

## **OPSI Best Practice Award 2010**

### **Finalist: Euclid Hospital**

#### **Description: *Active Culture Surveillance to Eliminate MRSA Colonization***

The goal of the program was to focus on active culture surveillance (ACS) and an attempt to eliminate MRSA colonization, which should decrease the risk of acquiring a serious MRSA infection in the colonized patient as well as transmitting MRSA to other patients. ICU and CCU patients were targeted as they have a higher risk of conversion to active MRSA infections. The project included Physicians, Quality, Staff Education, Nursing administration, Head Nurses and staff of the critical care units, Information Technology and Lab.

Methicillin-resistant *Staphylococcus aureus* (MRSA) is a major health care-associated infection around the world. Prior to this project Euclid Hospital did not preemptively screen patients to determine if asymptomatic carriage/colonization was present. In November 2008, Euclid Hospital began preemptively screening all patients admitted to the ICU and CCU for MRSA colonization. Active surveillance cultures (ACS) of the anterior nares were obtained on all patients admitted or transferred to ICU or CCU. Microbiology identified MRSA by a special agar testing. Turnaround time was approximately 24 hours.

An MRSA positive patient was then placed in Contact Isolation. After identification as colonized, an attempt to eliminate the carrier state by treating the patient with a 5-day course of intranasal Mupirocin 2% and wiping down the patient with Chlorhexidine Gluconate was made. The patient was then recultured on day 7 and, if MRSA-negative, the patient was taken out of isolation. If the patient remained MRSA-positive, contact isolation continued throughout his/her hospital stay. Culture negative patients in the ICU and CCU were cultured on a weekly basis until discharged from those units.

#### **Implementation:**

A team worked on the project with the guidance of the Infectious Disease Workgroup. Policies and procedures were completed and presented to staff through an online education class. Hands-on education was also provided in conjunction with the nursing education department. Volunteers made 500 testing packets up that included the bio-bag, culture tube and lab requisition. The IT department assisted by getting necessary order sets, educational materials and an isolation tracking system into the computer system. Pharmacy ensured that they had an adequate supply of Mupirocin ointment available for patients. Education materials were also prepared for patients and their families detailing MRSA and the surveillance plan.

#### **Results/Sustainability:**

The average number of admissions to the ICU and CCU range from 80-90 per month. An average of 10% of patients tested upon admission (94% of all critical care patients are tested) are colonized. Those patients are then decolonized per protocol and retested on day seven. Less than 10 of the over 200 patients treated remained colonized after receiving Mupirocin. Results have maintained consistent throughout 2009. With the support of the Infection Control Committee, ID physicians and other physicians that practice in the critical care areas, the program can be put into place at other hospitals.