**INTRODUCTION**

- At least 30% of antibiotics prescribed in the outpatient setting are unnecessary.
- Antibiotics are commonly overprescribed for upper respiratory tract infections (URIs) despite 90-98% being viral in nature.
- Antibiotic stewardship interventions in the outpatient setting are necessary to reduce inappropriate antibiotic prescribing.
- Antibiotic commitment posters represent a potential low-hanging fruit antibiotic stewardship initiative in the outpatient setting, especially for clinics with limited available antibiotic stewardship resources.

**OBJECTIVE**

- To determine the impact of antibiotic commitment posters as a single-intervention in rural outpatient clinics on antibiotic prescribing for URIs.

**METHODS**

- Study Design: Quasi-experimental study
- Study Location: A network of outpatient clinics located in rural New York and Pennsylvania within Guthrie Clinic system
- Inclusion criteria: Patients with a URI visit diagnosis code at outpatient clinics that had not yet implemented other antibiotic stewardship interventions
- Exclusion criteria: Patients with other outpatient infectious disease diagnosis codes or at outpatient clinics with other antibiotic stewardship interventions implemented
- Pre-Intervention Period: July 1, 2016 – December 31, 2016
- Intervention Period: Antibiotic commitment posters were displayed in exam and waiting rooms of outpatient clinics between April–June 2017
- Post-Intervention Period: July 1, 2017 – December 31, 2017
- Data Collection: Demographic, provider, clinic-specific, and antibiotic prescribing data were collected
- Data Analysis: Comparison of the number of URI visit diagnosis codes where an antibiotic was prescribed or not prescribed between the pre-intervention and post-intervention period after adjusting for covariates of interest.

**RESULTS**

- Statistical analysis: All statistical analyses were performed using R Statistical Software:
  - Independent t-test to compare means between groups
  - Chi-squared test to compare categorical variables
  - Linear regression model to assess the impact of the intervention controlling for demographic factors

- Ethical considerations: This study was approved by the Institutional Review Board at Binghamton University and the Guthrie Clinic.

**CONCLUSION**

- To our knowledge, this is the first study to investigate the impact of antibiotic commitment posters on antibiotic prescribing in rural outpatient clinics.
- Fewer antibiotics were prescribed for URI cases in the post-intervention period compared to pre-intervention (51.6% vs. 54.6%, respectively; adjusted odds-ratio for time period = 0.89 for 2017 vs. 2016, p = 0.013).
- The most commonly prescribed antibiotic in both cohorts were amoxicillin, amoxicillin-clavulanate, and azithromycin.
- Male gender (p=0.005), older age (p<0.001), and patients being seen by a provider other than their primary care provider (p=0.001) were associated with a higher proportion of antibiotics prescribed per URI diagnosis.
- There was no statistically significant difference in antibiotics prescribed for patients with and without certain comorbidities such as diabetes, hypertension, or chronic obstructive pulmonary disease after accounting for other covariates.
- Similar to our findings, Meek and colleagues demonstrated that display of antibiotic commitment posters in exam rooms resulted in a 19.7 absolute percentage reduction in inappropriate antibiotic prescribing rate compared to the control group (p=0.02) and that this represents a simple, low-cost antibiotic stewardship intervention.
- Antibiotic commitment posters are a simple antibiotic stewardship intervention to implement in the outpatient setting.

**DISCUSSION**

- Antibiotic stewardship commitment posters were associated with a decrease in the number of antibiotics prescribed for URIs in rural outpatient clinics.
- Antibiotic stewardship commitment posters represent a low-hanging fruit intervention for outpatient antibiotic stewardship programs especially in rural areas with limited resources available to improve antibiotic prescribing for URIs.

**REFERENCES**


**DISCLOSURES**

- The following authors of this presentation have nothing to disclose concerning possible financial or personal relationships with commercial entities that may have a direct or indirect interest in the subject matter of this presentation: Karen S. Williams, Cathlin Cushna, Uttarksh Dang, Karen Beth H. Bohan.
- Karen Williams has served on the advisory board for Theratechnologies and has received funding from Melrose Therapeutics.
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