Results: A total of 123 patients are included (53 “pre” vs. 70 “post”). Patient characteristics are similar (Table 1). 31 (12.1%) vs. 13% (P = 0.5) received previous treatment with CPN. The most common causes being cefazolin (14, 11.3%), ceftriaxone (18, 14.6%) and cefepime (9, 7.3%). 14 (11.3%) received pretreatment prior to CPN use. CPN given to patients in the ED include cefazolin (6 vs. 7), cephalaxin (4 vs. 3), ceftriaxone (18 vs. 17, 80 patients (65%) received a single dose of a CPN administration routes include oral (10, 8.1%), intravenous (91, 73.9%) and intramuscular (22, 17.8%). 80 patients (65%) received a single dose of a CPN (37 vs. 43). No significant difference is noted in CPN use between groups (P = 0.1). Increased PCN allergy notation on tolerance to CPN after CPN use is noted, but later (Table 2). No adverse events occurred with CPN with the most common choices being cefazolin (14, 11.3%), ceftriaxone (18, 14.8%) and cefepime (9, 7.3%).

Conclusion: Education interventions on CPN use in PCN allergic patients require support with other strategies and tools. This intervention provides groundwork to initiate efforts to further improve CPN use in PCN allergic patients.

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74. Interrupted Time Series Analysis of the Impact of Fluoroquinolone Cascade Reporting
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Session: P-3. Antimicrobial Stewardship: Outcomes Assessment (clinical and economic)
Background: Cascade reporting is a form of selective reporting where antibiotic susceptibility results are released in a sequential order to optimize antibiotic use. On May 1, 2019, Virginia Commonwealth University Health implemented cascade reporting for ciprofloxacin and levofloxacin for E. coli from urinary cultures. We hypothesize that suppressing fluoroquinolone (FQ) results for urine isolate E. coli susceptibility panels using cascade reporting led to a decrease in the overall rate of inpatient FQ use.
Methods: We compared inpatient FQ use (in days of therapy (DOT)/1000 patient days (PD)) for the one year pre-cascade period (May 2018-April 2019) to the one-year post-cascade period (May 2019-April 2020). Inpatient FQ use for May 2018-April 2020 was modeled as an interrupted time series (ITS) using ordinary least squares regression. The regression model followed the form of Y = B0 + B1T + B2X + B3XT with Y = (DOT/1000 PD), T = time in months, X = cascade reporting represented with a binary digit, and XT= time since cascade reporting was implemented. Results were examined for autocorrelation and lag effects. Analysis conducted using Microsoft Excel and Python Statsmodel library v0.11.1.
Results: A segmented regression model was successfully fitted with R² = 0.73 (Figure 1). The pre-intervention slope (T), intervention change (X), and post-intervention slope (XT) were -3.9, -2.3, and 3.8 DOT respectively. A significant positive change in pre versus post intervention slope was detected (p = 0.01).

Conclusion: Results showed no significant change in FQ DOT/1000 PD when cascade reporting was implemented in May 2019. This may be due to empiric prescribing of FQs in the inpatient setting, due to the fact the rate of FQ use was already decreasing prior to cascade reporting adoption, or due to other factors.

Conclusion: We detected a significant positive change in the slope of FQ from ~4.0 DOT/1000 PD each month post-cascade reporting. Our hospital has had a decrease in FQ use over the past 8 years so this may be due to a ‘floor’ effect where the true minimum of necessary FQ use was reached; further investigation is warranted. We believe our data will be of interest to other Antimicrobial Stewardship Programs considering cascade reporting.

Disclosures: All Authors: No reported disclosures

75. Less is More: A Physician-Driven Quality Improvement Stewardship Initiative to Reduce Excessive Duration of Antibiotic Therapy in Veterans Hospitalized with Community-Acquired Pneumonia
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Session: P-3. Antimicrobial Stewardship: Outcomes Assessment (clinical and economic)
Background: The IDSA and American Thoracic Society (IDSA/ATS) Community Acquired Pneumonia (CAP) guidelines recommend 5 days of therapy for clinically stable patients that defervesce, however, duration of therapy (DOT) is often longer. Pharmacist curb this via antimicrobial stewardship (AMS), but budgetary...
Constraints are barriers to robust AMS programs in some hospitals. Physicians are increasingly encouraged to participate in quality improvement (QI) and are a potential resource to improve AMS. We sought to determine the impact of a prospective, physician-driven stewardship intervention on DOT and clinical outcomes in hospitalized veterans with CAP, who aimed to reduce the median DOT by at least 1 day within 5 months.

**Methods:** This single center, quasi-experimental QI study evaluated two concurrent physician-driven interventions over a 5-month period in an inner-city Veterans Affairs Hospital. Using DMAIC (Define, measure, analyze, improve, and control) methodology, the Chief Resident in Quality and Safety (CRQS) provided monthly education and daily audit and feedback with patient-specific DOT recommendations. Clinical outcomes were followed until 30 days post discharge.

**Results:** A total of 123 patients with CAP were included (57 in the historic control group and 66 in the AMS intervention group). The AMS intervention significantly increased the proportion of CAP patients treated with a 5-day treatment course (56% versus 5.3%, p<0.0001) and reduced the proportion of patients treated beyond 7 days (12.1% versus 70.2%, p<0.0001). Median DOT per patient was reduced significantly (5 versus 8 days, p<0.0001). Median excess antibiotic days were significantly reduced (0 versus 3, p<0.0001) and 118 days of unnecessary antibiotics were avoided (62 versus 180). 30-day all-cause mortality, all-cause readmission, and Clostridium difficile infection were similar between groups. Median LOS was similar between groups (p=0.235).

