

commonly prescribed for pediatric patients seen for sinusitis, pharyngitis, and otitis media. Factors most associated with increased prescribing included non-ED encounters, >10 years of age, and geography. These data support action to standardize practices and address clinical variation.

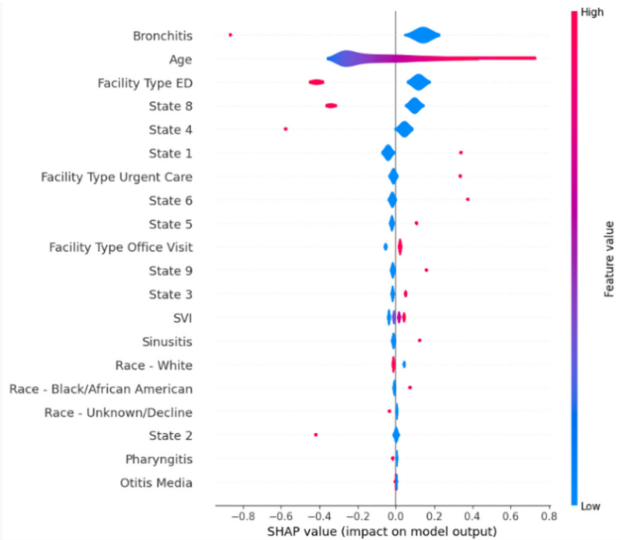
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Table 1: Stratified Antimicrobial Prescribing Rates

	Encounters (n=125,590)	p value
Antimicrobial Prescribing Rate by State, n (%)		<0.001
State 1 (n=15,736)	7,800 (50)	
State 2 (n=2,161)	386 (18)	
State 3 (n=35,883)	1,546 (43)	
State 4 (n=11,020)	2,957 (27)	
State 5 (n=17,944)	7,538 (42)	
State 6 (n=5,358)	2,761 (52)	
State 7 (n=1,564)	734 (47)	
State 8 (n=25,709)	7,167 (28)	
State 9 (n=10,215)	4,765 (47)	
Antimicrobial Prescribing by Age, n (%)		<0.001
<10 years	36,965 (36)	
≥10 years	12,610 (54)	
Antimicrobial Prescribing by Setting, n (%)		<0.001
ED (n=28,889)	7,331 (25)	
Office Visit (n=87,579)	36,951 (42)	
Telehealth (n=158)	75 (47)	
Urgent Care (n=8,964)	5,218 (58)	

Figure 1: Violin Dot Plot from SHAP Analysis



*Nominal data points are indicated as red for "yes" and blue for "no". Continuous data points are darker red with higher values. Plots approaching +1 indicate contribution to antimicrobial prescribing and -1 indicate contribution to not prescribing antimicrobials.

Presentation Type:

Poster Presentation

Subject Category: Antibiotic Stewardship

An Equitable and Successful Antibiotic Stewardship Program Strategy to Prevent Clostridioides difficile Infection in Rural Communities

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Consultants West Virginia Hospital Association regarding antibiotic stewardship **Background:** An equitable distribution of antibiotic stewardship expertise is a challenge for rural communities across the United States. The advantage rural communities have is that there are fewer barriers for implementation of effective antibiotic stewardship strategies.

The authors worked with several rural communities in the United States over the past several years implementing a proven antibiotic stewardship strategy that has been shown to decrease Clostridioides infection. **Method:** Strategy employed was avoidance of the more common microbiome damaging broad spectrum antibiotics in favor of more targeted narrow spectrum antibiotics based on local antibiogram data. Additionally, ongoing infectious disease and antibiotic stewardship access for questions as well as data review with feedback were provided.

Findings: Clostridioides infection was eliminated in some communities and others markedly decreased as shown by a very low percentage of toxin positive, PCR positive to toxin negative PCR positive isolates expected for that region. **Conclusion:** This strategy is translatable to other communities accompanied by antibiotic stewardship expertise and support and can be a model for community wide antibiotic stewardship which further optimizes patient and resident safety from Clostridioides infection.

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Regional Variation Impacts Outpatient Antimicrobial Prescribing for Adults with Upper Respiratory Infections in a Large Health System

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Background: Upper respiratory infections (URIs) are a common cause of outpatient visits in adults. While most URIs are viral, antimicrobial prescribing rates remain high. The COVID-19 pandemic disrupted usual practices, necessitating an evaluation of the post-pandemic landscape for antimicrobial prescribing for URIs. This study sought to characterize factors contributing to variability in utilization in a large multi-state health system. **Methods:** Retrospective analysis of antimicrobial prescribing in patients ≥18 years of age for URI diagnosis codes in 863 outpatient sites (eight states), including office visits, urgent care, and telemedicine between July 1, 2023 to June 30, 2024. Primary outcome was antimicrobial prescribing rates for URIs overall and by individual URI diagnosis (sinusitis, bronchitis, pharyngitis, otitis media). HEDIS definitions were applied where appropriate. Logistic regression machine learning models were used with SHapley Additive exPlanations (SHAP) analysis to show feature contributions to antimicrobial prescribing. **Results:** A total of 84,724 patient encounters were included with four URI diagnoses. Antimicrobial prescribing rates varied by diagnosis (sinusitis: 60%, bronchitis: 48%, pharyngitis: 33%, otitis media: 35%, p<0.001). Prescribing ranged from 37%-58% across states (p<0.001). Sinusitis diagnosis and specific states had the strongest positive associations with antimicrobial prescribing, while race and social vulnerability index (SVI) were not associated. **Conclusions:** In this study in a large multi-state US health system, antimicrobials were most commonly prescribed for patients with sinusitis. Regional variation was also associated with increased prescribing. These data support efforts to standardize practices and address clinical variation.

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