

REDUCTION OF MRSA INFECTIONS

Where we've been...

Reducing *Methicillin-Resistant Staphylococcus Aureus (MRSA) infections* Reliably implement scientifically proven infection control practices.

Methicillin-resistant *Staphylococcus aureus* (MRSA) is the most commonly identified multidrug-resistant strain of staph aureus infections worldwide. According to the Centers for Disease Control (CDC) and Prevention, in 1974, MRSA infections accounted for just two percent of the total number of staph infections. Today, MRSA accounts for more than 60% of staph infections, with increased focus on the community MRSA strains that occur in healthy individuals. Labeled a “super bug,” its incidence has increased dramatically in the past decade. ICUs are the most common site of infectious outbreaks, but MRSA can show up anywhere in hospitals. Community-acquired MRSA is also showing up more frequently in community settings, especially among people whose lifestyles include exercising in gyms, contact with sports equipment that is hard to clean, exposure to insect bites, and living in close quarters without adequate hygiene. Staph infections can start mildly enough, but can spread quickly through the bloodstream to the lungs, bones, kidneys, or heart to produce extensive, potentially fatal soft tissue and skin infections which increase morbidity and mortality risk.

The epidemiology of MRSA has changed in recent years, as patients colonized with MRSA can be asymptomatic. Healthcare professionals who care for all patients are taught and reminded to practice basic infection control measures, such as hand hygiene, cleaning and disinfecting supplies, and wearing barrier attire, to prevent transmission of the common skin contaminate from patient to patient or to the healthcare worker themselves. Literature sources identify the principal mode of spreading MRSA in hospitals to be through the contaminated hands of caregivers.

Where we are now...

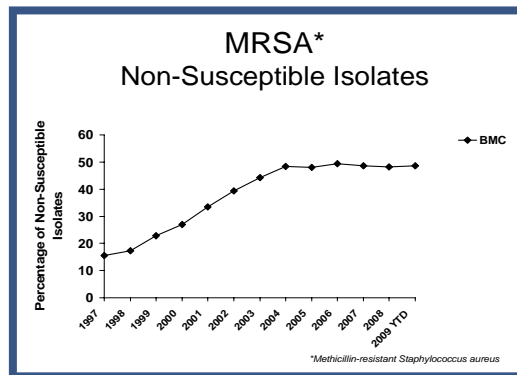
To prevent an increase in MRSA, BH facilities have adopted best-practice recommendations into daily clinical care:

- *Use of effective hand hygiene practices by all caregivers.* The Hand Hygiene Task Force at BH has validated through direct observation that we have increased compliance with hand hygiene, more than tripling our compliance measured in 2007. Unit and area based hand hygiene champions educate, observe and provide feedback to peers on compliance to increase awareness of this basic practice.
- *Decontamination of the environment and equipment.* The Infection Prevention Program staff and Environmental Services have partnered to establish and maintain a clean and safe environment, performing walking rounds and monthly meetings to identify gaps in practice and reinforcement of processes. A multidisciplinary subgroup tasked with assuring a clean and safe care environment was developed in 2009, identifying best practices and developing guidelines for implementation.

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- *Active surveillance cultures of high-risk patients.* In the fall of 2008, the Massachusetts Department of Public Health (MDPH) provided guidelines for identifying patients at-risk for MRSA and established mandatory point prevalence surveillance criteria for colonization of MRSA. BH participated in this and provided data to the MDPH. The BMC rate of MRSA colonization in patients at-risk was less than half the state average; 3 of the 4 ICUs had no MRSA colonization identified by the patient screen performed.
- *Other practices.* Use of contact precautions for infected patients with non-contaminated body fluids; Implementation of device-related infection prevention bundles, such as the central line-related bloodstream infection (CL-BSI) prevention bundle and the ventilator-associated pneumonia (VAP) prevention bundle. The BMC ICU, CVICU, PICU and NICU device-related MRSA rates are low and continue to decrease, with some units having no MRSA device related infections.

After a continuous increase during 1998-2004, our hard work on preventing MRSA has paid off; the MRSA non-susceptible isolates rates have plateaued and have held steady for the past 5 years.



Where we are going...

Healthcare organizations are facing increasing numbers of patients with MRSA colonization and infection. BH has made the control of MRSA infections a top priority, and will continue to integrate best-practice guidelines into daily clinical care and staff education. Patient and family education on the prevention of MRSA is included in our bedside booklet (September 2009), providing them with the information necessary to help prevent MRSA in their private lives in the community. Hand hygiene adherence will continue to be a system-wide focus for 2010.