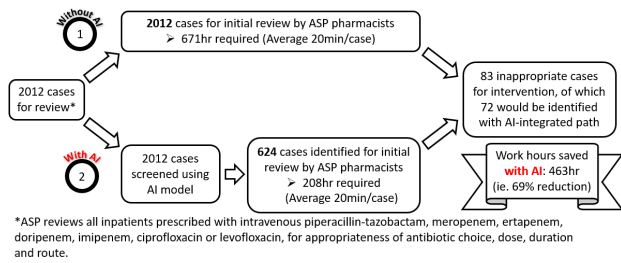


Figure 1. Illustration of AI benefits in ASP



\*ASP reviews all inpatients prescribed with intravenous piperacillin-tazobactam, meropenem, ertapenem, doripenem, imipenem, ciprofloxacin or levofloxacin, for appropriateness of antibiotic choice, dose, duration and route.

**Conclusion.** ASPs can leverage on machine learning capabilities to improve audit efficiency. This can increase ASP's productivity and staff's job satisfaction as they are freed up to perform other work.

**Disclosures.** All Authors: No reported disclosures

### 105. Fluoroquinolone Stewardship at a Community Health-System: A Decade in Review

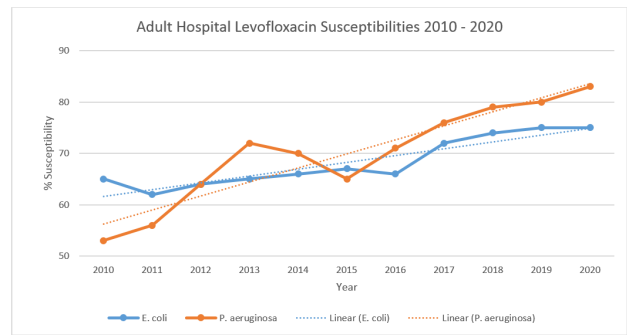
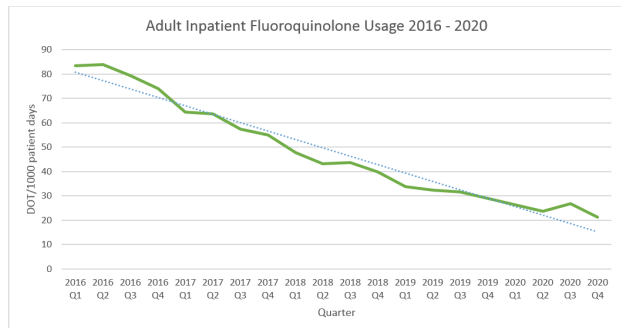
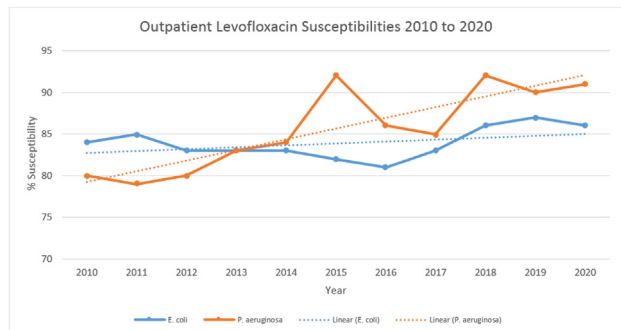
Matthew Song, PharmD, BCIDP<sup>1</sup>; Ashley Wilde, PharmD, BCPS-AQ ID<sup>1</sup>; Ashley Wilde, PharmD, BCPS-AQ ID<sup>1</sup>; Sarah E. Moore, PharmD, BCIDP<sup>1</sup>; Brian C. Bohn, PharmD, BCIDP<sup>1</sup>; Paul S. Schulz, MD<sup>1</sup>; <sup>1</sup>Norton Healthcare, Louisville, Kentucky

**Session:** P-07. Antimicrobial Stewardship: Program Development and Implementation

**Background.** Fluoroquinolone stewardship is a common target for antimicrobial stewardship programs seeking to maintain or improve fluoroquinolone susceptibility rates. Additional benefits include reducing *C. difficile* infection rates, drug toxicities, and resistance to other antimicrobials as fluoroquinolones can co-select for resistance. The Norton Healthcare antimicrobial stewardship program was founded in 2011 and provides services at 4 adult hospitals with ~1600 beds. Main fluoroquinolone stewardship activities have included provider education, prospective audit and feedback, and guideline and order-set development. The purpose of this study was to describe the resistance and usage rates of fluoroquinolones over time.

