

Study analyzes variations in antibiotic prescribing among older patients

September 24 2012

A study of Medicare data suggests there was wide variation in antibiotic prescribing for older patients based on geography and the season in which the prescriptions for the medication were written, according to a report published Online First by *Archives of Internal Medicine*.

The [overuse of antibiotics](#) is common and can lead to unnecessary spending on [prescription medicine](#), as well as increase the risk for adverse effects and antimicrobial resistance, according to the study background. "Findings on variation in [antibiotic prescribing](#) can guide policy efforts to improve more targeted areas or specific therapeutic subclasses of antibiotics," the authors comment.

Yuting Zhang, Ph.D., of the University of Pittsburgh, and colleagues used [Medicare Part D](#) data from 2007 through 2009 (comprising about 1 million patients per year) to examine [geographic variation](#) in antibiotic use among older adults in 306 hospital referral regions, 50 states and the District of Columbia, and four national regions (South, West, Midwest and Northeast). They also studied quarterly change in antibiotic use across the four regions.

The highest antibiotic use was in the South and the lowest was in the West. In the South, 21.4 percent of patients per quarter used an antibiotic whereas 17.4 percent of patients per quarter used an antibiotic in the West. The rate in the Midwest was 19.2 percent, according to the study results.

Researchers also report that, regardless of region, the rate of antibiotic use was highest in the first quarter of the year (20.9 percent, January through March) and lowest during the third quarter (16.9 percent, July through September).

"Overall, areas with high rates of antibiotic use may benefit from more targeted programs to reduce unnecessary antibiotic use. Although antibiotic use in the regions with lower use does not necessarily represent the clinically appropriate use given that overuse of antibiotics is common, quality improvement programs set attainable targets using the low-prescribing areas (i.e. the states in the West) as a reference," the authors note.

Researchers conclude: "Although older adults may have higher risk for adverse outcomes from infection, they may also be at particularly high risk for adverse outcomes from [antibiotic use](#). Therefore, it might be necessary to target some quality improvement initiatives toward this age group."

In an invited commentary, Ralph Gonzales, M.D., M.S.P.H., of the University of California, San Francisco, and colleagues write: "We believe that the persistence of antibiotic overuse in the United States is a failure to translate national public health priorities and evidence into local practice and policies."

"We need to find better ways to compel individuals and organizations to address the significance of the problem of antibiotic overuse and to increase the readiness for change and quality improvement of ambulatory practices in the United States," they continue.

"Strategies to achieve transformation at these levels may need to differ substantially from the current educational approaches that have been in use among patients and clinicians thus far," they conclude.

More information:

Arch Intern Med. Published online September 24, 2012.

[doi:10.1001/archinternmed.2012.3717](https://doi.org/10.1001/archinternmed.2012.3717)

Arch Intern Med. Published online September 24, 2012.

[doi:10.1001/2013.jamainternmed.532](https://doi.org/10.1001/2013.jamainternmed.532)

Provided by JAMA and Archives Journals

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