Background. Antimicrobial stewardship programs (ASPs) can reduce the incidence of hospital-onset Clostridium difficile infection (HO-CDI) by limiting unnecessary exposure to high-risk antibiotics, including fluoroquinolones (FQ). However, restriction policies are challenging to implement and sustain. In a mixed methods study, we explored the barriers, facilitators and efficacy of an FQ restriction policy to reduce HO-CDIs among high-risk patients.

Methods. Our ASP instituted a pilot FQ restriction policy in our ICU and solid-organ transplant wards. We evaluated 24 months of pre- and post-intervention data, including: FQ and alternative agent use, length of stay (LOS), readmission rate, mortality and HO-CDI. We conducted 12 semi-structured interviews with front-line providers, applying the Systems Engineering Initiative for Patient Safety framework to examine perceptions of FQ use, prescribing indications, perceived relationships between FQ use and HO-CDI, and barriers imposed by FQ restrictions. Time-series analysis was performed to evaluate FQ and HO-CDI data.

Results. FQ use decreased from an average of 111.6 days of therapy (DOT) per 1,000 patient-days pre-intervention to 19.8 DOT/1,000 patient-days (P < 0.0001). Average readmission rate, LOS on pilot units, total antibiotic use, and use of cefepime decreased after FQ restriction. Conversely, use of cephalosporins, aminoglycosides and piperacillin–tazobactam all increased. The average HO-CDI rate was significantly lower post-intervention, although time series analysis showed a post-intervention increase in the trend in infection rate compared with the pre-intervention trend. Qualitative analysis of interviews revealed β-lactam allergy and pending discharge were barriers to FQ restriction; a patient's history of CDI and pharmacist involvement in antimicrobial decision-making facilitated FQ restriction.

Conclusion. An FQ restriction policy significantly decreased FQ use without adversely affecting readmission rate, LOS or mortality. Knowledge of barriers and facilitators to FQ use optimization among front-line staff can inform future successful ASP interventions. Further investigation into the effect of FQ restriction on HO-CDI is needed.

Disclosures. Alexander Lepak, MD, Paratek Pharmaceuticals: Research Grant; Tetraphase Pharmaceuticals: Research Grant.

2065. Reducing Inappropriate Antibiotic Prescriptions in the Primary Care Setting

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Background. In 2015, the CDC established the National Action Plan for Combating Antibiotic-Resistant Bacteria, with the goal of reducing inappropriate outpatient antibiotic use by 50% by 2020. Upper respiratory infections, (URIs) account for one of the top three diagnoses prompting outpatient visits, and despite viral pathogens being the etiology of most URIs, many patients are treated with antibiotics. This study aimed to reduce inappropriate antibiotics prescribing for URIs at Cooper Primary Care offices.

Methods. Using the electronic medical record, we analyzed office visits (OVs) of 63 primary care providers during the influenza season (November 1, 2017—February 28, 2018) that were associated with a URI diagnosis code and resulted in an antibiotic prescription. The intervention was a personalized digital URI score card (Figure 1) emailed to each primary care physician. It included (1) Cooper Hospital’s Primary Care Department Average Rate of Antibiotic Prescribing for URI OVs and (2) each physician’s average rate of antibiotic prescribing for URI office visits. Data were collected post-intervention (November 1, 2018—February 28, 2019) to evaluate changes in antibiotic prescribing patterns.

Results. Using Fischer’s Exact test we analyzed the pre vs. post-intervention rate of antibiotic prescribing for URI OVs. There were 7,295 total pre-intervention office visits. Of these, 41.03% resulted in an antibiotic prescription. There were 6,642 total post-intervention office visits. Of these, 35.85% resulted in an antibiotic prescription. There was a 5.18% overall decrease in antibiotics prescribed for all URI office visits (P < 0.001) (see Figure 2).

Conclusion. Increasing providers’ awareness of their own prescribing patterns compared with their department’s prescribing patterns utilizing a single report card decreased the rate of antibiotics prescribed for URIs by 5.18% for all URI-related office visits. Specifically, there was 10.19% decrease in antibiotics prescribed for bronchitis, which is by definition, of viral etiology. This is significant given the potential adverse effects of unnecessary antibiotics, and the emergence of antibiotic resistance. Limitations include a lack of certainty in “true” inappropriate prescriptions and diagnosis coding.

