

# Serious, highly drug-resistant infections increasing among US children

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Highly drug-resistant infections are on the rise among U.S. children, reports a new study published in the *Journal of the Pediatric Infectious Diseases Society*. Researchers found increasing rates of antibiotic resistance among samples of *Pseudomonas aeruginosa*, an important type of bacteria, collected from pediatric patients nationwide over the last decade. The findings provide more evidence that aggressive strategies to track, prevent, and treat these concerning infections in children are greatly needed.

"Infections with *P. aeruginosa* can be serious and are associated with significant morbidity and mortality," said study author Latania K. Logan, MD, of Rush University Medical Center. In children, these infections can result in prolonged illness, require longer hospital stays, and, ultimately, increase the risk of death. "Highly drug-resistant *P. aeruginosa* infections leave health care providers with limited—or sometimes no—antibiotic choices available, and these antibiotics are less safe and more toxic in children," said study author Sumanth Gandra, MD, MPH, of the Center for Disease Dynamics, Economics & Policy.

In the study, researchers analyzed information from a network of clinical microbiology laboratories serving approximately 300 hospitals across the country. Their analysis focused on data obtained by testing *P. aeruginosa* isolates for susceptibility to several different types of antibiotics. The samples were collected from patients between the ages of 1 and 17 who were in outpatient, inpatient, intensive care unit, and long-term care settings from 1999 to 2012.

The proportion of *P. aeruginosa* isolates resistant to at least three classes of antibiotics rose from 15.4 percent in 1999 to 26.0 percent in 2012. The proportion of bacterial strains resistant to carbapenems, a class of antibiotics considered one of the treatments of last resort for highly resistant infections, increased from 9.4 percent in 1999 to 20.0 percent in 2012. Drug resistance was more common in [pediatric patients](#) in intensive care units, among those 13-17 years old, and in the Midwest (Iowa, Kansas, Minnesota, Missouri, Nebraska, and the Dakotas).

An estimated 51,000 health care-associated *P. aeruginosa* infections occur in adults and children in the U.S. each year, according to the Centers for Disease Control and Prevention. More than 6,000 (13 percent) of these infections are resistant to multiple classes of antibiotics, leading to about 400 deaths annually. Few studies have assessed trends of resistant *P. aeruginosa* [infection](#) specifically in children, despite rising rates of [antibiotic resistance](#) nationally overall.

The latest findings highlight the need for better tracking of [antibiotic-resistant infections](#) and for effective strategies to prevent these infections in [children](#), in addition to antibiotic stewardship programs to address inappropriate antibiotic prescribing, the study authors concluded. Health care facilities should also consider using rapid molecular diagnostics to guide antibiotic treatment decisions.

Provided by Pediatric Infectious Diseases Society

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