

# Antibiotic stewardship programs reduce costs, improve outcomes

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Antibiotic stewardship programs, which promote the appropriate use of antibiotics in hospitals and other healthcare centers, not only lead to reduction in antibiotic use with reduced adverse events, but also lead to significant savings. In the case of one New York hospital, more than \$600,000 was saved annually, according to research presented today at the 54th Interscience Conference on Antimicrobial Agents and Chemotherapy (ICAAC), an infectious diseases meeting of the American Society for Microbiology (ASM).

"This work emphasizes the rational approach to treating patients: choosing [antibiotics](#) at correct doses only when really needed, limiting side-effects, limiting the selection of super bugs, and limiting the risk of infection to new patients admitted to hospitals," says Nishant Prasad, M.D., attending physician, The Dr. James J. Rahal, Jr. Division of Infectious Diseases, New York Hospital Queens.

Dr. Prasad and his colleagues tracked the rate of antibiotic-resistant infections, [antibiotic use](#) patterns, and antibiotic-related costs after the implementation of a hospital-wide antibiotic stewardship program at New York Hospital Queens, a 535-bed community hospital in Flushing, New York. At least half of the more than 5,000 interventions made by the program in 2013 improved patient safety and led to more than \$600,000 in antibiotic-related savings. Additionally, they found the rate of antibiotic-resistant infections decreased including methicillin-resistant *Staphylococcus aureus* (MRSA), multidrug-resistant *Acinetobacter baumannii*, *Klebsiella pneumoniae*, and hospital-acquired *Clostridium*

difficile- associated diarrhea.

"With our antibiotic stewardship program, we demonstrated decreased antibiotic use and increased antibiotic-related cost savings, as well as a significant decrease in antibiotic-resistant infections. We believe these findings show that limiting unnecessary antibiotics improves patient safety and streamlines use of limited healthcare dollars," says Dr. Prasad.

Other research presented at the meeting also shows the results of antibiotic stewardship programs. A study carried out by researchers at Skåne University Hospital in Malmö, Sweden during a six-month period at four geriatric wards found a 27% decrease in antibiotic use when guided by a brief discussion with an infectious disease specialist. The reduction did not affect mortality, but a reduction in hospital readmissions due to infection was observed.

"The strategy seems to be a cost-effective, promising way to reduce antibiotic use with very little risk to the individual patient," says Fredrik Resman, Skåne University Hospital, who presented the data. "The success of this very simple strategy has led to a continuation on a permanent basis."

Antibiotics have transformed the practice of medicine, making once lethal infections readily treatable and making other medical advances, like cancer chemotherapy and organ transplants, possible. The prompt initiation of antibiotics to treat infections has been proven to reduce morbidity and save lives. The U.S. Centers for Disease Control and Prevention (CDC) estimates that 20%-50% of all antibiotics prescribed in U.S. acute care hospitals are either unnecessary or inappropriate. A growing body of evidence suggests that antibiotic stewardship programs can both optimize treatment of infections and reduce the incidence of adverse events associated with antibiotic use. In recognition of the urgent need to improve antibiotic use in hospitals and the benefits of antibiotic

stewardship programs, in 2014 CDC recommended that all acute care hospitals implement Antibiotic Stewardship Programs.

**More information:** This research was presented as part of the ASM's 54th ICAAC held September 5-9, 2014 in Washington, DC.

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