

Methods. We formed a multidisciplinary team in April 2020. A provider survey assessed factors influencing prescribing habits. We completed cause-and-effect analyses and developed a driver diagram (Figure 1). Interventions were chosen based on the potential for highest impact and lowest effort. Our first Plan-Do-Study-Act (PDSA) cycle provided an update on current guidelines for UCC providers. The second PDSA cycle updated prescription sentences in the electronic health record (EHR) and organized them from shortest to longest duration. The third PDSA cycle provided a project update via email to UCC providers. Our outcome measure is the percentage of patients receiving 5-7 days of antibiotics for SSTIs. Process measure is the number of updated prescriptions used. Balancing measure is the number of patients returning for SSTI within 14 days of their visit. Results are displayed using a run chart.

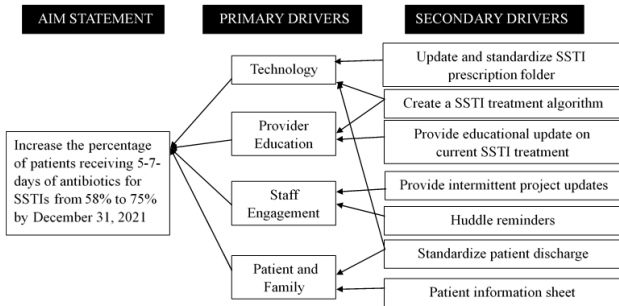


Figure 1: Driver Diagram

Results. After initiation of the project in April 2020, the percentage of patients receiving 5-7 days of antibiotics increased to 68% (Figure 2). This percentage increased to our goal of 75% after the 1st PDSA cycle (October-December 2020), 80% following the second PDSA cycle in February 2021, and 90% following the third PDSA cycle in April 2021. There was no change in balancing measure numbers.

Run Chart

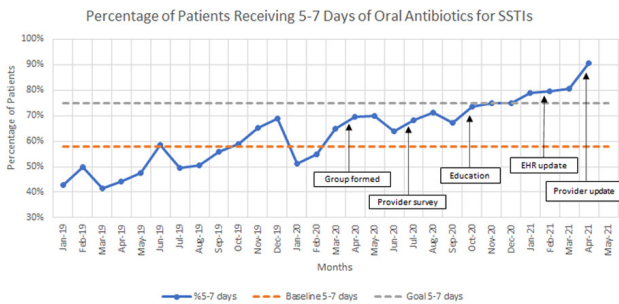


Figure 2: Run chart depicting trend in percentages of patients receiving 5-7 days of oral antibiotics for SSTIs before and after various PDSA cycles

Conclusion. Prior to our project, only 58% of children seen in CMH UCCs for SSTIs received the recommended antibiotic duration. By addressing the primary drivers uncovered through QI methodology, we surpassed our goal of 75%. Additional PDSA cycles are planned along with expansion to other departments. This work will allow us to expand antibiotic stewardship efforts to other infectious diagnoses as well.

Disclosures. Brian R. Lee, PhD, MPH, Merck (Grant/Research Support) Pfizer (Grant/Research Support)

140. Variations in Rates of Antimicrobial Use in Primary Care, in Relation to the Presence of Chronic Diseases, Québec, Canada, 2014-2017

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Session: P-08. Antimicrobial Stewardship: Special Populations

Background. Chronic diseases may increase one's risk of infection and ensuing complications, which in turn may lower clinicians' tolerance threshold for antimicrobial prescription, while potential drug interactions may limit therapeutic options. Objective of the study was to measure the impact of chronic diseases on the rates of antimicrobial use in the Province of Québec.

Methods. Individuals covered by the public drug insurance plan between April 2014 and March 2017 were included in our cohort to describe rates of antimicrobial dispensing per 1,000 person-years, per age group (0-17 years old, 18-64 years old and 65 years old or over) and category of chronic disease (respiratory, cardiovascular, diabetes, mental disorder, none of these). For 2014-2017, ratios of extended-to-narrow spectrum antimicrobials were computed and multivariate Poisson regression was used to measure the impact of categories of chronic diseases on rates of total antimicrobial dispensing (in prescriptions and defined daily doses).