**Methods.** This was a descriptive study examining individual adult hospital antibiograms from 2010 to 2020. Levofloxacin susceptibility rates to *E. coli* and *P. aeruginosa* were collated from annual antibiograms between 2010 and 2020 for outpatients and each adult hospital. Adult hospital resistance rates were aggregated and weighted accordingly to number of isolates per hospital per year. Additionally, levofloxacin and ciprofloxacin inpatient days of therapy (DOT) was collected since 2016 when DOT was first readily retrievable and was normalized per 1000 patient days to compare between different time points.

**Results.** Outpatient levofloxacin likelihood of activity against *P. aeruginosa* improved from 81% to 91%. Outpatient levofloxacin likelihood of activity against *E. coli* remained stable between 84 – 86% (Figure 1). Adult inpatient fluoroquinolone usage decreased by approximately 75% from 83.5 to 21.37 DOT/1000 patients since 2016 (Figure 2). Adult inpatient levofloxacin likelihood of activity against *P. aeruginosa* improved from 53% to 83%. Adult inpatient levofloxacin likelihood of activity against *E. coli* improved from 65% to 75% (Figure 3).



**Conclusion.** The Norton Healthcare antimicrobial stewardship program has been effective in reducing unnecessary fluoroquinolone usage and improving inpatient fluoroquinolone susceptibility rates. Future studies should examine opportunities to translate successes to the outpatient phase of care.

**Disclosures.** Ashley Wilde, PharmD, BCPS-AQ ID, Nothing to disclose Paul S. Schulz, MD, Gilead (Consultant, Speaker's Bureau) Merck (Consultant, Speaker's Bureau)

### 106. Pandemic Pinch: The Impact of COVID Response on Antimicrobial Stewardship Program (ASP) Resource Allocation

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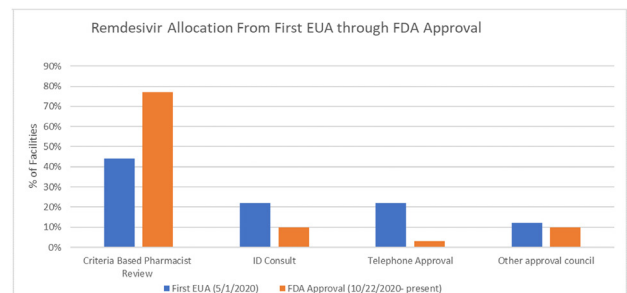
**Session:** P-07. Antimicrobial Stewardship: Program Development and Implementation

**Background.** The COVID-19 pandemic placed a strain on inpatient clinical and hospital programs due to increased patient volume and rapidly evolving data on best COVID-19 management strategies. However, the impact of the pandemic on ASPs has not been well described.

**Methods.** We performed a cross-sectional electronic survey of stewardship pharmacy and physician leaders in 37 hospitals within the Duke Antimicrobial Stewardship Outreach Network (DASON) (community) and Duke/UNC Health systems (academic) in April-May 2021. The survey included 60 questions related to staffing changes, use of COVID-targeted therapies, related restrictions, and medication shortages.

