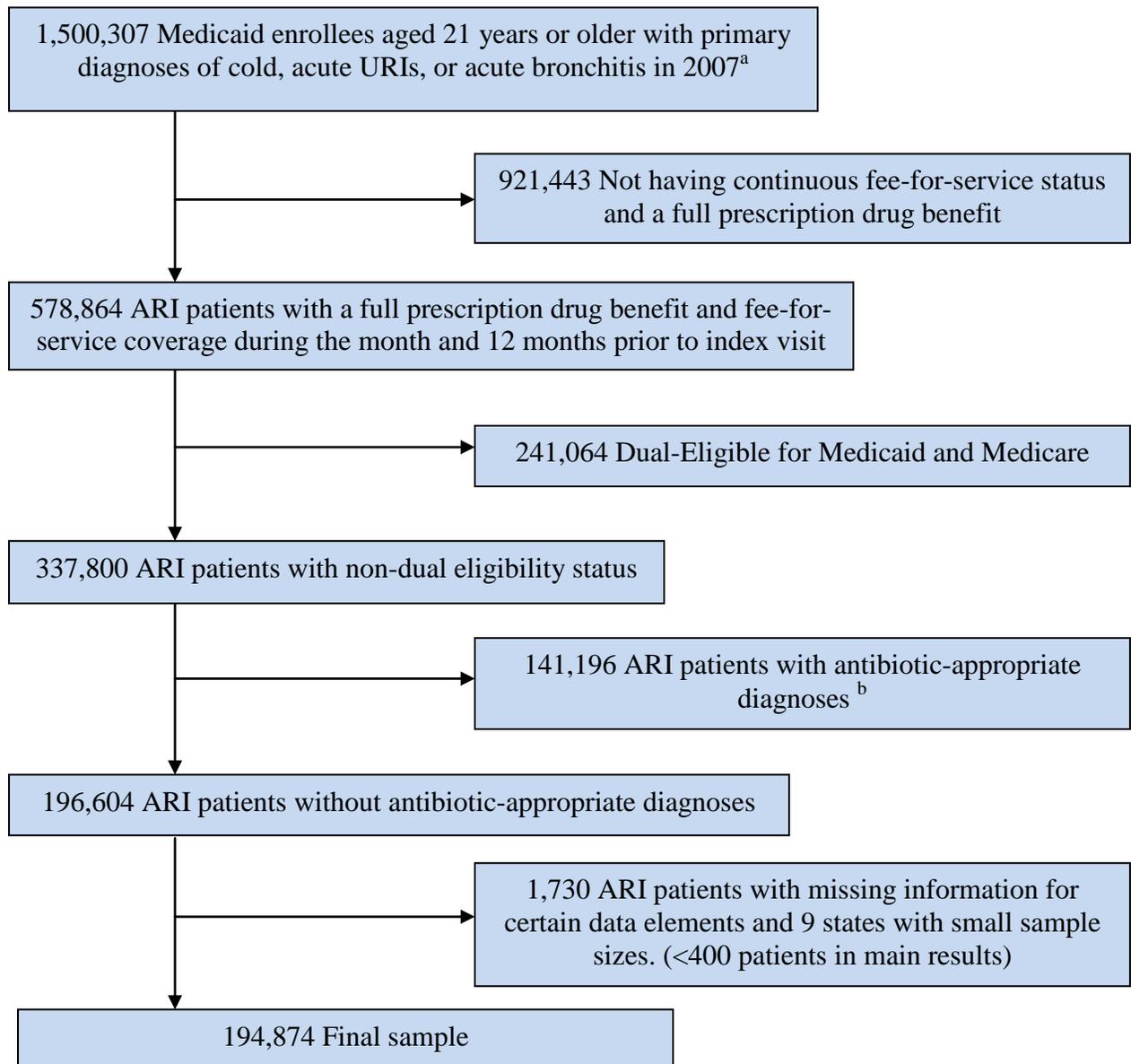


Unnecessary Use of Antimicrobial Drugs by Medicaid Programs

Technical Appendix

Technical Appendix Figure (next page). Sample selection diagram. Notes: a: Index visits were identified as the first office visit during the study period with a primary diagnosis of cold (International Classification of Diseases, Ninth Revision, Clinical Modification [ICD-9-CM], code 460); acute URIs of multiple, unspecified sites (ICD-9-CM code 465); or acute bronchitis (ICD-9-CM code 466), which we collectively refer to as ARIs (1-9). The identification period for the index visit was January 1, 2007, to December 24, 2007. b: Any visits with the relevant primary diagnosis code that occurred within 30 days of a prior visit for any acute respiratory infections (ICD-9-CM codes 460–466) were excluded.(5) Any visits with antibiotic-appropriate secondary diagnoses were also excluded. These codes included suppurative otitis media (ICD-9-CM code 382), nonsuppurative otitis media (ICD-9-CM code 381–381.4), chronic sinusitis (ICD-9-CM code 473), acute sinusitis (ICD-9-CM code 461), acute tonsillitis (ICD-9-CM code 463), acute pharyngitis (ICD-9-CM code 462), pneumonia (ICD-9-CM codes 481–486), streptococcal sore throat (ICD-9-CM code 034.0), urinary tract infections (ICD-9-CM codes 590, 595, 597, and 599.0), bacterial infections (ICD-9-CM code 041), emphysema (ICD-9-CM code 492), and chronic bronchitis (ICD-9-CM code 491).(10) Patients with diagnosis claims for chronic obstructive pulmonary disease (ICD-9-CM codes 491.20–491.21, 492.0–492.8, 494, 495.0–495.9, and 496) or asthma (ICD-9-CM code 493) within 1 year before and 7 days after the index visit were also excluded.(1) Finally, we also excluded index visits that were followed within 7 days by a visit for any of the listed antibiotic-appropriate diagnoses to further avoid misclassification of simple ARIs.



Technical Appendix Table. Sensitivity and Subgroup Analyses: Odds Ratios for PCP Density and CDC Get Smart Campaign

