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## What is your facility doing to combat MRSA?

*How one healthcare facility is successfully implementing an aggressive MRSA screening program for all patients prior to hospitalization*

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*Janis Bartel*

In January Loyola University Medical Center in Chicago began pre-admission screening of all surgical patients to detect methicillin-resistant *Staphylococcus aureus*, commonly known as MRSA, as part of an aggressive MRSA screening program introduced last year. Pre-admission MRSA screening is the third stage in the busy teaching hospital's multistep implementation process to adopt MRSA screening for all patients.

The program's aim is simple—promoting patient safety. Janis Bartel, MSN, RN, CIC, Loyola's Infection Control Practitioner, estimates that 8% of incoming patients are MRSA-positive. "By prescreening all surgical patients for MRSA we can catch these patients early to put their isolation and treatment plans in place before they enter the facility," she said.

While many facilities screen high-risk patients for MRSA, Loyola is one of the first in the country to screen all patients who are planning to be admitted. The facility began taking a proactive approach to combating MRSA in 2004 after seeing an increase in neonatal babies with MRSA. To gain control of the problem, Bartel and other members of a multidisciplinary team established several interventions, including screening to track MRSA strains and hand hygiene-education programs.

A surgical intensive care unit MRSA screening program for surgical intensive-care patients was piloted at the facility in 2005. Pre-admission screening, along with interventions such as increased hand washing, led to a marked decrease in hospital-acquired MRSA (HA-MRSA), Bartel said. "When



*Loyola University  
Medical Center*

compared to MRSA infection rates prior to screening and interventions, it was found that 75% fewer patients had HA-MRSA," she noted.

The success of the pilot programs led Loyola to consider implementing screening on a larger scale—a plan that got a push forward when Illinois Gov. Rod Blagojevich (D) signed the MRSA Screening and Reporting Act into law in August 2007. The statute requires Illinois hospitals to enforce contact-isolation precautions and hand hygiene policies, to perform annual facility-wide infection-control risk assessments and to conduct active MRSA screening for all ICU and other high-risk patients.

"Many of our patients are high-acuity, so considering this new law and the results we were seeing through the pilot programs, it just made sense to screen all planned patients prior to hospitalization," Bartel said.

Bartel attributes the smooth transition of active MRSA screening at Loyola University Medical Center to three key elements: testing technologies, collaborative communication and evidence-based resources.

### **Testing technology**

One of the greatest challenges facing facilities that implement widespread patient screening programs is the time it takes for screening tests to be analyzed. Loyola University Medical Center addressed this issue by adopting new PCR (polymerase chain reaction) testing technology for DNA nose swab diagnostic tests. This rapid, molecular-based assay can be analyzed in a matter of hours, rather than the days required to analyze a standard culture.

"With this fast turn-around time we can coordinate testing with the admission process so nurses can be ready if a patient tests positive for MRSA," Bartel explained. "I think this is the future of testing for MRSA because it is so fast. The technology also allows us to find if patients are infected or colonized with MRSA, and it can test for other organisms, as well."

The PCR testing technology enables tracking of specific strains of MRSA, which helps infection-control practitioners have a better understanding of the types of MRSA they need to identify when patients begin treatment for the disease. The testing process begins when a patient comes to the facility and is screened for MRSA. A nose swab is taken as part of the pre-admission process, and the swab test is taken directly to the lab. During the testing period, the patient is moving

through the admission process. If the patient turns out to be MRSA-positive, he or she can be put into isolation to begin treatment directly following admission.

### **Collaborative communication**

Widespread MRSA screening requires clear processes and communication channels to get patients where they need to be, in light of the MRSA screening results. That's why Loyola established the multidisciplinary task force that Bartel serves on to implement the MRSA screening program.

This task force includes administrators from each department, nurses, physicians, informatics specialists, infection-control practitioners, lab staff and public relations staff. They all work together to coordinate the guidelines, education and communication steps needed to facilitate the MRSA screening program. Screening prompts also are built into the facility's electronic medical record system.

"My role is to do the data collection screening for MRSA screens, but an important part of the program also includes patient education and guidelines so the nurses have a guide to follow when implementing MRSA-positive procedures," Bartel noted.

Implementing the proactive MRSA screening program has not been easy, Bartel acknowledged. "This is a lot of added responsibility for all facility staff because it requires extra personal protective equipment, extra signage, extra isolation carts and special room-blocking procedures in the event we have to isolate an MRSA-positive patient in one of our two-bed rooms. But, it's worth it," she affirmed. "We are now finding patients with MRSA much earlier, and we are now able to prevent some serious infections after surgery."

### **Evidence-based resources**

When the Illinois MRSA Screening and Reporting Act became law last August, several multidisciplinary teams working to implement Loyola's pilot MRSA programs were asked to join into one large team to implement a facility-wide MRSA screening program.

"We were inventing the wheel with this new program," Bartel recalled. "So much work had to be done once we began developing the facility-wide program. But having the pilot programs in place was an invaluable tool because we had measurements and learned how to optimize this program and address challenges we otherwise would have been dealing with on such a larger scale following facility-wide screening."