**Results.** Twenty-seven facilities responded (response rate of 73%). Pharmacy personnel was reduced in 17 (63%) facilities by an average of 16%. Impacted pharmacy personnel included the stewardship lead in 15/17 (88.2%) hospitals. Converting to remote work was rare and only reported in academic institutions (n=2, 7.4%). ASP personnel were reassigned to non-stewardship duties in 12 (44%) hospitals with only half returning to routine ASP work as of May 2021. Respondents estimated that 62% of routine ASP activities were diverted during the time of the pandemic. Non-traditional, pandemic-related ASP activities included managing multiple drug shortages, of which ventilator support medications (91%) were most common affecting patient care at 52% of facilities. Steroid and hydroxychloroquine shortages were less frequent (44% and 22%, respectively). Despite staff reductions, pharmacists often served as primary contact for remdesivir approvals either using a criteria-based checklist at dispensing or as part of a dedicated phone approval team (Figure). Most (77%) hospitals used a criteria-based pharmacist review strategy after remdesivir FDA approval. Restriction processes for other COVID-19 therapies such as tocilizumab, hydroxychloroquine, and ivermectin were reported in 64% of hospitals.

Remdesivir Allocation Strategy



Proportion of facilities implementing specific remdesivir allocation strategies from the time of the first US Food and Drug Administration (FDA) Emergency Use Authorization (EUA) through FDA approval

**Conclusion.** Pandemic response diverted routine ASP work and has not yet returned to baseline. Despite the reduction in pharmacy personnel due to the pandemic, the ASP pharmacy lead took on a novel and critical stewardship role throughout the pandemic exemplified by their involvement in novel treatment allocation for COVID patients.

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**107. Impact of Penicillin Allergy Assessment During Pre-Anesthesia Testing (PAT) on Beta-Lactam Surgical Prophylaxis in Bariatric Surgery Patients**

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**Session:** P-07. Antimicrobial Stewardship: Program Development and Implementation

**Background.** Due to utilization of alternative antibiotics, documented penicillin (PCN) allergies are associated with an increased risk of surgical site infections, cost, and infections caused by resistant organisms. In October 2019, a community hospital implemented a beta-lactam (BL) allergy assessment service in a pre-anesthesia testing (PAT) clinic without access to allergy specialists or PCN skin testing (PST). In phase 1, the surgeon was contacted to change surgical prophylaxis for BL eligible patients based on the assessment. In phase 2, an automatic protocol was implemented to allow advanced practice providers (APPs) to switch from alternative antibiotics in BL eligible patients. The objective of this study was to assess the impact of the PCN assessment service and protocol on BL surgical prophylaxis.

**Methods.** This retrospective cohort study included bariatric surgery patients who visited PAT clinic with a documented BL allergy between Jun 2019-Sept 2019 (control), Nov 2019-Feb 2020 (phase 1), and Nov 2020-Feb 2021 (phase 2). Patients with procedures not requiring surgical prophylaxis were excluded. Patients were determined to be eligible for BL surgical prophylaxis if: intolerance or mild-moderate reaction to PCN, previously tolerated cephalosporin, intolerance to cephalosporin, or surgeon deemed it appropriate. The primary outcome was overall utilization of BL surgical prophylaxis.

**Results.** This study included 38 patients in the control group, 14 in the phase 1 group, and 17 in the phase 2 group. Overall utilization of BL surgical prophylaxis significantly increased with 16% in the control group, 43% in the phase 1 group, and 65% in the phase 2 group (p=0.001). In the BL eligible patient subgroup, BL surgical prophylaxis significantly increased with 35% (n=6/17) in the control group, 50% (n=6/12) in the phase 1 group, and 92% (n=11/12) in the phase 2 group (p= 0.001). There were no reported surgical site infections or adverse drug reactions.

**Conclusion.** Overall utilization of BL surgical prophylaxis significantly increased after implementation of a PCN allergy assessment service with an automatic protocol for patients determined as BL eligible. This service and protocol demonstrates successful optimization of surgical prophylaxis when allergy specialists or PST is not available.