Variable	Odds Ratio (95% Confidence Interval)					Residence in State Participating in CDC Get Smart Campaign	
	No. of PCP Physicians per 10,000 Persons ^a					No	Yes
	<2.2	2.2–3.4	3.5–4.7	4.8–6.5	>6.5		
Main model	Referent	0.96 (0.87–1.07)	0.91 (0.80–1.04)	0.84 (0.73–0.96)	0.76 (0.66–0.88)	Referent	0.74 (0.62–0.88)
Varying on covariates							
Unadjusted odds ratio	Referent	0.98 (0.86–1.11)	0.95 (0.81–1.11)	0.81 (0.65–1.00)	0.71 (0.59–0.86)	Referent	0.75 (0.56–1.02)
Only control for patient characteristics ^b	Referent	0.99 (0.90–1.09)	0.92 (0.81–1.05)	0.82 (0.70–0.97)	0.79 (0.67–0.93)	Referent	0.76 (0.61–0.95)
Varying on dependent variable measure							
Link to the visit if antibiotic prescribed ≤3 days	Referent	0.96 (0.87–1.07)	0.91 (0.80–1.04)	0.83 (0.73–0.96)	0.76 (0.65–0.88)	Referent	0.73 (0.61–0.88)
Link to the visit if antibiotic prescribed ≤7 days	Referent	0.97 (0.87–1.08)	0.92 (0.81–1.04)	0.84 (0.74–0.97)	0.77 (0.67–0.89)	Referent	0.74 (0.62–0.89)
Subgroup analyses							
Age < 65 y	Referent	0.96 (0.87–1.07)	0.91 (0.80–1.03)	0.83 (0.72–0.95)	0.76 (0.65–0.88)	Referent	0.74 (0.61–0.89)
Without diabetes or congestive heart failure ^c	Referent	0.97 (0.87–1.09)	0.91 (0.80–1.03)	0.82 (0.72–0.94)	0.74 (0.64–0.86)	Referent	0.75 (0.62–0.90)

*Data are from the 2007 Medicaid Analytic Extract (MAX) files linked with the area resource file (ARF). Abbreviations: CDC, Centers for Disease Control and Prevention; CI, confidence interval.

^aThe OR is 0.98 (95% CI: 0.96–0.99; P-value < 0.001) if number of PCP Physicians per 10,000 Persons was coded as a continuous variable in the main model.

^bRegressions were adjusted for age, sex, race, RxHCC, index diagnosis and quarter of index visit date.

^cVisits with diagnoses of other comorbid conditions, such as diabetes (International Classification of Diseases, Ninth Revision, Clinical Modification [ICD-9-CM], codes 250, 357.2, 362.01, 362.02, 366.41) and congestive heart failure (ICD-9-CM code, 428.0) during the 1 year before the index visit date were also excluded.

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