

# Certain antibiotic-resistant infections on the rise, new research shows

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Nearly six percent of urinary tract infections analyzed by a California emergency department were caused by drug-resistant bacteria in a one-year study period, according to new research in *Annals of Emergency Medicine*. The bacteria were resistant to most of the commonly used antibiotics. And, in many cases, patients had no identifiable risk for this kind of infection, the study found.

"The rise of drug-resistant infections is worrisome," said Bradley W. Frazee, MD, attending physician, Alameda Health System Highland Hospital and lead study author. "What's new is that in many of these resistant urinary tract infections, it may simply be impossible to identify which patients are at risk. Addressing the causes of antibiotic resistance, and developing novel drugs, is imperative. A society without working [antibiotics](#) would be like returning to preindustrial times, when a small injury or [infection](#) could easily become life-threatening."

The authors urge some immediate changes to clinical practice such as wider use of urine culture tests and a more reliable follow-up system for patients who turn out to have a resistant bug; improving [emergency](#) physician awareness of their hospital's antibiogram (a chart showing whether certain antibiotics work against certain [bacteria](#)); adherence to treatment guidelines and knowing which antibiotics to avoid in certain circumstances.

The Centers for Disease Control and Prevention (CDC) estimates that currently 23,000 Americans die each year from antibiotic-resistant infections.

The bacteria analyzed in this study were mostly *E coli*, that were resistant to cephalosporin antibiotics. Historically, such resistant bacteria were found in hospital-based infections. But, the authors note that they have been infecting more people outside of the hospital, particularly those with urinary tract infections. More than two in five (44%) of the infections analyzed were community-

based (contracted outside of the hospital), the highest proportion reported in the United States to date.

The study, "Emergency Department Urinary Tract Infections Caused by Extended Spectrum Beta-Lactamase Producing Enterobacteriaceae: Many Patients Have No Identifiable Risk Factor and Discordant Empiric Therapy is Common," involved retrospective analysis of 1,745 urinary cultures from [patients](#) with [urinary tract infections](#) at an urban Northern California Emergency Department between August 2016 and July 2017.

**More information:** Bradley W. Frazee et al, Emergency Department Urinary Tract Infections Caused by Extended-Spectrum ?-Lactamase–Producing Enterobacteriaceae: Many Patients Have No Identifiable Risk Factor and Discordant Empiric Therapy Is Common, *Annals of Emergency Medicine* (2018). [DOI: 10.1016/j.annemergmed.2018.05.006](#)

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