

# Study finds smaller community hospitals antibiotics use similar to large hospitals

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A new study finds antibiotic use rates in small hospitals are similar to large hospitals even though large hospitals have more complex patients. Credit: Intermountain Medical Center

Bolstering antimicrobial stewardship programs to ensure appropriate use of antibiotics in smaller community hospitals is necessary to combat the global threat of antibiotic-resistant bacteria known as superbugs, according to a new study from researchers at Intermountain Medical Center in Salt Lake City.

Researchers found antibiotic use rates in small community hospitals is similar to large community and academic-based hospitals. The challenge: Many community hospitals have limited access to resources required to develop effective antimicrobial stewardship programs and meet new national hospital standards that require all hospitals to have programs in place by 2017.

Formal hospital-based antimicrobial stewardship programs promote the appropriate use of antimicrobials (including antibiotics), which

improves patient outcomes, reduces microbial resistance, and decreases the spread of infections caused by multidrug-resistant organisms. However, most of these programs are based in large hospitals and not in small community hospitals.

"Most of the existing data on antibiotic use rates comes from larger academic medical centers," said Eddie Stenehjem, MD, an infectious disease physician and researcher at Intermountain Medical Center, the flagship facility for the Intermountain Healthcare system. "Our study highlights antibiotic prescribing patterns in small hospitals and we found them to be similar to large hospitals, in terms of overall rates and antibiotic spectrum used."

For the study, researchers from Intermountain Medical Center and the University of Utah School of Medicine, examined three years of antibiotic use data from four large hospitals and 15 small community hospitals within the Intermountain Healthcare system.

Using data from information the system submitted to the CDC's Antibiotic Use Module of the National Health and Safety Network since 2011, they identified a number of key points that have implications for antibiotic stewardship:

- Antibiotic use rates in small hospitals are similar to large hospitals even though large hospitals have more complex patients.
- The spectrum of antibiotics used in small hospitals is similar to large hospitals
- Antibiotic stewardship programs were not used in small community hospitals and were present in large community hospitals

Results from the study were published in the October 2016 edition of *Clinical Infectious Diseases*, a publication of the Infectious Diseases Society of America.

"In order to holistically address the growing problem

of antibiotic-resistant bacteria, the infectious disease community must respond to antibiotic use in ALL hospitals, not just the large academic medical facilities," said Dr. Stenehjem. "Small hospitals are least likely to have stewardship programs even though antibiotic usage patterns are similar to larger facilities. We need to bring stewardship support to all hospitals, but the challenges come in knowing how to do that."

The overuse of antibiotics contributes to antibiotic resistance, which means bacteria and other microbes change in a way that reduces or eliminates the ability of antibiotics and other drugs to cure or prevent infections. The bacteria, which are sometimes harmless to begin with, turn into drug-resistant superbugs that can cause life-threatening infections.

The Centers for Disease Control and Prevention has indicated that 20 to 50 percent of all antibiotics prescribed in the U.S. acute care hospitals are either unnecessary or inappropriate. "Patients who are unnecessarily exposed to antibiotics are placed at risk for serious adverse events with no clinical benefit," according to the CDC.

Researchers at Intermountain Healthcare are currently conducting a study to identify recommendations for small community hospitals that will help build antibiotic stewardship programs.

Provided by Intermountain Medical Center

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