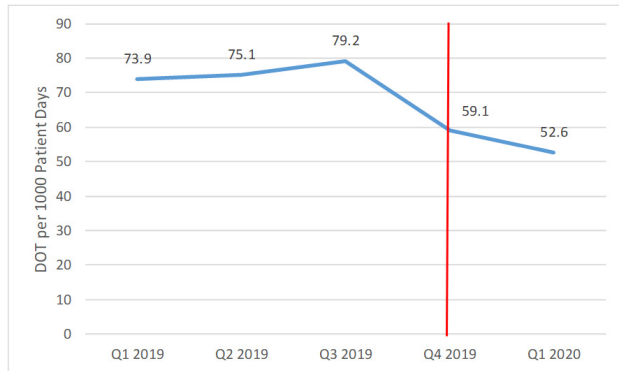


Results: Between October 3, 2019 and March 31, 2020, a total of 221 interventions were made by pharmacists to discontinue metronidazole in hospitalized CAP patients where anaerobic coverage was not indicated. Out of those 221 interventions, 164 (74%) were accepted by providers and only 57 (26%) were rejected.

The DOT per 1000 patient days of metronidazole was assessed for the three quarters prior to our intervention and the two quarters after the intervention. Compared to the three quarters prior, metronidazole DOT per 1000 patient days decreased by 26.6% for the two quarters following implementation of the pharmacist-led intervention (Figure 1).

Figure 1: Metronidazole DOT per 1000 patient days from January 1, 2019 through March 31, 2020. Vertical line indicates when pharmacist workflow was implemented.



Conclusion: A pharmacist antimicrobial stewardship intervention at our institution increased adherence to CAP guidelines and decreased unnecessary antibiotic exposure in hospitalized CAP patients when anaerobic coverage was not indicated.

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43. A Pharmacoepidemiologic Evaluation of Echinocandin Use

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Session: P-3. Antimicrobial Stewardship: Outcomes Assessment (clinical and economic)

Background: Invasive candidiasis (IC) is a common healthcare-associated infection. Rates of IC caused by drug-resistant *Candida* spp., designated by the CDC as a serious threat, are increasing, and *Candida auris* alone was recently added as an urgent threat. Echinocandins are guideline-preferred for the treatment of invasive candidiasis due to *in vitro* potency, a favorable toxicity profile, and convenient dosing. The purpose of this study was to perform a pharmacoepidemiologic analysis on patterns of echinocandin use at a large, quaternary care medical center.

Methods: Data reporting echinocandin use, pharmacy data, and clinical microbiologic data obtained from 2017–19 were pooled. Monthly days of therapy (DOT) per 1,000 patient days were calculated during the study period along with number of unique orders. Investigators evaluated the proportion of echinocandin-treated patients with or without positive *Candida* cultures; the relationship between echinocandin use and hospital admission and discharge dates was also evaluated.

Results: Echinocandin monthly DOT/1,000 patient days present averaged 26 (\pm 5) DOT and did not change appreciably during the study period. Of the patients with microbiologic evidence of *Candida*, 842 (51%) received echinocandin courses. Length of echinocandin therapy was significantly longer for patients with positive *Candida* cultures (5.5 ± 5.9 days) compared to those without positive cultures (3.9 ± 5.0 days; $p < 0.001$). Of 1,659 echinocandin courses evaluated, 549 courses (33%) were initiated within 2 days of hospital admission and the average time from hospital admission to echinocandin start was 9 (\pm 13) days. A total of 505 (24%) echinocandin courses were continued until the day of discharge.

Conclusion: The rate of echinocandin use did not change appreciably during the study period. A significant proportion of echinocandin courses were either started upon hospital admission or were continued until the day of discharge. Further studies to evaluate antifungal stewardship opportunities for the echinocandin pharmacologic class are warranted.

