

New approaches cut inappropriate antibiotic use by over 30%

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A UC Davis study of nine emergency departments and urgent care centers in California and Colorado found educating physicians and patients about safe antibiotic use can cut overuse by one-third.

The study, funded under a contract from the U.S. Centers for Disease

Control and Prevention (CDC), appears in June 19 in the journal *Academic Emergency Medicine*.

It compared two approaches designed to help physicians make better antibiotic-prescribing decisions for viral acute respiratory infections (ARIs) without limiting the choices available. Viral ARIs are common conditions that range from ear ache and laryngitis to influenza and bronchitis.

One approach offered [educational materials](#) from the CDC's [Be Antibiotics Aware](#) campaign for patients and providers, and an on-site physician champion. The other more intensive approach provided education and behavioral "nudges," which gave each physician feedback on prescribing rates, comparisons with their colleagues and public commitment to reduce unnecessary use.

"We found education with an on-site champion reduced inappropriate antibiotic use by a third across the board," said Larissa May, professor of emergency medicine at UC Davis Health and senior author. "Our study shows that this relatively simple approach can get us to near-zero inappropriate antibiotic use for acute respiratory infections."

Of the 10 million prescriptions for antibiotics that [emergency department](#) physicians in the U.S. write each year, half are prescribed for known [viral infections](#) such as acute bronchitis and upper respiratory infections, which do not respond to antibiotics.

Inappropriate use exposes patients to opportunistic infections and adverse drug events. It also increases the ability of pathogens to become resistant to antibiotics. According to the CDC, antibiotic resistant bacteria cause two million illnesses and approximately 23,000 deaths in the U.S. each year.

There have been few tested approaches to reducing antibiotic overprescribing in emergency departments and urgent care settings due to the challenges of seeing patients quickly and having limited information. The researchers believe their stewardship program made a difference because it was tailored for each site, incorporated feedback from [physician](#) champions, displayed public commitment to avoiding unnecessary antibiotics and had the support of engaged stakeholders throughout the study made a difference.

For the study, the researchers tracked 44,820 viral ARI visits among 292 providers at five adult and pediatric emergency departments and four [urgent care centers](#). They tallied the proportion of inappropriate antibiotic treatment by individual providers. The sites included UC Davis Medical Center, Harbor-UCLA Medical Center, Children's Hospital Colorado and University of Southern California.

"We need strategies that promote the careful prescribing of antibiotics in [emergency](#) departments and urgent care centers to slow the spread of antibiotic resistance and reduce unnecessary harm to patients from [antibiotics](#)," May said.

May developed the [MITIGATE antimicrobial stewardship toolkit](#) for health care providers and administrators interested in designing quality improvement programs in antimicrobial stewardship.

More information: Kabir Yadav et al, A Multifaceted Intervention Improves Prescribing for Acute Respiratory Infection for Adults and Children in Emergency Department and Urgent Care Settings, *Academic Emergency Medicine* (2019). [DOI: 10.1111/acem.13690](https://doi.org/10.1111/acem.13690)

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