

## Spotlight

### Chicago-Area Hospital System Takes on MRSA

*Program reduces infection rate by 60% in first year*

In 2002, Lance Peterson, MD FIDSA FASCP, an epidemiologist at Evanston Northwestern Healthcare (ENH) in north suburban Chicago noticed a rise in the number of patients with methicillin-resistant *Staphylococcus aureus* (MRSA) infections at his healthcare system's three area hospitals. That realization, combined with a rise in reported MRSA infections in the Chicago area, prompted a series of planning meetings on infection control.

By August 2004, ENH instituted a Point Prevalence survey to screen for MRSA by swabbing the noses of all inpatients at admission. "Interesting enough, the main place you carry MRSA is the front end of the inside of your nose," Peterson says. "If you're a carrier, your risk of infection is more than 10 times higher than if you're not a carrier."

Through the Point Prevalence survey, officials discovered that 8.5% of ENH inpatients either carried or were infected with MRSA, a rate far higher than the 2.7% national rate that had been reported 5 years earlier. ENH officials also found the highest prevalence of detection during admission. Meanwhile, a pilot project at one of ENH's intensive care units found the spread of MRSA there.

A year later, ENH launched its MRSA reduction program. The program reduced MRSA infection rates at its hospitals by 60% during the first year, an unexpected drop even in the view of the program head. That success led to national recognition in October, when ENH received the 2007 John M. Eisenberg Patient Safety and Quality Award for local innovation, sponsored by the National Quality Forum and the Joint Commission.

#### Getting started

"Before we did Point Prevalence, I discussed the problem with our vice president for quality and our chief nurse, both of whom supported doing an intervention if we found that we had a problem," Peterson says. The discovery of the 8.5% colonization rate left little doubt that action was needed.

Peggy King, ENH's senior vice president for risk management, agreed to organize planning meetings with a broad range of people, including administrators and quality people, physicians in general practice, internal medicine, and infectious disease; nurses; informatics people; and those in environmental services and laboratory. The committee decided to test all ENH inpatients and to post banner alerts for testing on all electronic medical records.

ENH officials studied well-established MRSA reduction programs in Scandinavia, Holland, and Western Australia, which had placed all patients admitted to their hospitals into contact isolation for up to 6 days while awaiting results of MRSA testing. "These programs managed to get their infection rate down very low, and, in fact, their percentage of MRSA (as a percentage of all staph infections) is under 1%," Peterson says. ENH's program differs from those programs in that it places into isolation only patients who tested positive for MRSA, which is possible because of their use of rapid 2-hour molecular diagnostic testing. "We decolonize patients if they're positive," Peterson says.

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“They get an antibiotic ointment in their nose twice a day for 5 days, and then they get an antiseptic shower on days 1, 3, and 5.”

The program also made available to patients online reading materials about MRSA, educated its physician and nursing staffs on MRSA, and added 1.4 full-time equivalents in the laboratory to test about 120 to 150 samples a day.

“According to a Point Prevalence done in August 2007, we actually dropped from [an MRSA colonization rate of] 8.5% to 5.9%. I think that’s really pretty amazing,” Peterson says. “It suggests that we are having both a community and a hospital impact, especially in light of recent Illinois Hospital Association data that show a 7% annual increase in MRSA-related discharges throughout the state from 2004 through 2006.”

Peterson says that the MRSA program is both easily replicable and cost-effective. “It’s very doable. For us, MRSA isn’t even one of our main infection control activities slated for the next fiscal year because the program is up and running and going smoothly. We continue to monitor outcomes and financial impact, but the program has been pretty much on auto-pilot the past year.”

For information on how to prevent MRSA, which is one of 12 interventions of the Institute for Healthcare Improvement’s 5 Million Lives Campaign, please contact Campaign@ihi.org.