



Antimicrobial usage for viral respiratory infections in the urgent care settings within the University of Washington Medicine Network



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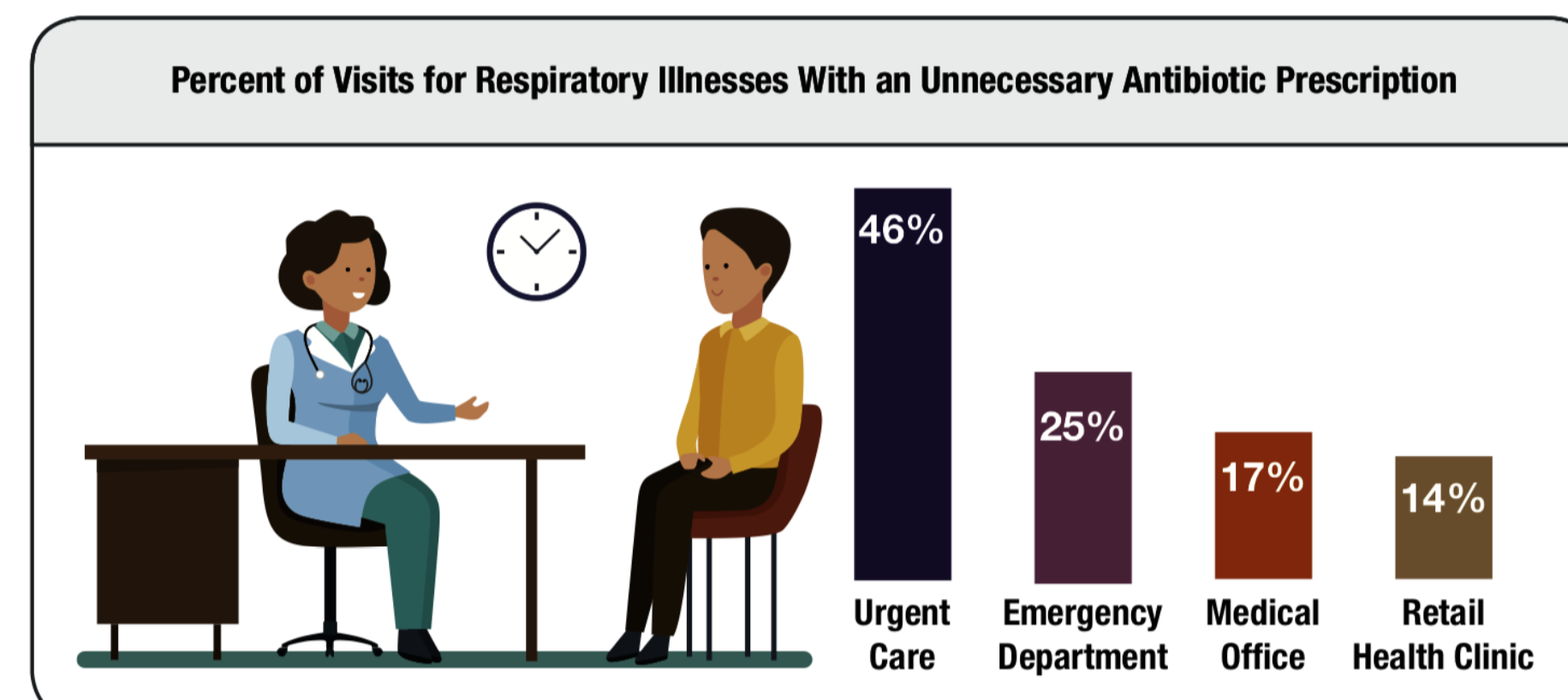
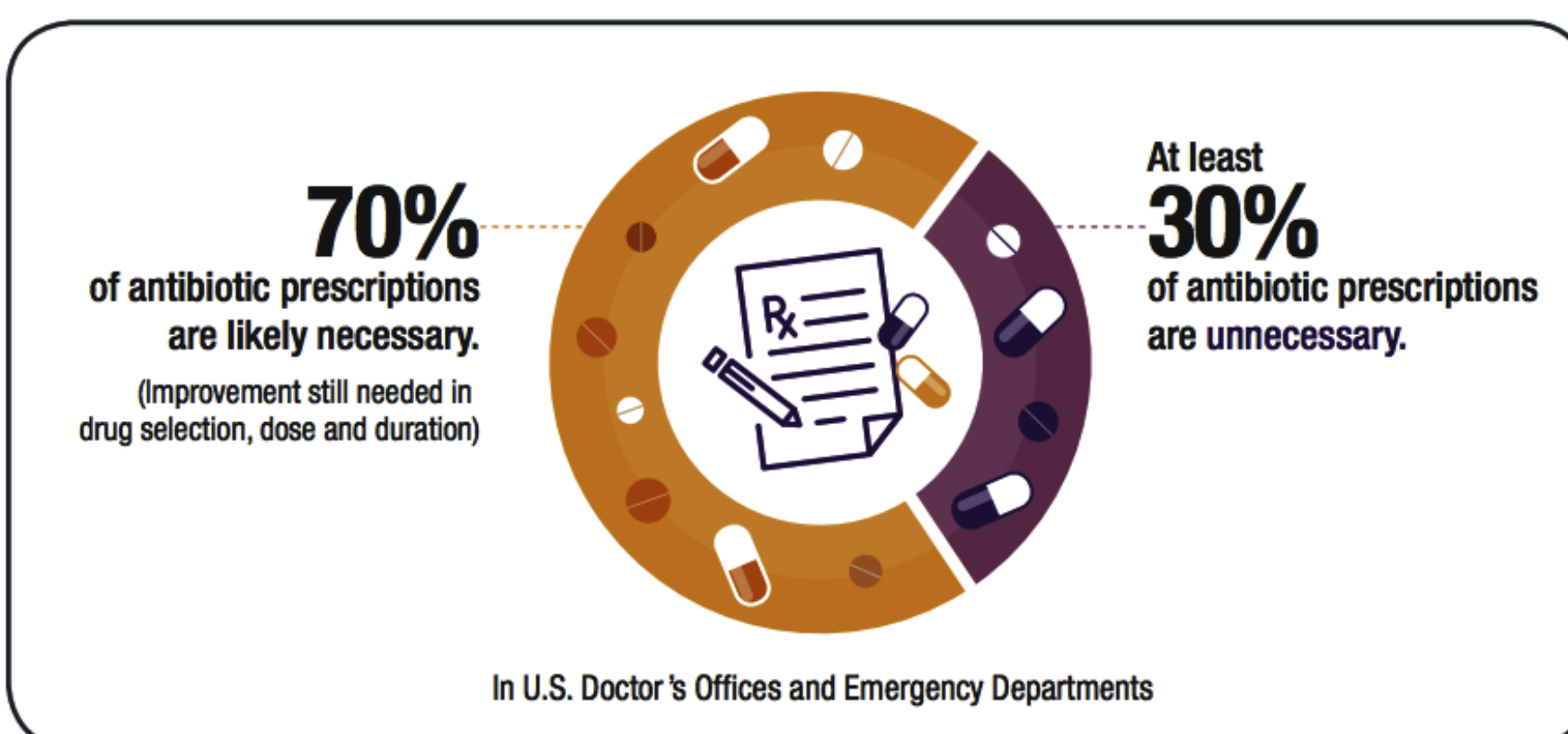
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Objectives

