for Disease Control and Prevention (CDC) released Core Elements of Outpatient Antibiotic Stewardship. These core elements were the basis for the development of the Carolinas HealthCare Outpatient Antimicrobial Stewardship Empowerment Network (CHOSEN), which collaborates with more than 150 Atrium Health ambulatory practices to improve antibiotic awareness across metropolitan, suburban and rural communities, touching approximately 1,060,000 patients.

Methods. Initial baseline research involved surveys with 190 patients and key informant interviews with four patients and 17 providers. A resource working group was formed during a follow-up strategic planning session involving more than 40 multidisciplinary stakeholders. Key concepts identified through patient and provider engagement were the focus for the development of stewardship education and resources with involvement from physicians, nurses and pharmacists, as well as representation from quality, marketing and patient experience.

Results. Identified opportunities were addressed with the design of a "Bacteria and Viruses" patient handout and symptoms checklists for over-the-counter recommendations for adults, teens and children—all with translation into an additional 11 languages; a commitment flyer for patient examination rooms; pediatric dosing guides for acetaminophen and ibuprofen; provider scripting; and two educational videos. Resources were introduced via a consumer webpage, a provider intranet site update, and media pitching featuring key providers in the community to coincide with the CDC's National Antibiotic Awareness Week in November 2017. Additional focused provider education sessions were held for ambulatory practice specialties of urgent care, family medicine, internal medicine and pediatrics.

Conclusion. Through multidisciplinary collaboration, CHOSEN developed a better understanding of patient and provider attitudes and experiences that led to the development of specific tools and a campaign to meet the identified needs for antibiotic awareness in the community.

Key Findings Among Patients Surveyed and Identified Resource Opportunities

- 53% incorrectly believed that antibiotics work well for treating infections from a virus such as the flu or common cold.
- 62% reported that they have heard a great deal/lot about antibiotic resistance.
- 65% believe that some providers are more willing than others to write an order for an antibiotic.
- 65% report they want their provider to decide an order for a medication to help their symptoms.
- 76% report they want their provider to suggest an OTC to help their symptoms.

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1840. Development of an Innovative Antibiotic Prescribing Dashboard to Enhance Antimicrobial Stewardship in the Ambulatory Care Setting

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Background. The Carolinas HealthCare Outpatient Antimicrobial Stewardship Empowerment Network (CHOSEN) collaborates with more than 150 primary care ambulatory practices to improve antibiotic use in the Charlotte, NC area. CHOSEN aims for a 20% reduction in outpatient antimicrobial prescribing over 2 years with a focus on acute respiratory conditions. Initial qualitative research of provider interviews with four patients and 17 providers at 13 practices revealed the need for improved clinician reporting of antibiotics, appropriate fluoroquinolone use, and suggested alternatives. Study objectives were assessed before and after the intervention time period using segmented regression time series analysis including non-intervention internal medicine primary care comparator clinics.

Results. In the intervention clinics, rates of fluoroquinolone orders decreased from 9.4 ± 5.8 orders per week per 1,000 patient visits in the pre-intervention time period to 6.9 ± 6.6 orders per week per 1,000 patient visits in the post-intervention time period, as shown in the intervention analysis, controlling for change in prescribing rates in the non-intervention clinics, and changes in the rate of prescribing over time, the intervention was associated with a 3.1 ± 0.99 decrease in fluoroquinolone orders per week per 1,000 patient visits (P = 0.019). The percentage of orders deemed appropriate increased from 50 ± 31% in the pre-intervention time period to 66 ± 53% in the post-intervention time period (P = 0.06). Rates of fluoroquinolone orders did not change in the non-intervention clinics.

Conclusion. An audit and feedback intervention in ambulatory care clinics was able to reduce the rate of fluoroquinolone orders and increase the percent of orders deemed appropriate.

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1842. Fluoroquinolone Usage Reduction in the Outpatient Setting

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Background. Fluoroquinolones (FQ) are the leading class of antibiotics prescribed during adult ambulatory care visits, resulting in over 20 million outpatient prescriptions annually. Overuse of this class of antibiotics has contributed to increased antibiotic resistance and risk for Clostridium difficile infection. In 2016, the Food and Drug Administration (FDA) updated the boxed Warnings advising against FQ use for patients with uncomplicated sinusitis, bronchitis, or cystitis as the risk for potential serious side effects outweighs the benefit.

Methods. The antimicrobial stewardship team at Parkland Health and Hospital System, Dallas, Texas, implemented a multilevel approach to decrease outpatient
FQ usage (Figure 1). First, the FDA warning was added to all oral FQ orders in the electronic medical record and education regarding risk and appropriate use of FQ was given to providers in the primary care clinics and emergency department. Secondly, ciprofloxacin susceptibilities were suppressed by the laboratory when organisms were susceptible to third-generation cephalosporins. To assess the impact of these interventions, FQ utilization was compared across the same time period, each one year apart. Pre-education was assessed from November 2015 to February 2016, post-education from November 2016 to February 2017, and post-education plus susceptibility suppression from November 2017 to February 2018.

