

More than 40% of outpatient antibiotic prescriptions in U.S. may be inappropriate

ACP Internist Weekly Staff

Of more than 130 million estimated antibiotic prescriptions in the U.S. in 2015, as much as 43% were potentially inappropriate, a cross-sectional study found.

Researchers used data from the 2015 National Ambulatory Medical Care Survey to assess a nationally representative sample of 28,332 outpatient visits. The main outcome measures were overall antibiotic prescribing and whether each [antibiotic prescription was accompanied by appropriate, inappropriate, or no documented indication](#), as identified through ICD-9-CM codes. Results were published on Dec. 11 by *The BMJ*.

Antibiotics were prescribed during 13.2% (95% CI, 11.6% to 13.7%) of an estimated 990.8 million U.S. ambulatory care visits in 2015. Overall, 57% (95% CI, 52% to 62%) of an estimated 130.5 million antibiotic prescriptions were for appropriate indications, 25% (95% CI, 21% to 29%) were inappropriate, and 18% (95% CI, 15% to 22%) had no documented indication. With an estimated 32.6 million prescriptions for inappropriate indications and 23.7 million prescriptions without a documented indication, up to 43% of all prescriptions were potentially inappropriate; however, without evidence of an indication, the appropriateness of the latter cannot be ascertained, the study authors noted.

The researchers looked at potential risk factors for receipt of an antibiotic prescription without a documented indication. Adult men, but not women, were more likely to receive antibiotics with no indication compared to patients younger than age 18 years ($P < 0.001$). Specialists were twice as likely to prescribe antibiotics without an indication as primary care physicians ($P < 0.001$). In addition, having at least one chronic disease compared to no chronic diseases and spending a median of 17 minutes or more with a clinician compared to spending less time were associated with receiving an antibiotic prescription without a documented indication ($P = 0.005$ and $P = 0.023$, respectively). Sulfonamides and urinary anti-infective agents were the antibiotic classes most likely to be prescribed without documentation.

Among other limitations, the study used survey data that included only the first five ICD-9-CM codes documented in the health record, the authors noted. They added that they were unable to identify prescriptions for anticipated future use (e.g., travel) and that they were unable to assess prescriptions provided as part of virtual or telephone encounters.

One antimicrobial stewardship strategy that may improve prescribing behaviors is an individualized prescribing feedback system that provides clinicians with data on their use of diagnostic codes and antibiotics compared with peers, a linked editorial noted. Such a system would work best [if a diagnostic code is used every time an antibiotic is prescribed](#), if all infections are coded, and if each diagnostic code uses a global measure of illness severity, the editorial said.

“Those with responsibility for antimicrobial stewardship might wish to work with electronic health record providers and clinicians to encourage this more sophisticated diagnostic coding,” the editorialist wrote.