To assess inappropriate antimicrobial prescribing for acute respiratory tract infections in University of Washington Urgent Care settings.

Background

Figure 1: Acute respiratory tract infections (URI) are the leading cause of unnecessary antibiotic prescriptions²



² The Centers for Disease Control and Prevention (CDC, 2018). 2018 Update: Antibiotic Use in the United States. Progress and Opportunities. Retrieved from: <https://www.cdc.gov/antibiotic-use/stewardship-report/pdf/stewardship-report-2018-508.pdf>.

Methods

Design:

- Multi-site retrospective observational study
 - 6 UW Neighborhood Clinic urgent care centers
- January 2019 – February 2020
- Patients were identified based upon ICD-10 codes for acute viral respiratory infections who were prescribed antibiotics inappropriately¹

Table 1: Inclusion and Exclusion Criteria

Inclusion	Exclusion
<ul style="list-style-type: none"> All patient visits to UWNC Urgent Care for URI with diagnosis codes (Table 3) 	<ul style="list-style-type: none"> Patients with immunosuppressive conditions or concomitant infectious diagnosis warranting antibiotic prescriptions Pediatric visits for suppurative otitis media, sinusitis, or conjunctivitis

Table 2: Outcomes

Primary outcome	Secondary outcomes
<ul style="list-style-type: none"> Rate of unnecessary antimicrobial prescriptions for acute viral respiratory tract infections for all ages 	<ul style="list-style-type: none"> Rate of unnecessary antimicrobial prescriptions for acute viral respiratory tract infections based upon: age, viral diagnosis, and antibiotic selection

Methods cont.

