

Rate of health care associated MRSA infections decreasing

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An analysis of data from 2005 through 2008 of nine metropolitan areas in the U.S. indicates that health care-associated invasive methicillin-resistant *Staphylococcus aureus* (MRSA) infections decreased among patients with infections that began in the community or in the hospital, according to a study in the August 11 issue of *JAMA*.

An estimated 1.7 million health care-associated infections are associated annually with 99,000 deaths in U.S. hospitals. A multidrug-resistant organism that has received much attention is MRSA, and preventing health care-associated MRSA infections has become a goal for public health agencies and policy makers, with prevention programs increasingly common in health care settings. Whether there have been changes in MRSA [infection](#) incidence as these programs become established has not been known, according to background information in the article.

Alexander J. Kallen, M.D., M.P.H., of the Centers for Disease Control and Prevention, Atlanta, and colleagues used a population-based surveillance system to evaluate the incidence of invasive health care-associated MRSA infections from 2005 through 2008 in nine metropolitan areas covering a population of approximately 15 million persons. All reports of laboratory-identified episodes of invasive (from a normally sterile body site, i.e., such as the bloodstream) MRSA infections were evaluated and classified based on the setting of the positive culture and the presence or absence of health care exposures. Health care-associated infections (i.e., hospital-onset and health care-

associated community-onset), which made up 82 percent of the total infections, were included in the analysis.

Overall, the participating surveillances sites reported 21,503 cases of invasive MRSA infections for the years 2005 through 2008, with 17,508 cases either hospital-onset or health care-associated community-onset. Most health care-associated infections (15,458 [88 percent]) involved a positive blood culture and were classified as a bloodstream infection (BSI). "The modeled incidence, adjusted for age and race, of hospital-onset invasive MRSA infections significantly decreased 9.4 percent per year from 2005 through 2008; while there was a significant 5.7 percent decrease per year in the modeled incidence of health care-associated community-onset infections. This would equate to about a 28 percent decrease in all hospital-onset invasive MRSA infections and about a 17 percent decrease in all invasive health care-associated community-onset infections over the 4-year period," the authors write.

A subset analysis limited to BSIs demonstrated a larger decrease in the modeled yearly incidence rates of both hospital-onset (-11.2 percent) and health care-associated community-onset (-6.6 percent) BSIs, equating to about a 34 percent decrease in all hospital-onset MRSA BSIs and about a 20 percent decrease in all health care-associated community-onset BSIs over the 4-year period.

The researchers add that although the reasons for the observed decrease in incidence of invasive health care-associated MRSA infections are not known, a number of factors might have contributed, including the dissemination of MRSA prevention practices in many U.S. hospitals.

"... this evaluation demonstrates that the incidence of hospital-onset and health care-associated community-onset invasive MRSA infections has decreased dramatically and significantly in this large geographically diverse population. Taken together with data from more than 600

intensive care units nationwide, these findings suggest that there is a real decrease in MRSA infection rates among patients in U.S. hospitals. As highlighted in the recently finalized U.S. Department of Health and Human Services Action Plan to Prevent Healthcare-Associated Infections, prevention of invasive MRSA infections is a national priority," the authors write.

"Although these data suggest progress has occurred in preventing health care-associated MRSA infections, more challenges remain. Increasing adherence to existing recommendations and addressing MRSA transmission and prevention beyond inpatient settings are challenges that will require further effort and investigation if eliminating the goal of preventable health care-associated invasive MRSA infections is to be attained."

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