

HealthEast Care System – St. Paul, Minnesota

Reducing MRSA Rates in Post-Acute Care through Hand Hygiene and Body Substance Isolation Practices

Overview: HealthEast Care System is the largest healthcare provider in the Twin Cities' East Metro area, with four hospitals and several primary and specialty care clinics. One of its hospitals, Bethesda Hospital, is a long-term acute-care facility that serves a variety of patient populations including high-risk ventilator and complex medical patients. Many of these patients come from other short-term acute care facilities where they have had wounds, been in the intensive care unit, and on long-term antibiotic therapy.

Methicillin resistant *Staphylococcus aureus* (MRSA) is associated with severe, invasive disease in hospitalized patients. Risk factors for MRSA infection include antibiotic use, prolonged hospitalization, surgical site infection, intensive care, hemodialysis, MRSA colonization, and proximity to others with MRSA colonization or infection. Patients with MRSA infection have higher mortality rates, longer hospital stays, and higher healthcare costs than patients with methicillin-susceptible *S. aureus* infection. They also had higher rates of acute renal failure, hemodynamic instability, and prolonged ventilator dependency. Hospital-acquired MRSA is most commonly transmitted on the hands of health care workers; as a result, good hand hygiene is considered an essential measure for reducing the spread of this pathogen.

In 2008, Bethesda Hospital implemented an admission screening protocol for MRSA to better identify high-risk patient populations and initiate contact precautions in a timelier manner. Further, a renewed emphasis was placed on hand hygiene to include refresher education, reminders and recognition, and improved access to hand hygiene supports through standardization in hand sanitizer placement. Communications have been established to also engage patients and family members in hand hygiene. In addition, modified precautions are used so that at-risk patients are not continuously in isolation.

Bethesda infection control leaders looked at “body substance” isolation instead of “patient” isolation, so that patients could be out of their rooms safely. Specifically, clinicians look at whether wound drainage is contained in a dressing, whether the patient is continent of urine and stool and, if not, whether these are completely contained. Portable contact precautions such as waterless hand sanitizer are used, and patients and their families are given a contact sheet outlining appropriate precautions. The hospital developed education materials and established an on-line education program that has information in other languages. Interpreter services are available as well. As a prompt, the patient admission checklist includes a section on patient/family education. This is being built into the electronic documentation process that is underway. Infection control liaisons on the units serve as resources; the infection control department is available for patient and family education if requested by them or the healthcare staff. Infection control leaders also worked with therapy staff and the nurse practice group to determine their needs so that all patient safety measures are covered.

Impact: Hand hygiene compliance scores have increased to more than 80 percent consistently over time after implementing the hand hygiene program. Further, a hand hygiene question was added to the patient experience survey in 2008 as another perspective on hand hygiene compliance. The patient survey scores for hand hygiene have also increased more than 80 percent during this time frame and serve as a validation of the observations that staff are communicating and practicing hand hygiene with patients and family.

From 2008 to 2009, the overall incidence of healthcare-associated MRSA decreased at Bethesda from 1.72 cases/1,000 patient days to 0.91 cases/1,000 patient days. This decrease was experienced across all inpatient units, including the complex medical and respiratory units where there are the highest risk patient populations and historically the highest incidence of MRSA has occurred. At-risk patients generally do not have to be isolated to their rooms; this enables them to attend physical therapy as well as walk in the hallways for exercise.

Challenges/success factors: HealthEast uses a shared data mining system across all of its hospitals—short-term acute care and Bethesda. This helps to track and proactively identify patients with new or existing history of MRSA and other resistant organisms. With the continuing presence of community MRSA, infection-control leaders track and report on both community-associated and hospital-associated cases to help demonstrate that transmission is not occurring and to alert them to respond if it were to appear transmission was a concern. HealthEast infection-control leaders have been a part of a state-wide initiative looking at MRSA and best practices for the management and prevention of MRSA. They provide ongoing feedback to HealthEast staff and are looking at new ways of doing this for ongoing communication.

Hand hygiene compliance is measured through observations done across the hospital using a standardized tool. All HealthEast hospitals have staffs who serve as Infection Control Liaisons on the patient care units. One of the duties of this role is to support hand hygiene monitoring in their respective work environments. In addition, a question was included on the patient experience survey regarding hand hygiene to gain another perspective on hand hygiene practice compliance.

Future direction/sustainability: Work is underway to continue to improve and enhance access to necessary supplies (stethoscopes, gowns, disinfectant wipes) that support compliance with infection-prevention practices and precautions. This is a partnership with nursing and other departments. The environment is a priority focus area in this next year; infection-control leaders are partnering with housekeeping and will implement a new quality monitoring and education process with their support. They are also updating healthcare worker and patient/family education on other antibiotic-resistant organisms such as extended-spectrum beta lactamase bacteria.

Advice to others: Identify key partners to gain support, understanding, and urgency for infection-prevention initiatives. In addition:

- Engage the family and patients—this is particularly critical in settings where patients will be present for long periods of time.
- Identify creative ways to inform and educate.
- Engage administration and key leaders as well as unit staff as local champions.

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