**DOT in the Historic Control Group Versus Stewardship Intervention Group**

**Conclusion:** A physician driven QI stewardship intervention in hospitalized CAP patients significantly reduced the total antibiotic DOT and excess antibiotic days without adversely affecting patient outcomes. Providers can be educated through physician-driven interventions resulting in substantial improvements in appropriate antibiotic use.

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

67. Out of Sight, Out of Mind: Impact of an Antimicrobial Stewardship Bundle on Fluoroquinolone Utilization

All Authors

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

**Background:** Fluoroquinolones are broad spectrum antimicrobials associated with a growing list of adverse effects, such as *Clostridoides difficile* infection, arrhythmias, central nervous system effects, tendon rupture and aortic aneurysm. Due to increasing concerns regarding adverse events and growing resistance, the antimicrobial stewardship team at Wesley Healthcare implemented a bundle aimed at reducing fluoroquinolone usage beginning in June 2017. The components of this bundle included suppression of fluoroquinolone susceptibility in *Enterobacteriaceae* isolates, removal of fluoroquinolones as first line options on order sets, and introduction of a respiratory specific antibiotic protocol.

**Methods:** The objective was to evaluate the impact of the stewardship bundle on fluoroquinolone utilization. The primary outcome was ciprofloxacin and levofloxacin usage in days of therapy per 1000 inpatient days (DOT) collected at monthly intervals for 24 months before and after intervention. Overall antimicrobial usage in DOT served as a control variable. The secondary outcomes were *E. coli* and *P. aeruginosa* susceptibility to ciprofloxacin measured at the same time points as the primary outcome. An interrupted time-series analysis using segmented regression was performed for all variables.

**Results:** The mean monthly levofloxacin usage was reduced from 14.1 (95% CI, 12.7 - 15.4) to 8.4 (95% CI, 7.6 - 9.3) DOT. The mean monthly ciprofloxacin usage was reduced from 26.9 (95% CI, 24.6 - 29.4) to 15.8 (95% CI, 14.0 - 17.5) DOT. The trend in levofloxacin usage was reduced (p<0.035), while a pre-existing downward trend in ciprofloxacin usage was unchanged (p>NS). Overall antimicrobial usage increased, likely due to increasing hematologic/oncology populations during the study period. There were no differences in *E. coli* or *P. aeruginosa* susceptibilities observed.

**Conclusion:** This antimicrobial stewardship bundle may be a useful intervention to reduce fluoroquinolone usage. The bundle may be of particular utility in reducing levofloxacin usage, as our results demonstrated a change in both its usage and trend in usage.

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78. Outcomes and adherence to institutional empiric therapy guidelines for the treatment of cystitis in ambulatory male veterans

All Authors

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

**Background:** Guidelines provide primary literature demonstrating efficacy and safety of cystitis treatment in female patients, but not males. Increased antimicrobial resistance of urinary tract infection (UTI) pathogens to first line antibiotics are increasingly well-documented. In 2017, a change in institutional guidelines was made to recommend nitrofurantoin (NF) or cephalaxine (CPD) as first line antibiotics for cystitis in males. This study aims to evaluate the efficacy of NF and CPD as first line treatment options in males with cystitis.

**Methods:** Single-center, retrospective chart review of male patients prescribed NF or CPD for treatment of cystitis in the outpatient setting from August 2017 to August 2018. Patients with asymptomatic bacteriuria, prostatitis or systemic signs and symptoms of UTI were excluded. Primary outcome was treatment failure, defined as requiring new emergency department (ED) or patient aligned care team (PACT) visit within 30 days after initiation of antibiotic for unresolved symptoms. Safety outcomes were based on documented adverse effects (AE) associated with antibiotic use. Chi-square was the primary statistical test for analyzing primary outcomes and other nominal variables.

**Results:** A total of 450 charts were reviewed with 150 patients meeting inclusion criteria (NF n=75, CPD n=75). Baseline characteristics were equally distributed between groups. There were no differences in readmissions due to reinfection or development of CDI, hospital length of stay (LOS) within 30 days after discharge, or 30-day all-cause mortality. Safety outcomes were similar between groups. In 2017, a change in institutional guidelines was made to recommend nitrofurantoin (NF) or cephalaxine (CPD) as first line antibiotics for cystitis in males. This study aims to evaluate the efficacy of NF and CPD as first line treatment options in males with cystitis.

**Methods:** Single-center, retrospective chart review of male patients prescribed NF or CPD for treatment of cystitis in the outpatient setting from August 2017 to August 2018. Patients with asymptomatic bacteriuria, prostatitis or systemic signs and symptoms of UTI were excluded. Primary outcome was treatment failure, defined as requiring new emergency department (ED) or patient aligned care team (PACT) visit within 30 days after initiation of antibiotic for unresolved symptoms. Safety outcomes were based on documented adverse effects (AE) associated with antibiotic use. Chi-square was the primary statistical test for analyzing primary outcomes and other nominal variables.

**Results:** Overall, 834 patients (540 control; 294 intervention) were included. The 30-day hospital readmission rate for all infection types decreased during the intervention period (19.6% vs 4.8%, P<0.0001). Both the development of CDI during hospital stay and 30-day readmission due to CDI during the intervention period decreased (2.6% vs 0.34%, P<0.019). There was no statistical significant decrease in 30-day hospital readmissions in the PNA (58.5% vs 35.7%, P=0.11), UTI (18.9% vs 35.7%, P=0.15), ABSSSI (12.3% vs 21.4%, P=0.34) or cIAI (10.4% vs 7.1%, P=0.14) arms. There was no statistically significant change in LOS (7.50 days vs 7.26 days, P=0.48) or mortality (9.6% vs 6.5%, P<0.12).

**Conclusion:** Multidisciplinary ASP efforts significantly reduced 30-day hospital readmission rates and development of CDI in hospitalized patients 65 years and older.

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