

# Dangerous form of MRSA, endemic in many US hospitals, increasing in UK

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Prevalence of a particularly dangerous form of methicillin resistant *Staphylococcus aureus* (MRSA) jumped three-fold in just two years, in hospitals in the United Kingdom, according to a paper in the October 2012 *Journal of Clinical Microbiology*.

This particular pathogen emerged in the US in 1998, and "is endemic within many US hospitals," an observation which led to the current study being conducted, says coauthor Gopal Rao of Northwick Park Hospital, Harrow, Middlesex, UK.

The MRSA in question contains a toxin called Panton-Valentine leukocidin (PVL), which destroys leukocytes (a type of white blood cell), kills skin and [mucus membranes](#), and confers increased virulence. In some cases, they cause [invasive disease](#), most notably necrotizing hemorrhagic pneumonia, which has a high mortality rate.

The United Kingdom's Health Protection Agency first reported that PVL-methicillin resistant *S. aureus* (PVL-MRSA) was an emerging disease in UK in 2005. While most of the MRSA gets transmitted from one person to another within the hospital, most patients infected with MRSA containing the PVL toxin genes acquired it outside of the hospital ("community acquired" MRSA). The Department of Health in UK mandated screening for MRSA in 2008.

Rao and collaborators set out to find out how many patients entering the hospital carried community-acquired MRSA, especially that containing

the dangerous PVL genes. During the study period, cases of community-acquired PVL-MRSA jumped threefold, from 0.07 percent to 0.22 percent, while the numbers of patients with hospital-acquired MRSA dropped from 4.6 percent to 2.8 percent. One particular clone of PVL-MRSA, which also carries resistance to [clindamycin](#) and tetracycline is particularly worrisome, the researchers note.

Most of the patients carrying PVL-containing strains are males. The study included 56,000 patients.

**More information:** N.M. Pantelides, G.G. Rao, A. Charlett, and A.M. Kearns, 2012. Preadmission screening of adults highlights previously unrecognized carriage of Panton-Valentine leukocidin-positive methicillin-resistant *Staphylococcus aureus* in London: a cause for concern? *J. Clin. Microbiol.* 50:3168-3171. [bit.ly/asmtip1012d](http://bit.ly/asmtip1012d)

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