Table 3: MITIGATE ICD-10 codes**

Included ICD-10		Excluded ICD-10	
H65*	Nonsuppurative otitis media, NSOM	H60*	Otitis externa
J09*	Influenza	J01*	Sinusitis
J040*	Laryngitis	J02*	Pharyngitis
J209*	Unspecified bronchitis	J32*	Chronic sinusitis
J22*	Lower RTI unspecified	J47*	Bronchiectasis
J40*	Bronchitis NOS	J42*	Chronic bronchitis NOS
J45*	Asthma	J44*	COPD

** Not all inclusive - Total included ICD-10 codes: 24; excluded: 190

*This study was reviewed by the University of Washington Institutional Review Board

Results

Primary outcome:

- Rate of unnecessary antibiotics, all ages: 23% (1659/7313)

Secondary outcomes:

Figure 2: Unnecessary antibiotics prescribed based on age (Adults N=6078, Peds N=1235)

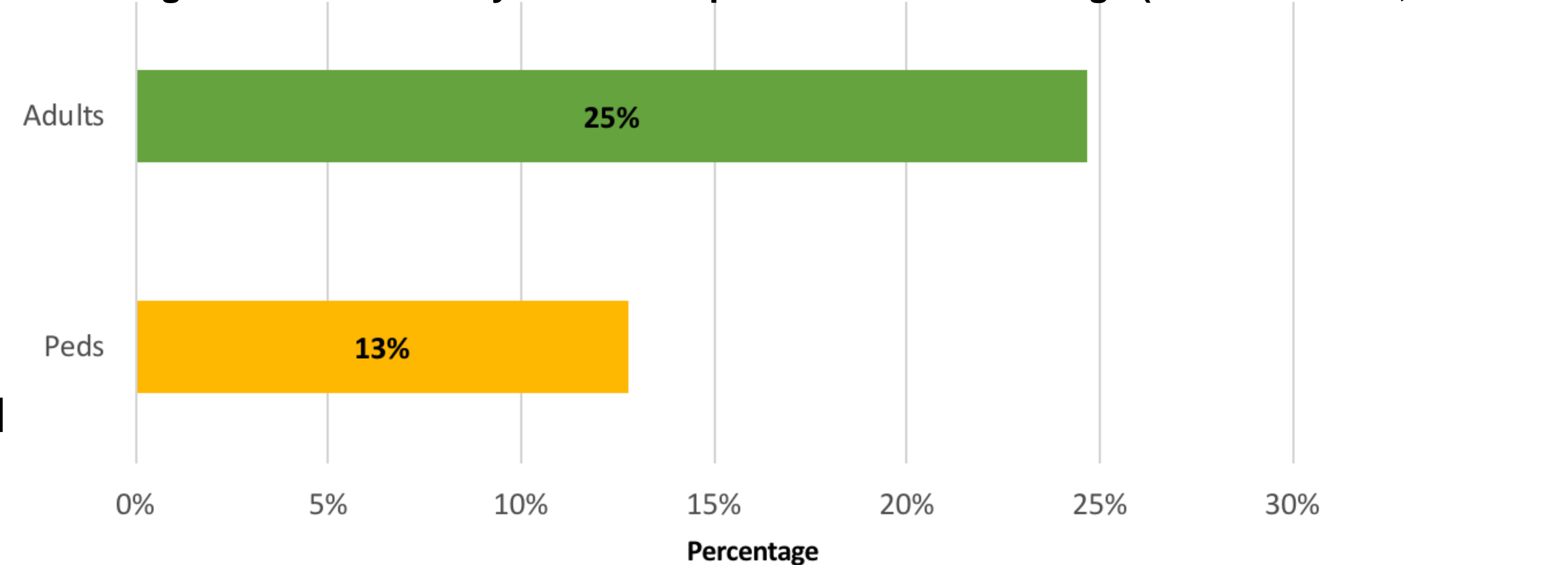
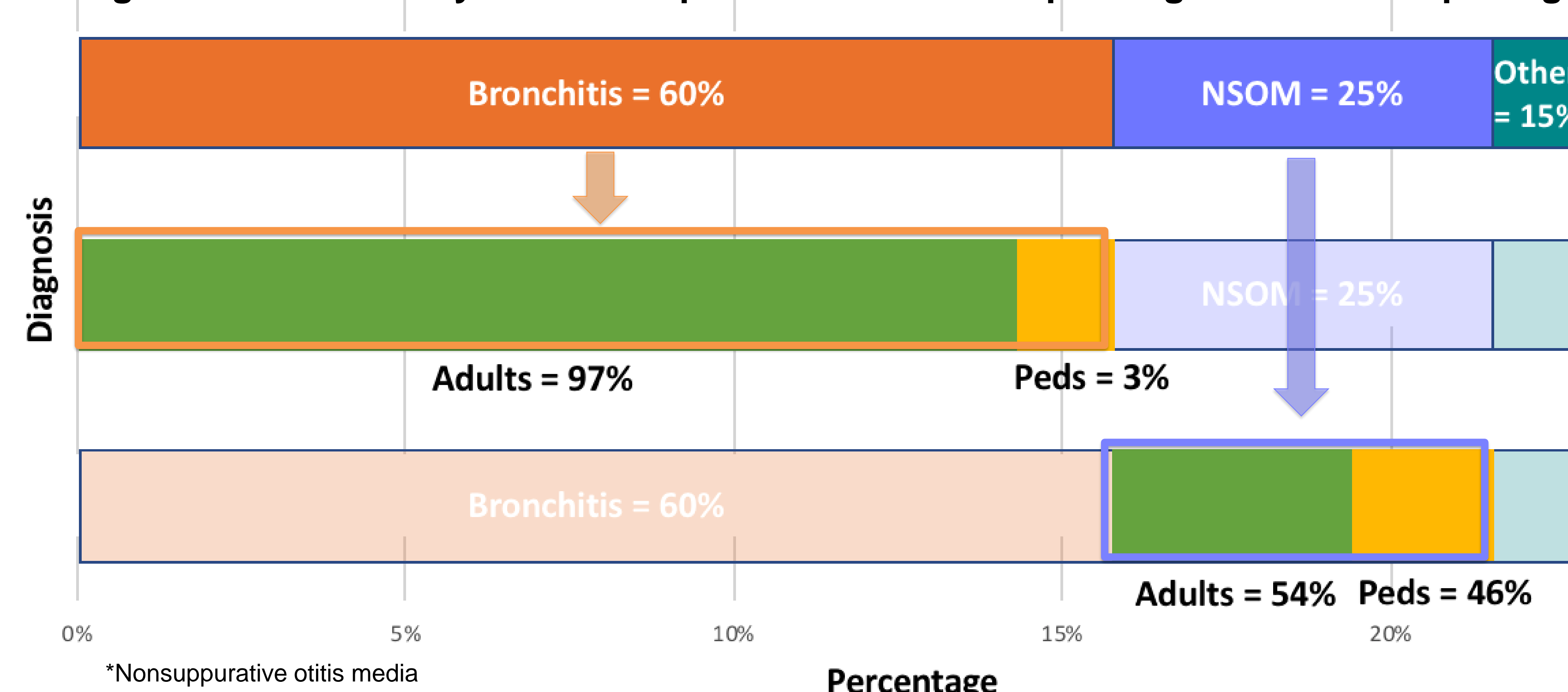
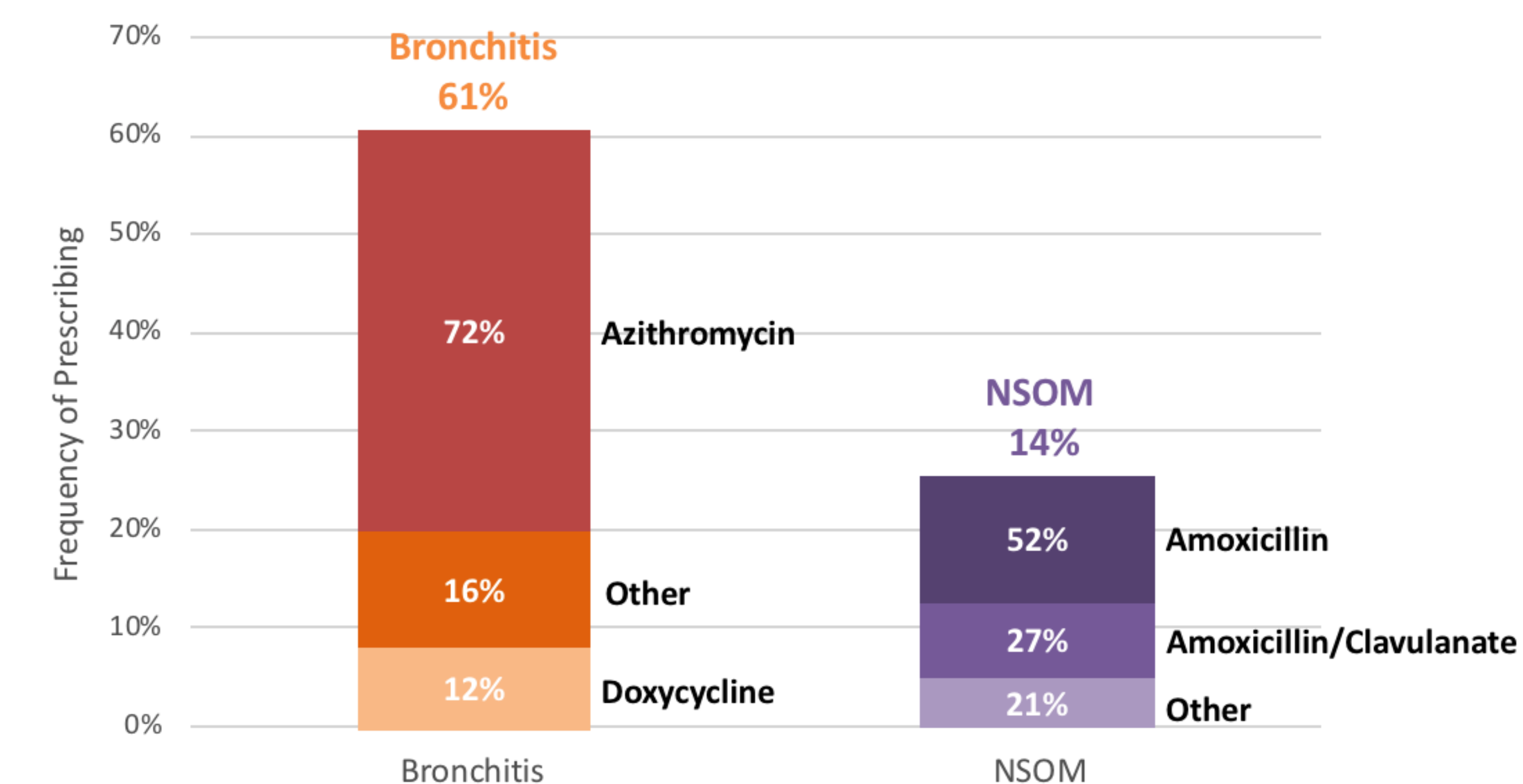


