Implementing an Antimicrobial Stewardship Program in the Outpatient Setting

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Background

Antimicrobial-resistant infections lead to increased morbidity, mortality, and healthcare costs. Among the most facile modifiable risk factors for developing resistance is inappropriate prescribing. The CDC estimates that 47 million (or ≥30% of) outpatient antibiotic prescriptions in the United States are unnecessary.[1] Furthermore, in 2020 The Joint Commission implemented Standard MM.09.01.03, effectively mandating an antimicrobial stewardship program (ASP) in ambulatory organizations that routinely prescribe antimicrobial medications.[2] This has provided impetus for expanding our ASP into the outpatient setting. Initial goals included the following: continuous evaluation and reporting of antibiotic prescribing compliance; minimize underuse of antibiotics from delayed diagnoses and misdiagnoses; ensure proper drug, dose, and duration; improve the percentage of appropriate prescriptions.

Methods

To achieve these goals, we first sent a baseline survey to outpatient prescribers, assessing their understanding of stewardship and antimicrobial resistance. Questions were modeled from the Illinois Department of Public Health (IDPH) Precious Drugs & Scary Bugs Campaign.[3] The survey was sent to prescribers at 19 primary care and three immediate/urgent care clinics. Compliance rates for prescribing habits were tracked via electronic health records and reported to prescribers in accordance with IRB approval.

Results

Prescribers were highly knowledgeable about what constitutes appropriate prescribing, with verified compliance rates highly concordant with self-reported rates. Nearly all prescribers were concerned about resistance but less than half believed antibiotics were over-prescribed in their office (Figure 1A). While 25% of prescribers agreed or strongly agreed that they could reduce their own antibiotic prescribing without decreasing patient satisfaction, twice as many prescribers disagreed or strongly disagreed (Figure 1B). This may be explained by 74% of respondents reporting intense pressure from patients to prescribe antimicrobials inappropriately (Figure 1C). Compliance rates tracked since December 2018 allowed for comparison pre- and post-intervention (Figure 2). Immediate/urgent care prescribers had already attained high rates of compliance prior to receiving monthly reports (Figure 2A). Primary care prescribers had a lower compliance rate and responded well to monthly reports and an educational email (Figure 2B).

Conclusion

Intense pressure from patients to prescribe antimicrobials when they are not indicated may lead to over-prescribing. This effect is compounded by the importance of patient satisfaction scores. Reporting compliance rates has been helpful in avoiding inappropriate antimicrobial therapy in the primary care setting. However, the survey data reinforce the importance of behavioral interventions to bolster ASP efficacy in the outpatient setting. Going forward, posters modeled upon the IDPH template will be conspicuously exhibited in exam rooms, indicating institutional commitment to the enumerated ASP guidelines. Future studies will allow for comparison of compliance rates before and after introducing these commitment posters. Finally, the rapid rise of telehealth since April 2020 opens another frontier for exploring ways to improve antimicrobial stewardship.
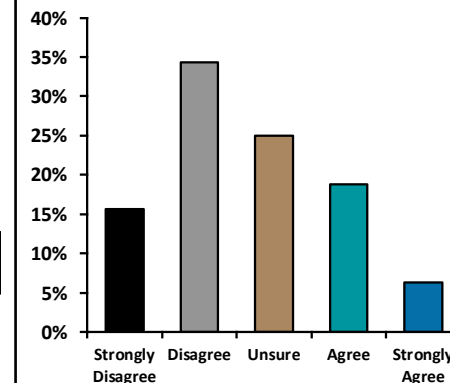

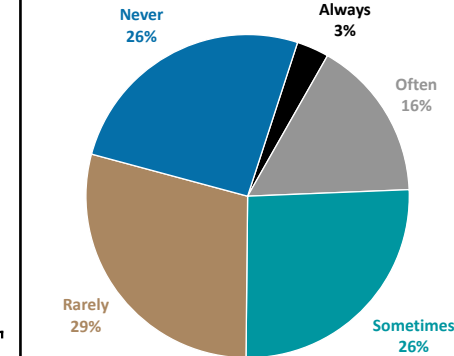**1A)** "Antibiotics are over-prescribed in my office."
- Strongly Disagree 6%
- Disagree 16%
- Unsure 35%
- Agree 42%
- Strongly Agree 0%
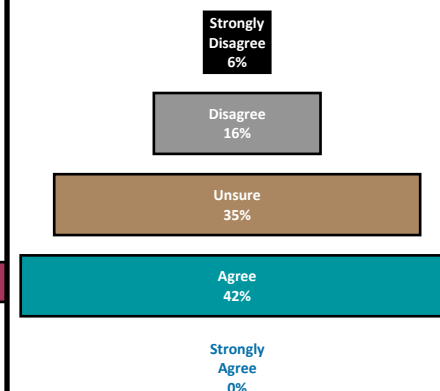
1B) "I can reduce my own antibiotic prescribing without decreasing patient satisfaction."