Disclosures. All authors: No reported disclosures.

2066. Development and Implementation of Prescribing Algorithms for Antibiotics on Discharge from the Emergency Department

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Session: 238. Antibiotic stewardship: Non-Inpatient Settings
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Background. In the emergency department (ED), rapid decision-making and frequent distractions are often challenging to implementing effective antimicrobial stewardship. The purpose of this project is to improve guideline adherence and promote optimal use of outpatient antibiotic therapy for community-acquired infections.

Methods. Prescribing algorithms were developed to integrate clinical practice guideline recommendations with emergency department-specific antibioticogram data. Algorithms for treating community-acquired pneumonia (CAP), skin and soft-tissue infections (SSTI), and urinary tract infections (UTI) were made available throughout the ED. Outcomes were evaluated through a chart review of patients prescribed empiric outpatient antibiotics for CAP, SSTI, or UTI by ED providers. Patients were excluded if they were <18 years old, pregnant, or taking antibiotics prior to arrival. The primary outcome was rate of adherence to clinical practice guidelines, defined as the selection of an appropriate antibiotic agent, dose, and duration of therapy for each patient discharged. Secondary outcomes included the rate of fluoroquinolone use, as well as all-cause 30-day returns to the ED or urgent care.

Results. When compared with patients discharged from the ED prior to algorithm implementation (N = 325), the post-implementation group (N = 172) received more antibiotic prescriptions that were completely guideline adherent (57.0% vs. 11.7%, P < 0.01). Post-implementation discharge orders demonstrated improvement in adherence to an appropriate agent (86.6% vs. 45.5%, P < 0.01), dose (89.0% vs. 77.2%, P < 0.01), and duration of therapy (63.4% vs. 39.1%, P < 0.01). Additionally, fluoroquinolone prescribing rates in this population were reduced (2.9% vs. 12.3%, P < 0.01). In the post-implementation patients who presented at least 30 days prior to analysis (N = 124), a reduction in cause 30-day returns to the ED or urgent care was observed (12.9% vs. 21.5%, P < 0.05).

Conclusion. Implementation of antibiotic prescribing algorithms improved guideline adherence in the outpatient treatment of CAP, SSTI, and UTI. By developing prescribing algorithms, pharmacists may reduce the unnecessary use of broad-spectrum antibiotics and prevent patient returns to the ED.

Disclosures. All authors: No reported disclosures.

2067. Improving Outpatient Antimicrobial Prescribing for Respiratory Tract Infections

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Methods. Our ASP instituted a pilot FQ restriction policy in our ICU and solid-organ transplant wards. We evaluated 24 months of pre- and post-intervention data, including: FQ and alternative agent use, length of stay (LOS), readmission rate, mortality and HO-CDI. We conducted 12 semi-structured interviews with front-line providers, applying the Systems Engineering Initiative for Patient Safety framework to examine perceptions of FQ use, prescribing indications, perceived relationships between FQ use and HO-CDI, and barriers imposed by FQ restrictions. Time-series analysis was performed to evaluate FQ and HO-CDI data.

Results. FQ use decreased from an average of 111.6 days of therapy (DOT) per 1,000 patient-days pre-intervention to 19.8 DOT/1,000 patient-days (P < 0.0001). Average readmission rate, LOS on pilot units, total antibiotic use, and use of cefepime decreased after FQ restriction. Conversely, use of cephalosporins, aminoglycosides and piperacillin–tazobactam all increased. The average HO-CDI rate was significantly lower post-intervention, although time series analysis showed a post-intervention increase in the trend in infection rate compared with the pre-intervention trend. Qualitative analysis of interviews revealed β-lactam allergy and pending discharge were barriers to FQ restriction; a patient's history of CDI and pharmacist involvement in antimicrobial decision-making facilitated FQ restriction.

Conclusion. An FQ restriction policy significantly decreased FQ use without adversely affecting readmission rate, LOS or mortality. Knowledge of barriers and facilitators to FQ use optimization among front-line staff can inform future successful ASP interventions. Further investigation into the effect of FQ restriction on HO-CDI is needed.

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