

Community acquired MRSA infection rates are 6 times greater in HIV patients

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HIV-infected patients are at a markedly increased risk for community acquired Methicillin-resistant *Staphylococcus aureus* (CA-MRSA) infections according to a new study by researchers at John H. Stroger, Jr. Hospital of Cook County and Rush University Medical Center.

The study, published in the April 1 issue of the journal [Clinical Infectious Diseases](#), found the incidence of CA-MRSA in the Chicago area was six-fold higher among HIV-infected patients than it was among HIV-negative patients.

MRSA infections were once restricted to hospitals and long-term care facilities. However, transmission of MRSA has emerged in the community, causing infections in people without prior health care facility exposure. A majority of MRSA infections involve minor skin and soft tissue infections that are usually well treated with therapy, such as active antibiotics and drainage of infection. However, occasionally MRSA can lead to severe invasive and deadly disease, such as necrotizing pneumonia, fasciitis and bacteremia.

Using electronic data, the study authors retrospectively studied HIV-infected patients with CA-MRSA who received medical care during the period of 2000 to 2007 in the regional Cook County Health and Hospitals System. Researchers used patients' zip codes to examine where the cases were distributed geographically.

Overall incidence of CA-MRSA increased significantly for all

populations in Cook County from the first period (2000- 2003) to the second period (2004-2007). The incidence increased four-fold from 61 cases to 253 cases per 100,000 HIV-negative patients and nearly four-fold from 411 cases to 1474 cases per 100,000 HIV-infected patients, respectively.

"HIV does not cause CA-MRSA, but our study shows an association between HIV and CA-MRSA. The next steps are to find out what is going on in the community to cause these infections," said study author Dr. Kyle Popovich, an infectious disease specialist at Rush University Medical Center. "We believe the risk may be amplified by overlapping community-based social networks of high-risk patients."

The traditional risk factors for CA-MRSA included populations where there is close person to person contact, such as children in daycare facilities, prisoners, athletes and military personnel.

The study did find the most significant predictors associated with CA-MRSA infection included living in zip codes with a high prevalence of former prison inmates, and living in alternative housing, such as a substance abuse treatment facility, shelters or subsidized housing.

However, the study authors note that CA-MRSA has spread throughout Cook County. When the epidemic first started it was clustered in certain zip codes, but is has now spread beyond that. During the first period, 10 percent of the zip codes in Cook County had a high rate of MRSA among HIV-infected patients. By the second time period, that percentage had jumped to 21 percent of zip codes.

"We are also are now seeing people with community [MRSA](#) that aren't in the traditional high risk groups," said Popovich. "We need to bring education to these communities and do more research to determine preventive strategies to address these intersecting epidemics."

Provided by Rush University Medical Center

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