

The pressure to prescribe: Antibiotic stewardship in the outpatient setting

April 16 2019



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Outpatient healthcare providers inappropriately prescribed antibiotics to 40 percent of patients in a major Veterans Affairs healthcare system, a higher figure than in previous studies examining outpatient antibiotic

use, according to a new study appearing in the *American Journal of Infection Control (AJIC)*, the journal of the Association for Professionals in Infection Control and Epidemiology.

Researchers within the Veterans Affairs Western New York Healthcare System utilized an electronic antibiotic alert following prescription to understand the most common causes of inappropriate [antibiotic use](#). They ultimately identified four conditions that often led to over-prescription: [urinary tract infections](#) (UTIs), bronchitis, skin structure infections, and sinusitis. The study also identified the most commonly overused [antibiotics](#), which included azithromycin, ciprofloxacin, amoxicillin/clavulanate, and cephalexin. Together, these four drugs accounted for nearly 80 percent of unnecessary drug use in the outpatient setting.

Outpatient antibiotic prescriptions comprise 60 percent of overall antibiotic use, making them a critical target for antimicrobial stewardship initiatives. Improper use of antibiotics has been associated with increased morbidity, costs, and the proliferation of resistant bacteria. According to the CDC, [antibiotic resistance](#) occurs when bacteria develop the ability to defeat the drugs designed to kill them. Stewardship programs focus on optimizing antibiotic use.

The study bore a unique finding: patients seen in emergency departments were twice as likely to receive an antibiotic only when needed, compared to patients seen in outpatient clinics. This suggests that [patients](#) seen in the emergency room are more likely to have legitimate antibiotic needs.

Patient-provider relationship may also be key to understanding misuse, as healthcare providers may feel a pressure to prescribe to achieve higher patient satisfaction scores.

"Our study targeted the most commonly overused antibiotics and the

associated conditions in order to enable an approach focused on these factors in the outpatient setting," said Alexis White, PharmD, lead study author. "We found that real-time alerts when an antibiotic is prescribed, allowing for immediate intervention, may be an effective way to begin a stewardship program, supplemented by patient education on when an antibiotic is not needed and the harmful effects of misuse."

The alert system enabled researchers to conduct a thorough chart review of all antibiotic prescriptions, evaluating for set criteria and stewardship targets. A drug's use as first-line therapy, dosing, and duration were all used as benchmarks for appropriate prescription.

Additional key findings from the study included:

- Patients with a diagnosis of sinusitis did not require an antibiotic in 32 percent of cases, as their symptoms were consistent with the common cold. Furthermore, with a sinusitis diagnosis, the incorrect drug was chosen in 53 percent of cases.
- Prescribing patterns associated with UTIs indicate that the correct drug was chosen in 54.9 percent of cases. Antibiotics were most commonly prescribed for asymptomatic urine bacteria, a condition that does not require antibiotics.
- Fifty five percent of the 288 prescriptions for azithromycin were deemed unnecessary—it was most commonly misused for bronchitis, sinusitis, upper respiratory tract infections, chronic obstructive pulmonary disease, and community-acquired pneumonia.

"Antimicrobial stewardship programs are common in inpatient scenarios, but this research reinforces the point that there continues to be a significant need to build momentum for such initiatives in the outpatient setting," said 2019 APIC President Karen Hoffmann, RN, MS, CIC, FSHEA, FAPIC. "Using a targeted approach, as recommended by the

study authors, may be an effective intervention to reduce inappropriate prescribing."

More information: Alexis T. White et al, Antibiotic stewardship targets in the outpatient setting, *American Journal of Infection Control* (2019). [DOI: 10.1016/j.ajic.2019.01.027](https://doi.org/10.1016/j.ajic.2019.01.027)

Provided by Elsevier

Citation: The pressure to prescribe: Antibiotic stewardship in the outpatient setting (2019, April 16) retrieved 20 July 2023 from <https://medicalxpress.com/news/2019-04-pressure-antibiotic-stewardship-outpatient.html>

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