Results. Comparative utilization data by site was collected (Figure 2) with all sites demonstrating a decrease in FQ utilization and one site showing an 85% decrease. We observed an overall 19% decrease in outpatient FQ prescribing after education alone and 14% decrease after susceptibility suppression plus continuing education. Compared with pre-intervention baseline, there was a total 30% decrease in FQ utilization after both interventions were implemented, corresponding to approximately 150 fewer prescriptions per month (Figure 3).

Conclusion. Educational efforts alone proved effective in decreasing outpatient FQ usage. Additional improvement was observed when change was implemented at a system level via susceptibility suppression. Further decrease in FQ utilization is expected with ongoing education and additional system changes.

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1843. Prescribers’ Characteristics and Unnecessary/Inappropriate Antimicrobial Prescription in the Emergency Department: An Observational Study at a Tertiary Care Center
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Methods. We performed a 1-year cohort study of patients discharged from the ED in a tertiary care center with a prescription for oral antimicrobial agents. A retrospective audit of the appropriateness of antimicrobial prescription using prespecified criteria was performed by two infectious disease physicians. Patterns in antimicrobial prescription and the physician, patient-, and environment-related factors predicting unnecessary/inappropriate antimicrobial prescription were evaluated.

Results. Of the 36,308 annual visits to the ED, 1,555 patients (4.3% of visits) received oral antimicrobial prescriptions upon discharge. Pneumonia (18.2% [283/1,555]) was the most common indication for antimicrobial prescription. Of the 1,555 antimicrobial prescriptions issued, 852 (52.9%) were considered inappropriate. Factors significantly associated with unnecessary/inappropriate antimicrobial prescription included the lack of comorbidities (adjusted odds ratio [aOR]: 1.39; 95% confidence interval [CI]: 1.03–1.87), late-night visit (aOR: 1.48; 95% CI: 1.05–2.09), the spring-summer season (aOR: 1.13; 95% CI: 1.03–1.25), higher postgraduate year (>10 years) (aOR: 1.77; 95% CI: 1.24–2.52), and physicians in surgical subspecialties (aOR: 4.51; 95% CI: 3.34–6.89).

Conclusion. More than half of oral antimicrobial prescriptions in the ED were inappropriate. Unnecessary or inappropriate antimicrobial prescriptions were frequently issued during the late-night shift, and by older physicians and physicians in surgical subspecialties.

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1844. Improving Management of Community Acquired Pneumonia through Collaborative Integrated Care in an Antimicrobial Stewardship Initiative
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Methods. We performed a 1-year cohort study of patients discharged from the ED is important for developing an effective antimicrobial stewardship program for our setting.

Results. Of the 36,308 annual visits to the ED, 1,555 patients (4.3% of visits) received oral antimicrobial prescriptions upon discharge. Pneumonia (18.2% [283/1,555]) was the most common indication for antimicrobial prescription. The implementation of a CAP Pathway has shown continuing improvement in the choice of empiric therapy for the management of CAP with a significant morbidity and mortality especially in the elderly. Inappropriate selection of antibiotics has frequently been reported in the literature, including within the Australian setting. Clinical pathways and antimicrobial stewardship (AMS) efforts have been effective tools in the management of CAP, encouraging greater adherence to treatment guidelines and the use of severity assessment tools to guide empirical antibiotic choice.

Methods. A baseline retrospective audit revealed high rates of inappropriate prescribing for CAP outside of established guidelines. This stemmed mainly from the lack of severity assessment to guide empiric therapy. To improve management, a fully integrated CAP clinical pathway for immuno-competent adult patients was designed. The SMART-COP tool was chosen as the severity assessment tool (SAT) as it was well validated in the Australian Community Acquired Pneumonia Study. A random sample of 80 patients with the principal diagnosis of CAP were selected annually from 2013 to 2015 to measure the effect and sustainability of the intervention.

Results. Use of an SAT was integral in guiding the selection of appropriate antibiotics which has risen from 9% in 2012 to 46% in 2015. The inappropriate use of broad-spectrum antibiotics declined since the commencement of the CAP Pathway as seen in the graph below.

Conclusion. The implementation of a CAP Pathway has shown continuing improvement in the choice of empiric therapy for the management of CAP with a significant reduction in healthcare cost associated with the care of patients with CAP. Pneumonia In-Hospital Mortality Variable Life Adjusted Display indicators for Logan Hospital show no persistent flags, indicating no unexpected treatment outcomes.

Disclosures. All authors: No reported disclosures.