Disclosures: Nicholas D. Beyda, PharmD, BCPS, Astellas (Advisor or Review Panel member) Cidara (Grant/Research Support, Scientific Research Study Investigator) Kevin W. Garey, PharmD, MS, FASHP, Merck & Co. (Grant/Research Support, Scientific Research Study Investigator)

44. Antibiotic Class-Based Distribution and Analysis of Reported Beta-Lactam Allergies amongst Hospitalized Patients

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Session: P-3. Antimicrobial Stewardship: Outcomes Assessment (clinical and economic)

Background: Reported β -lactam allergy (BLA) is very common, yet less than 10% of these patients exhibit true hypersensitivity. When faced with reported BLAs, physicians often choose alternative antibiotics which can be associated with *C. difficile* infection, drug-resistance development, poorer outcomes, & increased costs. Effective identification of these patients is necessary for subsequent, appropriate BLA “de-labeling.” Here, we conducted a single-center analysis of alternative antibiotic utilization amongst patients reporting BLA and compare the frequency of drug-resistant infections and *C. difficile* infection in allergic & non-allergic patients.

Methods: This is a retrospective review of adult patients hospitalized at The University of Texas Medical Branch from 1/1/2015 to 12/31/2019. Pooled electronic medical records were filtered by antibiotic orders and reported allergies to penicillins or cephalosporins. Patients with drug-resistant and/or *C. difficile* infection (CDI) were identified by ICD-10 codes. Microsoft Excel & MedCalc were used for statistical calculations.

Results: Data were available for 118,326 patients and 9.3% (11,982) reported a BLA, with the highest rates seen in those receiving aztreonam (85.9%, 530/617) & clindamycin (33.7%, 3949/11718). Amongst patients reporting BLA, high ratios-of-consumption (relative to all patients receiving antibiotics) were seen with aztreonam (7.0), clindamycin (2.7), cephalosporin/ β -lactamase inhibitors (2.4), & daptomycin (2.1). Compared to the non-BLA population, BLA patients more frequently experienced MRSA infection (3.0% vs 1.5%, OR 1.99, 95% CI 1.79–2.23, $p < 0.0001$), β -lactam resistance (1.2% vs 0.6%, OR 2.07, 95% CI 1.72–2.49, $p < 0.0001$), and CDI (1.2% vs 0.7%, OR 1.85, 95% CI 1.54–2.23, $p < 0.0001$).

Conclusion: Our measured BLA rate matches approximate expectations near 10%. Moreover, these patients experienced significantly higher frequencies of drug-resistant bacterial infections and CDI. Targeted inpatient penicillin allergy testing stands to be particularly effective in those patients receiving disproportionately utilized alternative agents (e.g. aztreonam, clindamycin, daptomycin). β -lactam allergy “de-labeling” in these patients is likely a valuable antimicrobial stewardship target.

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45. Antimicrobial Stewardship for Urinary Tract Infection in Three Emergency Departments Across a Health System

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Session: P-3. Antimicrobial Stewardship: Outcomes Assessment (clinical and economic)

Background: Broad spectrum antibiotics are often prescribed to patients presenting to the emergency department (ED) for evaluation of urinary tract infection and pyelonephritis (UTI). We evaluated the effect of a target-specific antibiogram, education, and feedback on UTI diagnosis and antibiotic prescribing in this setting.

Methods: We created a urine-specific antibiogram from patients seen and treated without admission at three ED locations (one academic and two community hospitals). We then provided a treatment algorithm and supplemental educational content to ED providers in November 2019. Educational content highlighted appropriate diagnosis, antibiotic selection, and treatment duration for UTI. Adult encounters with appropriate ICD-9/10 codes within twelve months prior to content delivery comprised the preintervention cohort. The postintervention cohort consisted of adult visits following educational intervention until April 17, 2020. During the postintervention phase (November 2019 to April 2020), summary data regarding UTI diagnoses and guideline-concordant prescriptions were fed back routinely to ED providers through email. Guideline-concordant prescriptions were defined as those adhering to first or second-line therapy in the treatment algorithm. The proportion of prescriptions meeting this definition fulfilled the primary outcome. An interrupted time series analysis measured changes in guideline concordance.

Results: Data from 6,713 distinct encounters were analyzed across the three sites. While guideline concordant prescribing increased following intervention at all locations (30.9% to 38.8%, 48.1% to 49.1%, and 48.2% to 59.6%), these increases were not statistically significant (Figures 1, 2, and 3). The proportion of all ED encounters