**Disclosures.** All Authors: No reported disclosures

**108. Evaluation of the Impact of Dalbavancin Usage on Clinical Outcomes, Cost-Savings, and Adherence at a Large Safety Net Hospital**

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**Session:** P-07. Antimicrobial Stewardship: Program Development and Implementation

**Background.** Dalbavancin is a long-acting second-generation lipoglycopeptide antibiotic with potent activity against Gram-positive organisms. Dalbavancin is currently FDA approved for acute bacterial skin and soft tissue infections (ABSSTIs). Growing evidence suggests that patients can be successfully treated with dalbavancin for indications outside of skin and soft tissue infections which include bacteremia and osteomyelitis (OM) with significant cost savings and reduced length of stay. We developed a protocol for the use of dalbavancin in patients who required intravenous antibiotics for serious bacterial infections but did not qualify for outpatient parenteral antibiotic therapy (OPAT). During the COVID-19 pandemic, we expanded the protocol to reduce the amount of clinical contact required for all patients.

**Methods.** In this retrospective observational study, we reviewed all patients that received at least one dose of dalbavancin in either inpatient or outpatient setting at Parkland Hospital from July 2019 through February 2021. Patient demographics, type of infection, and rationale for dalbavancin were collected at baseline. Clinical response was measured by avoidance of Emergency Department (ED) visits or hospital readmission at 30, 60, and 90 days. In addition, a separate analysis was conducted to estimate hospital, rehabilitation, or nursing home days saved based on their diagnosis and projected length of treatment.

**Results.** Twenty-eight patients (24 inpatient, 4 outpatient) were included in the study. The majority were uninsured (89%), homeless (64%), or had active intravenous

drug use (IDU) (60%). Indications for use included SSTI (42.9%), bacteremia (64.3%), and OM (42.6%). Clinical failure was observed in 4 (14%), 1 (3.5%), and 2 (7.1%) patients at 30, 60, or 90 days (respectively). Nonadherence to medical recommendations, lack of source control, and ongoing IDU increased risk of returning to the hospital. Dalbavancin use saved a total of 381 days of inpatient/rehab/facility stay.

Demographics	
Male	18(64.3%)
Mean Age	44.6 (IQR 17.5)
Caucasian	15(53.5%)
African American	5(17.9%)
Hispanic	8(28.6%)
Uninsured	25(89.3%)
Homeless	18(64.3%)
English as preferred language	26(92.9%)
Prior/Current IDU	17(60.7%)
Inpatient	24(85.7%)
Outpatient	4(14.3%)
Pandemic expanded protocol	2(7.1%)

Baseline Characteristics of Patients

Characteristics of Infection	
SSTI	12(42.9%)
Bacteremia	18(64.3%)
Osteomyelitis	12(42.6%)
Septic Arthritis	3(10.7%)
Endocarditis	4(14.3%)
Methicillin Sensitive Staphylococcus Aureus	8(28.6%)
Methicillin Resistant Staphylococcus Aureus	17(60.7)
Streptococcus Species	5(17.9%)
Enterococcus Species	1(3.6%)
Coagulase negative Staphylococcus	3(10.7%)

Types of Infections and Microbiology

Clinical Response (related to original diagnosis)	
30 Day Readmission	3(10.7%)
30 Day ED visit	1(3.6%)
60 Day Readmission	(3.6%)
60 Day ED visit	0
90 Day Readmission	1(3.6%)
90 Day ED visit	1(3.6%)

ED Visit or Readmissions at 30, 60, or 90 Days

**Conclusion.** Dalbavancin showed similar rates of success with improved length of stay and cost savings. The use of long acting lipoglycopeptides are desirable alternatives to traditional OPAT for patients that otherwise would not qualify for OPAT or desire less hospital contact.

**Disclosures.** All Authors: No reported disclosures

**109. Develop and Implement a Novel Pediatric Antimicrobial Stewardship Program in a Non-Freestanding Children's Hospital Located in an Adult-Centered Community Hospital in San Joaquin Valley, California**

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**Session:** P-07. Antimicrobial Stewardship: Program Development and Implementation

**Background.** A pediatric-specific antimicrobial stewardship program (Ped ASP) has been shown to optimize antimicrobial use, improve patient outcomes, and reduce