Results. A total of 1 259 833 children-years, 5 281 026 person-years between 18 and 64 years and 3 841 359 person-years 65 years or older were included in the study. Ratios of extended-to-narrow spectrum antimicrobials varied from 3.1 (adults 18-64 years old with no chronic disease) to 14.6 (children with no chronic disease); ratios for individuals with chronic diseases were lower in children but higher in adults. Adults with chronic respiratory diseases were twice more exposed to antimicrobials (increase of 109%) than those with none of the studied diseases (62% increase in children). In adults, antimicrobial use was also 48% higher in presence of a mental disorder (22% in children), 40% higher with diabetes (102% in children) and 31% higher with a cardiovascular disease (no data in children). These differences were all statistically significant ($\alpha = 0,05$).

Conclusion. In Québec, antimicrobial dispensation was more frequent for individuals with at least one chronic disease. This raises the question of how much antimicrobial use can be reduced or improved to limit the selection of resistant bacteria.

Disclosures. All Authors: No reported disclosures

141. A Blind Spot for Antibiotic Stewardship Programs: Misadministration of Perioperative Antibiotics

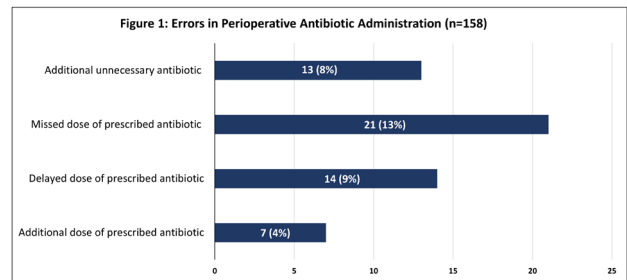
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Session: P-08. Antimicrobial Stewardship: Special Populations

Background. Hospitalized patients requiring intravenous antibiotics frequently undergo surgical intervention. These surgeries involve multiple transitions of care that may lead to antibiotic delay, additional unnecessary doses, omission, or substitution. While many studies examine the use of antibiotics for surgical site infection prophylaxis, there are no studies investigating antibiotic use in the perioperative period for inpatients already on an IV antibiotic regimen. This study examined the incidence and nature of antibiotic misadministration in the perioperative period among inpatients.

Methods. We conducted a retrospective cross-sectional study at a Veterans Affairs Medical Center involving all inpatients who underwent surgery in 2019. Patients 18 years or older who were on an IV antibiogram regimen prior to surgery were included. Patients undergoing cardiac surgery and patients only receiving surgical infection prophylaxis were excluded. Through manual chart review, we collected information on the prescribed IV antibiotic regimen and timing of antibiotic doses in the perioperative period. Errors were classified as administration of additional unnecessary IV antibiotics and missed, delayed, and additional doses of prescribed IV antibiotics.

Results. There were 168 inpatients on an IV antibiotic regimen who underwent surgery in 2019. Complete data was available for 158 patients. Errors in antibiotic administration in the perioperative period were identified in 64 (41%) patients. Missed, delayed, additional unnecessary antibiotics, and additional doses of prescribed IV antibiotics were identified in 21 patients (13%), 14 patients (9%), 13 patients (8%), and 7 patients (4%), respectively (Figure 1).



Conclusion. We found errors in antibiotic administration for inpatients undergoing surgery to be common, with the most frequent error being a missed dose of a prescribed IV antibiotic. This illustrates an area for quality improvement in inpatient antibiotic stewardship in our hospital and we suspect in other hospitals as well. Future work will incorporate more centers and examine how these errors affect outcomes for inpatients undergoing surgery, particularly in patients with sepsis or those requiring surgery for infection source control.

Disclosures. All Authors: No reported disclosures

142. Effect of Discontinuation of Antimicrobial Stewardship Programs on the Antibiotic Usage Pattern and Incidence of Antibiotic Resistance in the Major Bacterial Species

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