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Title

Assessing the Impact of Geo-demographic Factors on Antibiotic Prescribing For Adults with Acute, Uncomplicated Bronchitis

Priority 1 (Research Category)

Acute respiratory infections

Presenters

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Abstract

Context: Acute bronchitis is a common reason patients seek primary care and has predominately viral causes. Yet, antibiotics are often prescribed despite limited evidence of clinical benefit. Interventions targeting antibiotic prescribing for acute bronchitis have reduced prescribing, but rates continued to remain higher than expected. There is also a paucity of data describing variability in antibiotic prescribing and its determinants; specifically, non-clinical, patient-level factors. Identifying non-clinical determinants of antibiotic prescribing for bronchitis could inform better care for these patients in primary care. Objective: To assess the impact of geo-demographic factors on antibiotic prescribing for ambulatory adults with acute, uncomplicated bronchitis. Study Design: Cohort study. Setting: Ambulatory clinics, urgent cares and emergency departments within a large, single U.S. health-system. Population studied: Adult patients with a primary diagnosis of bronchitis in 2019. Outcome measures: Predictors of antibiotic prescribing. Results: There were 63,051 unique patients (mean age 48±18 years); 62.7% were female and 78.7% were non-Hispanic Caucasians. Of providers, 66.7% were physicians. Patients who were older (aOR 1.02, 95% CI 1.02-1.02), male (1.06, 1.03-1.10), black (1.21, 1.14-1.29), smoked (1.16, 1.12-1.20), had a nurse practitioner v. physician provider (1.11, 1.06-1.16) or a physician assistant v. physician provider (1.06, 1.01-1.11) were more likely to receive antibiotics. Patients who were Hispanic (0.87, 0.82-0.94), or Asian (0.85, 0.75-0.96) were less likely to receive antibiotics. Additionally, patients who had Medicare (0.78, 0.74-0.82), Medicaid (0.73, 0.69-0.77) or Exchange insurance (0.90, 0.82-0.98) or lived in a U.S. Census Block group with larger number of households without vehicles (0.66, 0.52-0.85) were less likely to receive antibiotics. Those living in an area with more owner-occupied housing were more likely to receive antibiotics (1.39, 1.25-1.53). The distance between a patient's residence and the encounter location did not impact the likelihood of antibiotic prescribing. Conclusions: This study identified antibiotic prescribing disparities for adults with acute bronchitis at the level of the patient, prescriber and the patient residential area. Interventions targeting antibiotic prescribing in this population should consider the role these factors have in prescribing decisions.