

excluded if the regimen included oral antibiotics (not including rifampin or metronidazole). Primary outcome was the percent of broad-spectrum regimens that could've been narrowed based on C&S (alternative available therapy or AAT group). Secondary outcomes included comparison of baseline characteristics and 30-day readmission rates between patients on narrow-spectrum IV antibiotics (NSA) vs AAT group, and the documented reason(s) for broad-spectrum antibiotic selection.

Results: 113 patients met study criteria; majority were male (56%), and median age was 60 years. Sixty-four patients were discharged on a broad-spectrum regimen, and 32 (50%) met our AAT definition. Ceftriaxone was used in 75% of these cases (24/32), and mono-microbial *Streptococcus* spp. infection was the primary indication (54%). AAT group patients were more likely to have *Enterobacteriales* (24.1% vs 1.9% $p < 0.001$) or polymicrobial infections (28.1% vs 8.2% $p = 0.019$) compared to NSA group. Reasons for broad-spectrum antibiotic selection were largely undocumented (71%). No significant differences were seen in 30-day readmission rates.

Conclusion: At our institution, 50% of select IV broad-spectrum OPAT regimens had the potential to be narrowed based on C&S data. This rate is higher than previously reported. It warrants further investigation into the barriers to narrower-spectrum antibiotic prescribing in OPAT.

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218. Changes in Dental Antibiotic Prescribing in the United States, 2012–2017

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Session: P-8. Antimicrobial Stewardship: Trends in Antimicrobial Prescribing

Background: Data suggest dental antibiotic prescribing is increasing with relatively less documented about prescribing trends in adults and children. Therefore, the aim was to evaluate trends in antibiotic prescribing by US dentists from 2012–2017.

Methods: This was a cross-sectional study of US dental prescribing using IQVIA Longitudinal Prescription Data from 2012 to 2017. Prescribing rates (prescriptions [Rx] per 100,000 dentists), mean days' supply, and mean quantity dispensed were calculated monthly across eight oral antibiotic groups: amoxicillin, clindamycin, cephalixin, azithromycin, penicillin, doxycycline, fluoroquinolone, and other antibiotics. Descriptive frequencies and multiple linear regressions were performed to obtain trends overall and stratified by adults (≥ 18) and children (< 18).

Results: 220, 325 dentists prescribed 135 million Rx (94.0% in adults). 61.0% were amoxicillin, 14.4% clindamycin, 11.7% penicillin, 4.4% azithromycin, 4.3% cephalixin, 2.0% other antibiotics, 1.4% doxycycline, and 0.7% fluoroquinolones. Prescribing increased by 33 Rx/100,000 dentists ($p < 0.0001$) each month for all antibiotics. Amoxicillin ($p < 0.0001$) and clindamycin ($p = 0.02$) prescribing rate increased by 73 and 5 Rx/100,000 dentists, respectively. Prescribing decreased by 8, 12, and 2 Rx/100,000 dentists for cephalixin ($p < 0.0001$), doxycycline ($p < 0.0001$), and fluoroquinolones ($p = 0.008$), respectively. Mean days' supply increased for amoxicillin, penicillin, and clindamycin ($p < 0.0001$), and decreased for cephalixin ($p < 0.0001$). Mean quantity dispensed decreased ($p < 0.0001$) for all groups except azithromycin and doxycycline. Among adults, cephalixin prescribing rates (7 Rx/100,000 dentist; $p < 0.0001$) and other antibiotics days' supply ($p < 0.0001$) decreased. Among children, azithromycin prescribing rates (1 Rx/100,000 dentists, $p = 0.02$), and fluoroquinolone and other antibiotics days' supply ($p < 0.0001$) decreased.

Conclusion: These findings support dental antibiotic prescribing is increasing, specifically for amoxicillin and clindamycin. Further, trends differed between adults and children. Understanding what is driving these trends is important to target dental antibiotic stewardship efforts.

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219. Characteristics Associated with Inappropriate Antibiotic Prescribing in Patients with Asymptomatic Bacteriuria (ASB)

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Session: P-8. Antimicrobial Stewardship: Trends in Antimicrobial Prescribing

Background: Antibiotic treatment of asymptomatic bacteriuria (ASB) is considered inappropriate, does not improve patient outcomes, and may lead to adverse events such as antibiotic resistance and *Clostridioides difficile* infection. Previous stewardship interventions have focused on reducing unnecessary urine culture collection in individuals without urinary symptoms; however, further interventions to reduce inappropriate prescribing in ASB are warranted. This study sought to identify characteristics associated with treatment of ASB in order to implement future stewardship interventions.

