Medical Xpress

High prevalence of drug-resistant MRSA found in nursing homes

February 11 2013

While most infection control measures are focused on hospitals, a new study points to the need for more targeted interventions to prevent the spread of drug-resistant bugs in nursing homes as community-associated strains of methicillin-resistant *Staphylococcus aureus* (CA-MRSA) are on the rise in these facilities. The study is published in the March issue of *Infection Control and Hospital Epidemiology*, the journal of the Society for Healthcare Epidemiology of America.

CA-MRSA is a growing cause of invasive disease, including bloodstream infections, abscesses, and pneumonia. The prevalence of CA-MRSA in nursing homes has not been well characterized compared with that in hospitals. Since most nursing home residents are admitted directly from hospitals, importation of CA-MRSA may increase in nursing homes as CA-MRSA increases in hospitals. Nursing home residents also have increased risk factors for MRSA, including diabetes, long-term use of indwelling devices, and inability to perform activities of daily living.

Researchers at the University of California, Irvine assessed the frequency of CA-MRSA carriage among residents in a convenience sample of 22 of the 72 nursing homes in Orange County, California, during the period October 2008–May 2011. Strains were found by swabbing the noses of 100 residents in each nursing home at a single visit and up to another 100 additional swabs from newly admitted residents.

Of the MRSA-positive swabs, 25 percent (208/824) were positive for

CA-MRSA. The study also found CA-MRSA was present in 20 out of 22 nursing homes tested.

"Community-type strains first arose among healthy community members without exposure to the healthcare system and have steadily infiltrated many hospitals," said Courtney R. Murphy, PhD, the study's lead researcher. "We believe these at-risk facilities could benefit from further infection control interventions, such as enhanced environmental cleaning or skin decolonization."

CA-MRSA was more common in nursing homes in which a larger percent of residents were under the age of 65 years. In the community, CA-MRSA frequently infects children and younger adults, particularly in high-contact settings, such as child care centers, sports activities, and the military. In turn, younger nursing home residents may be more mobile and better able to interact with others, increasing their risk of MRSA acquisition.

The strain also was also less common at admission compared to later sampling, suggesting CA-MRSA may be transmitted among residents. Infection control strategies to prevent transmission may need to be tailored to the nursing home setting, since the goal of encouraging social interaction in nursing homes presents unique challenges for infection control compared to hospitals.

CA-MRSA was also associated with facilities with more Hispanic residents. This finding was not associated with resident socioeconomic status or low-resource nursing homes; however it may reflect cultural or genetic differences associated with increased risk factors.

Researchers concluded that further investigation is needed to determine whether reducing CA-MRSA prevalence requires interventions different from those used for healthcare-associated MRSA.

More information: Courtney R. Murphy, Lyndsey O. Hudson, Brian G. Spratt, Victor Quan, Diane Kim, Ellena Peterson, Grace Tan, Kaye Evans, Hildy Meyer, Michele Cheung, Bruce Y. Lee, Dana B. Mukamel, Mark C. Enright, Matthew Whealon, Susan S. Huang. "Predicting High Prevalence of Community Methicillin-Resistant Staphylococcus aureus Strains in Nursing Homes." Infection Control and Hospital Epidemiology 34:3 (March 2013).

Provided by Society for Healthcare Epidemiology of America