95. Reduced Antibiotic Duration Defaults in Outpatient Automated Dispensing Cabinets Change Antibiotic Prescribing Habits in a Tertiary VA Healthcare System

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Session: P-06. Antimicrobial Stewardship: Non-Inpatient Settings

Background. Ten percent of adult, outpatient visits result in an antibiotic prescription (Rx). At the start of our intervention, our VA healthcare system consisted of 13 community-based outpatient clinics (CBOCs), 9 of which did not have an on-site pharmacy but utilized automated dispensing cabinets (ADCs) for prepackaged outpatient Rx. ADC antibiotic orders are generated from electronic medical record (EMR) order sets. The stewardship team shorted the durations of 5 antibiotics in the ADC order sets to make them consistent with current literature and guidelines. We assessed the impact of these changes on antibiotic prescribing habits.

Methods. We compared outpatient antibiotic Rx data between 10/1/2018-9/30/2019 (pre-intervention) and 10/1/19-9/30/20 (post-intervention) from 8 CBOCs with ADCs (1 closed during the pandemic). Amoxicillin-clavulanate 875/125mg (AMC), cephalexin 500mg (CPH), levofloxacin 500mg and 750mg (LEV 500 and LEV 750), and sulfamethoxazole-trimethoprim 800/160mg (SXT) prescription durations were all reduced by 3 days. Process metrics included days supplied/1000 prescriptions (DS/1000 Rx), median DS, and ADC utilization rates. We used Mann-Whitney U and correlation statistical analyses to assess differences and associations.

Results. The DS/1000 Rx of antibiotics with a default duration change decreased in the post-intervention phase (Table 1). Pre/Post differences were significant for AMC (1.7%, P< 0.001), CPH (21.1%, P< 0.001; LEV 500, 18.9%; LEV 750, 28.0%; SXT, 27.4%). The median DS for these antibiotics all reduced by 3 days in concordance with new ADC prescription defaults (AMC, 10 vs 7 days, P< 0.001; CPH, 10 vs 7 days, P< 0.001; LEV 500, 6 vs 5 days, P< 0.001; LEV 750, 8 vs 7 days, P< 0.001; SXT 10 vs 7 days, P< 0.001). Due to COVID-19, 7/8 ADC CBOCs closed for in-person visits from 3/20/20 to 5/4/20. ADC utilization was inversely proportional to DS/1000 Rx for most antibiotics (R: -0.51 to -0.77) except SXT.

Table 1. Antibiotic doses’ supply per 1000 prescriptions (excluding days supply ≥ 30 days)

| Drug                          | Days’ supply per 1000 prescriptions | Pre-intervention | Post-intervention | Percentage change |
|-------------------------------|------------------------------------|-----------------|------------------|------------------|
| Amoxicillin 500mg             | 800                                | 750             | 5.8 vs 5.4       | p=0.0546         |
| Amoxicillin/clavulanate 875/125mg | 1360                             | 1303            | 5.6 vs 5.4       | p=0.0035         |
| Cephalexin 500mg              | 689                                | 474             | 5.4 vs 5.1       | p<0.0001         |
| Cephalexin 750mg              | 618                                | 437             | 5.8 vs 5.4       | p=0.0035         |
| Levofloxacin 750mg            | 778                                | 510             | 7.9 vs 6.0       | p<0.0001         |
| Levofloxacin 500mg            | 709                                | 501             | 7.2 vs 5.1       | p<0.0001         |
| Levofloxacin                 | 630                                | 416             | 7.7 vs 6.0       | p<0.0001         |
| Sulfamethoxazole-trimethoprim 800/160mg | 1800                             | 1500            | 7.6 vs 6.0       | p<0.0001         |

94. Implementation of Antibiotic Prescribing Scorecards in the Ambulatory Care Setting

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Background. Up to 56% of antibiotics prescribed in the ambulatory setting in the United States are inappropriately prescribed, with 30% of those determined to be unnecessary. In order to increase transparency and education about antibiotic prescribing in our ambulatory clinics at our institution, we implemented quarterly scorecards demonstrating antibiotic prescribing trends for primary care prescribers.

Methods. This pre-post interventional study analyzed the impact of prescriber scorecards on antibiotic prescribing, with the intervention consisting of real-time education and presentation of baseline data via scorecards. Prescribers were educated on the scorecard project via live meetings in Nov-Dec 2020. In Dec 2020, prescribers were sent individual emails describing their baseline antibiotic prescription rate (defined as number of prescriptions per 100 patient encounters), de-identified comparison data for other prescribers within their individual clinic, and average rate of the top 10% of prescribers with the lowest prescription rates. Baseline data was from prescriptions dated Jan-Mar 2020. The email also explained the project and shared that quarterly scorecards would be distributed in 2021. Baseline data was compared to prescription data from Jan-Mar 2021. Knowing the COVID-19 pandemic resulted in significantly fewer encounters for respiratory infections, data was also analyzed with respiratory diagnoses removed from the dataset.

Results. In the pre-intervention period, 11,769 antibiotics were prescribed during 92,239 encounters for a prescription rate of 12.8% (95%CI: 12.5-13.0). Of 96,449 encounters in the post-intervention period, 7,326 antibiotics were prescribed for a rate of 7.6% (95%CI: 7.4-7.8; p< 0.0001). When respiratory diagnoses were removed, prescription rates were 6.1% (95%CI: 5.9-6.2) in the pre-group, compared to 6.3% (95%CI: 6.1-6.5; p=0.0546). When analyzed by prescriber, significant decreases were seen in prescriptions by physicians (5.8 vs 5.4, p=0.0035) while increases were seen in prescriptions by advanced practice prescribers.

Conclusion. Antibiotic scorecards sent to prescribers may result in reduced antibiotic prescribing, but further research is needed to elucidate the impact of the scorecards in light of the COVID-19 pandemic.

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