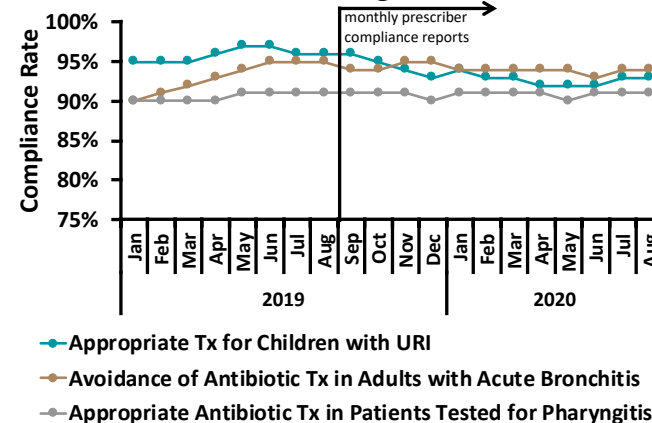**1C)** "How often have you experienced complaints or any kind of verbal abuse for not prescribing antimicrobials?"
- Never 26%
- Always 3%
- Often 16%
- Sometimes 26%
- Rarely 29%

Figure 1. 1A) Twice as many prescribers agreed than disagreed or strongly disagreed that antibiotics are over-prescribed in their office. **1B)** Only 25% of prescribers agreed or strongly agreed that they could reduce their own antibiotic prescribing without decreasing patient satisfaction whereas 50% of prescribers disagreed or strongly disagreed that they could. **1C)** 74% of prescribers reported intense pressure from patients to prescribe antimicrobials when they were not indicated.
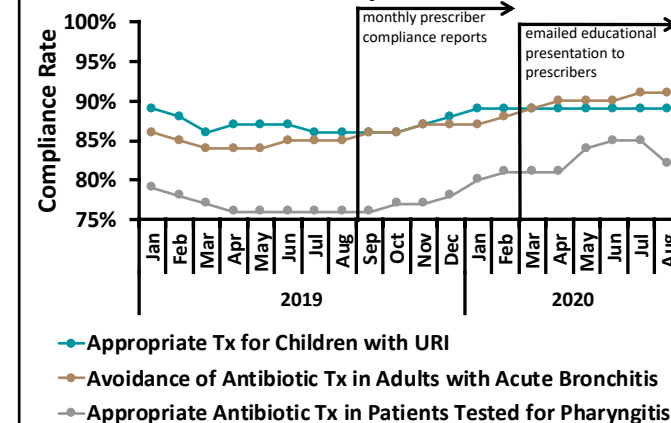

2A) Immediate/Urgent Care

2B) Primary Care

- Appropriate Tx for Children with URI
- Avoidance of Antibiotic Tx in Adults with Acute Bronchitis
- Appropriate Antibiotic Tx in Patients Tested for Pharyngitis

Figure 2. 2A) Immediate/urgent care prescribers were already achieving high levels of compliance with the three metrics assessed in this program. **2B)** Primary care prescribers responded well to compliance reports and education.

1. Sanchez GV, Fleming-Dutra KE, Roberts RM, Hicks LA. Core Elements of Outpatient Antibiotic Stewardship. MMWR Recomm Rep 2016;65(No. RR-6):1–12. DOI: http://dx.doi.org/10.15585/mmwr.rr6506a1; 2. The Joint Commission (2020). *Antimicrobial Stewardship in Ambulatory Health Care* (Standard MM.09.01.03). Retrieved from https://www.jointcommission.org/standards/r3-report/r3-report-issue-23-antimicrobial-stewardship-in-ambulatory-health-care/; 3. Illinois Department of Public Health. Antibiotics Stewardship Toolkit for Primary Care Providers. Retrieved on 29 Dec 2019 from: http://www.dph.illinois.gov/sites/default/files/publications/publicationsopps2018pdsb-toolkit.pdf