to be emailed to pharmacists involved with antimicrobial stewardship. It was theorized that this method would help transform outpatient antimicrobial stewardship from a predominately retrospective approach, to a prospective approach. Outpatient stewardship metrics were compared for pre- and post-CSS implementation to evaluate the impact of a CSS. The pre-implementation group (PreCSS) represented outpatient stewardship interventions that occurred April 2017 through January 2018 that were predominately driven by CSS alerts. Results. The PostCSS group had substantially fewer charts reviewed compared with the PreCSS group (267 vs. 1,415). In addition, the PostCSS group completed 77.6% more interventions compared with the PreCSS group (87 vs. 49). Thirty-one less charts were reviewed per one intervention, which led to 469 less minutes of chart review per one intervention. See Figure 2 for list of interventions. The PostCSS group received a significant increase in consults due to the direct approach to interventions compared with the PreCSS group (45 vs. 11).

Conclusion. The use of a clinical surveillance system has demonstrated an efficient way to transition outpatient antimicrobial stewardship to a prospective, interventional approach.

Figure 1. Alert Purpose

TAMIR, outpatient identifies mismatch between microbiology results and antibiotic therapy and identifies positive microbiology results without an antibiotic prescribed.

Figure 2. Overall 2017 (PreCSS) 2018 (PostCSS) Change

Number of charts/antibiotics reviewed 343 267 -1,148
Number of charts 11 45 +34
Total number of interventions 45 67 +22
Number of interventions independent of a consult 38 39 +1
Number of interventions due to a consult 12 48 +36
Percentage of interventions accepted 88% 99% +12%
Number of charts reviewed per intervention 28.88 3.07 -25.83
Number of charts reviewed per intervention independent of a consult 36.95 5.69 -31.26

Clinical Actions

Adjusted dose/ Frequency 3 7 +4
Avoid or defer antimicrobial medication 0 8 +8
Drip bag (Infusion) 4 8 4
Drip Information 4 13 +9
Duration (Changed) 4 10 +6
Laboratory monitoring 3 11 +8
Medicine change to different, antimicrobial 1 8 7
Medicine change to different, antimicrobial 8 4 -4
Prescribe culture with no antibiotic: 0 3 +3
Prescribe Dosing: 4 7 +3
TOTAL 49 87 +38

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2076. Comparison of Diagnosis and Prescribing Practices between Virtual Visits and Office Visits for Sinusitis within a Primary Care Network

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Session: 238. Antibiotic stewardship: Non-Inpatient Settings Saturday, October 5, 2019: 12:15 PM

Background. The majority of antibiotics prescribed in the outpatient setting result from upper respiratory tract infections; however, these infections are often viral. Virtual visits (VV) have emerged as a popular alternative to office visits (OV) for sinusitis complaints and are an important area for stewardship programs to target for intervention.

Methods. A retrospective cohort study was conducted utilizing the outpatient electronic medical record for Mercy Health Physician Partners (MHPP) and Zipnosis database for VV to compare diagnosis and prescribing between OV and VV for sinusitis. VV consisted of an online questionnaire for patients to complete, which was then sent to a provider to evaluate electronically without face-to-face interaction. Adult patients were included with a diagnosis code for sinusitis during the 6-month study period from January to June 2018. The primary objective was to compare rates of appropriate diagnosis of viral vs. bacterial sinusitis between OV and VV, based on national guideline recommendations. Secondary objectives were to compare the appropriateness of antibiotic prescribing and supportive therapy prescribing between OV and VV, as well as 24-hour, 7-day and 30-day re-visits.

Results. A total of 350 patients were included in the study (OV n = 175, VV n = 175). Appropriate diagnosis per national guidelines was 45.7% in OV compared with 69.1% in the VV group (P < 0.001). Additionally, patients that completed VV were less likely to receive antibiotic prescriptions (OV 94.3%, VV 68.6%, P < 0.001). Guideline-concordant antibiotic prescribing was similar between groups (OV 60.6%, VV 58.3%, P = 0.70) and both visit types had a median duration of treatment of 10 days (P = 0.88). Patients that completed VV were more likely to re-visit for sinusitis within 24 hours (OV 1.7%, VV 8%, P = 0.006) and within 30-days (OV 7.4%, VV 14.9%, P = 0.027). In multivariate logistic regression the only factor independently associated with 24-hour re-visit was patient self-request for antibiotics (OR 0.20, 95% CI 0.06–0.68).