Figure 3: Unnecessary antibiotics prescribed for the Top 2 diagnoses based upon age



Results cont.

Figure 4: Antibiotics given for the Top 2 diagnoses receiving inappropriate antibiotics



Conclusions

- Unnecessary antibiotic prescribing rate for all ages was 23%
- Antibiotics were more often unnecessarily prescribed for bronchitis and NSOM
- Unnecessary pediatric prescribing was lower than adults
- Fluoroquinolone use was low in this analysis
- Areas to focus stewardship include:
 - Antibiotics for bronchitis
 - Unnecessary azithromycin use

Disclosure

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References

- Fleming-Dutra K, Hersh A, Shapiro D, et al. Prevalence of Inappropriate Antibiotic Prescriptions Among US Ambulatory Care Visits, 2010-2011. *Jama*. 2016; 315(17):1864-1873.
- The Centers for Disease Control and Prevention (CDC, 2018). 2018 Update: Antibiotic Use in the United States. Progress and Opportunities. Retrieved from: <https://www.cdc.gov/antibiotic-use/stewardship-report/pdf/stewardship-report-2018-508.pdf>.
- The Joint Commission. R3 Report 23: Antimicrobial stewardship in ambulatory health care. Retrieved from: https://www.jointcommission.org/standards-information/r3_report.aspx.
- May L, Yadav K, Gaona S, et al. MITIGATE Antimicrobial Stewardship Toolkit. 2018. Retrieved from: http://www.shea-online.org/images/priority_topics/MITIGATE_TOOLKIT_final.pdf