve diagnostic stewardship, to no effect. Evidence supports use of hard stops for this purpose, though less is known about provider acceptance. **Methods:** Beginning in May 2022, UNCMC implemented a hard stop in its electronic medical record system (EMR) for *C. difficile* GNCT orders, with exceptions to be approved by an ASP attending physician. Requests were retrospectively reviewed May–November 2022 to monitor for adverse patient outcomes and provider hard-stop compliance. The team exported data from the EMR (Epic Systems) and generated descriptive statistics in Microsoft Excel. **Results:** There were 85 GNCT orders during the study period. Most tests (62%) were reviewed by the ASP, and 38% sought non-ASP or no approval. Of the tests reviewed by the ASP, 33 (62%) were approved and 20 (38%) were not. Among tests not approved by the ASP, no patients subsequently received CDI-directed antibiotics, and 1 patient (5%) warranted same-admission CDI testing (negative). Of tests that circumvented ASP review, 18 (56%) ordering providers received a follow-up email from an associate chief medical officer to determine the rationale. No single response type dominated: 3 (17%) were unaware of the ASP review requirement, 2 (11%) indicated their patient's uncharted refusal of laxatives, 2 (11%) indicated another patient-specific reason. Provider avoidance of the ASP approval mechanism decreased 38%, from 53% of noncompliant tests in month 1 to 33% of tests in month 6. Total tests orders dropped 15.5% from 1,129 during the same period in 2021 to 954 during the study period (95% CI, 13.4%–17.7%). Compliance with the guideline component requiring at least a 48-hour laxative-free interval prior to CDI testing increased from 85% (95% CI, 83%–87%) to 95% (95% CI, 93%–96%). CDI incidence rates decreased from 0.52 per 1,000 patient days (95% CI, 0.41–0.65) to 0.41 (95% CI, 0.32–0.53), though the change was neither significant at $P = .05$ nor attributable to any 1 intervention. **Conclusions:** Over time and with feedback to providers circumventing the exception process, providers accepted and used the hard stop, improving diagnostic stewardship and avoiding unneeded treatment.

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Subject Category: *C. difficile*
Integrated safety analysis of phase 3 studies for investigational microbiome therapeutic, SER-109, in recurrent CDI
Matthew Sims; Charles Berenson; Stuart Cohen; Elaine Wang; Elizabeth Hohmann; Richard Nathan; Alberto Odio; Paul Cook; Kelly Brady; David Lombardi; Asli Memisoglu; Ananya De; Brooke Hasson; Bret Lashner; Louis Korman; Doria Grimard; Juan Carlos Moises Gutierrez; Barbara McGovern and Lisa Von Moltke

Background: *Clostridioides difficile* infection (CDI) often recurs in patients aged ≥65 years and those with comorbidities. Clinical trials often exclude patients with history of immunosuppression, malignancy, renal insufficiency, or other comorbidities. In a phase 3 trial (ECOSPOR III), SER-109 was superior to placebo in reducing recurrent CDI (rCDI) risk at week 8 and was well tolerated. We report integrated safety data for SER-109 in a broad patient population through week 24 from phase 3 studies: ECOSPOR III and ECOSPOR IV. **Methods:** ECOSPOR III was a double-blind, placebo-controlled trial conducted in participants with ≥2 CDI recurrences randomized 1:1 to placebo or SER-109. ECOSPOR IV was an open-label, single-arm study conducted in 263 patients with rCDI enrolled in 2 cohorts: (1) rollover participants from ECOSPOR III with on-study recurrence and (2) participants with ≥1 CDI recurrence, inclusive of the current episode. In both studies, the investigational product was administered as 4 oral capsules over 3 days. Treatment-emergent adverse events (TEAEs) were collected through week 8; serious TEAEs and TEAEs of special interest (ie, bacteremia, abscess, meningitis) were collected through week 24. **Results:** In total, 349 participants received SER-109 in ECOSPOR III and/or ECOSPOR IV (mean age 64.2; 68.8% female). Chronic diseases included cardiac disease (31.2%), immunocompromised or immunosuppressed (21.2%), diabetes (18.9%), and renal impairment or failure (13.2%). Overall, 221 (63.3%) of 349 participants who received SER-109 experienced TEAEs through week 24. Most were mild to moderate and gastrointestinal. The most common (>5% of participants) treatment