Hospital-acquired infections (HAIs) have become one of the overriding issues in health care today. The American Recovery and Reinvestment Act (ARRA) allocates $50 million to combating HAIs.

Methicillin-resistant *Staphylococcus aureus* (MRSA) is 1 of the most important HAIs. (MRSA, of course, can be acquired in the community as well.) Hospital stays for MRSA infection have more than tripled since 2000 and have increased nearly 10-fold since 1995.

There are known effective interventions that can decrease MRSA infections in the health care setting. MetaStar, under its contract with the Centers for Medicare & Medicaid Services (CMS), is working with 14 Wisconsin hospitals to reduce the rate of MRSA infections among their patients.

First, as in all quality improvement projects, it is necessary to find a way to measure the intended improvement. To measure MRSA infection rates, hospitals participating in this project are submitting or will submit data on their MRSA infection rates to the National Healthcare Safety Network (NHSN). NHSN is a voluntary, secure, Internet-based surveillance system that integrates patient and health care personnel safety surveillance systems and is managed by the Centers for Disease Control & Prevention (CDC). Starting in 2008, enrollment in NHSN was opened to hospitals and other types of health care facilities in the United States.

Through NHSN’s Multidrug-Resistant Organism module (MDRO), 2 metrics are being used to measure MRSA infection in hospitals:
1. The MRSA infection rate in the specified hospital unit (number of MRSA infections per thousand patient days).
2. The incidence rate of hospital-acquired MRSA, ie, the transmission rate (number of first MRSA cultures per thousand patient days).

Once the measurement system is in place, it is important to institute process improvement measures, which, if followed, can be expected to lead to decreased rates on both measures.

Published guidelines of the Society for Healthcare Epidemiology of America and the Infectious Diseases Society of America emphasize the following strategies to decrease MRSA rates:

- Conduct a MRSA risk assessment.
- Ensure compliance with hand hygiene recommendations.
- Ensure compliance with contact precautions for MRSA-colonized and MRSA-infected patients.
- Ensure proper disinfection with equipment and environment.
- Educate health care personnel regarding MRSA.
- Implement a MRSA monitoring program.

A special word about hand hygiene
No activity is more important to preventing the spread of MRSA in hospitals than is adherence to hand hygiene standards. The hand hygiene guidelines of the CDC recommends decontaminating the hands both before and after direct contact with patients. Studies indicate that improved hand hygiene is associated with reduced MRSA transmission. Appropriate hand hygiene consists of vigorous handwashing or the use of antiseptic products on the hands.

All physicians know this, of course. Yet, as the Joint Commission points out, “much of th[e] literature shows higher adherence among nurses than physicians.” If anything, this understates the case: While there is considerable variation among published studies, with both high and low outliers, the typical study shows physician handwashing or use of hand antiseptics in the 30%-39% range and nurses in the 50%-59% range—which, of course, is none too high either. The upshot is that there are substantial opportunities for improvement in this area, and much of MetaStar’s work with its participating hospitals is devoted to increasing hand hygiene among health care workers with patient contact.

MetaStar works with Wisconsin hospitals to decrease MRSA infections

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In this and in other ways, the engagement of staff physicians is an essential element of MetaStar’s MRSA project. The project will continue through the end of MetaStar’s current contract with CMS in 2011; it is likely that MetaStar’s initiatives in this area will continue beyond that time.

References
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