Conclusion. Appropriate diagnosis of sinusitis was more likely in the VV group, which shows that VV provides a good platform to target outpatient antimicrobial prescribing. These findings support opportunities for antimicrobial stewardship interventions in both OV and VV.

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2077. Fluoroquinolone Usage Reduction in the Outpatient Setting

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Background. Fluoroquinolones (FQs) are the third most commonly prescribed outpatient antibiotic due to ease of dosing, broad spectrum of activity, and favorable pharmacokinetics. However, since 2016, the Food and Drug Administration (FDA) has released warnings about adverse effects, concluding that risks outweigh benefits especially for uncomplicated sinusitis, bronchitis, and cystitis. In fall 2016, our antimicrobial stewardship team began an initiative to decrease outpatient FQ usage involving provider education, addition of FDA warnings to oral FQ orders in Epic, and suppression of FQ susceptibilities. This evaluated the effectiveness of these initiatives in decreasing inappropriate FQ usage.

Methods. A retrospective chart review of FQ prescription was performed on all outpatient clinic, emergency department (ED), and urgent care emergency center (UCEC) visits during October 2016, 2017, and 2018. Inappropriate use was defined as an indication for cystitis, bronchitis, or sinusitis without a history of Pseudomonas aeruginosa or other multi-drug-resistant organism, or drug allergies precluding the use of non-FQs.

Results. 1,033 outpatient FQ prescriptions were reviewed. Total FQ prescribing decreased 34% from 405 in October 2016 to 267 in October 2018, with the proportion of inappropriate FQ use decreasing from 53% to 34%. Overall 90% of the inappropriate FQ use was for cystitis. Inappropriate prescribing for cystitis and sinusitis decreased by 58% and 33%, respectively, but increased for bronchitis by 25%. The outpatient clinics, ED, and UCEC saw declines in the percentage of inappropriate FQ use of 10%, 15% and 22%, respectively, from October 2016 to October 2018. Despite these decreases, rates of inappropriate FQ utilization for the outpatient clinics, ED, and UCEC were 64%, 25%, and 31%, respectively, at the end of the last study period.

Conclusion. A multi-modal FQ stewardship initiative effectively reduced the volume of outpatient FQ utilization and inappropriate FQ usage. Continued efforts to educate providers about the risks of FQ use and implement system-level initiatives are likely necessary to improve the rates of appropriate use and sustain the effects demonstrated in this study, especially for primary care providers in the outpatient setting.

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2078. Patterns, Indications, and Appropriateness of Antibiotics Prescribed at a Private Dental Practice

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Background. Although dentists prescribe 10% of all outpatient antibiotics in the United States (US), patterns of prescribing among dentists in the United States are largely unknown especially in private practice. We aimed to describe the patterns and indications of antibiotics prescribed at a United States private dental practice and evaluate prescription appropriateness.

Methods. This was a retrospective cohort study of all patients who received an antibiotic at a private dental practice in Baytown, TX, between 2017 and 2019. A thorough guideline and literature search was conducted to define the indication-specific appropriate logistics of antibiotic prescription. The prescribing dentist and an antimicrobial stewardship pharmacist reviewed each patient chart to verify diagnosis and antibiotic indication. Each prescription was categorized as appropriate (evidence supports use), inappropriate (evidence does not support use), or indeterminate (insufficient evidence to support or not support use), or not enough information (inadequate patient-specific data to determine appropriateness).

Results. Of 3,700 patient encounters, an antibiotic was prescribed for 230 (6.2%) encounters. Antibiotics prescribed were amoxicillin (52.2%), amoxicillin/clavulanate (27.8%), penicillin VK (7.8%), azithromycin (4.8%), clindamycin (3.5%), cefaclor (2.2%), and metronidazole (1.7%). Excluding antibiotics given as a single pre-operative dose (6% of antibiotics), the mean duration of antibiotics was 5 ± 0.6 days (mean ± SD).