Methods: This two-center, retrospective cohort study included unique emergency department or inpatient adults with consecutive non-duplicate monomicrobial urine isolates of Enterobacteriales or *Pseudomonas aeruginosa* collected between 8/2013 and 1/2014 from two academic hospitals in Boston, Massachusetts. Patients with ASB (without chart-documented urinary-specific symptoms) were identified through chart review and stratified into two groups: those treated with empiric urinary tract infection (UTI) antibiotics and those untreated. Logistic regression analyses were performed to identify variables independently associated with antibiotic treatment of ASB.

Results: During the study, 255 patients were determined to have ASB and a majority (80.8%) were treated with empiric UTI antibiotics. Most patients were female (71.4%) and elderly (mean age 70 years). The most common organisms isolated were *Escherichia coli* (59.2%), *Klebsiella* spp. (23.1%), and *P. aeruginosa* (9.8%). The presence of isolated fever (OR, 7.83 [95% confidence interval, 1.51, 144.20]); $p = 0.05$), urinalysis positive for pyuria (> 10 white blood cells) (OR, 2.52 [95% CI, 1.15, 5.54]; $p = 0.02$), and *Klebsiella* spp. urine isolate (OR, 2.99 [95% CI, 1.19, 8.60]; $p = 0.02$) were independently associated with treatment.

Conclusion: A large proportion of ASB patients were treated with antibiotics despite clinical practice guidelines recommending against this practice. Isolated fever, pyuria, and *Klebsiella* spp. culture were all significantly associated with the treatment of ASB; targeted review of these patients by stewardship programs may help to reduce inappropriate ASB treatment within these institutions.

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220. Comparing Antibiotic Prescription Practices, and Provider's Perceptions of Such Rates, Among Urgent Care and Non-Urgent Care Clinicians at One of the Nation's Largest Federally Qualified Health Centers

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Session: P-8. Antimicrobial Stewardship: Trends in Antimicrobial Prescribing

Background: Inappropriate antibiotic prescribing practices, and the resulting development of antibiotic resistance, contribute to a growing health emergency worldwide. In reviewing data from 2010–2011, it was estimated that over 30% of ambulatory antibiotic prescriptions in the United States are non-essential.¹ Altamed, one of the nation's largest federally qualified health centers, operates 21 clinics across Southern California and serves the primary care needs of a high-volume, socioeconomically disadvantaged, predominantly Hispanic population.

Citation 1

Methods: We conducted an evaluation on the inappropriate antibiotic prescribing rate for Upper Respiratory Infections (URI) among all providers at Altamed ($n = 400$). We limited our scope of encounters to cases of uncomplicated, acute bronchitis (URI) that occurred between January and December 2018. ICD 10 codes identified URIs, with exclusion criteria limiting confounding variables, charting errors, and dual diagnoses. Additionally, provider perceptions and mechanism for their antibiotic prescription practices were assessed with a de-identified 17 question, Likert-scale assessment ($n = 90$).

Results: Of the encounters for URI seen by urgent care providers, 11.09% had inappropriate antibiotic prescriptions written. This is significantly different from encounters by non-urgent care providers, where 9.13% were deemed inappropriate ($p = 0.016$). Despite this, providers were not uniform in believing their own antibiotic prescription rates to be as successful, with many estimating that their rate of CDC guideline concordance to fall below 90%. However, in their survey responses, providers as a whole report following healthy prescribing practices, identifying needs in their communities to recognize when it was inappropriate to prescribe an antibiotic, though they requested increased access to and education on antibiograms.

¹Fleming-Dutra KE, Hersh AL, Shapiro DJ, et al. Prevalence of Inappropriate Antibiotic Prescriptions Among US Ambulatory Care Visits, 2010–2011. JAMA. 2016;315(17):1864–1873. doi:10.1001/jama.2016.4151

Graph 1

Distribution of the Rate at which Providers Dispense non-Guideline Concordant Antibiotic Prescriptions for Upper Respiratory Infections

