

Infection Specialists Step Up MRSA Fight

Staff education leads among new measures reported in an APIC poll of 2,041 of its members.

BY HEIDI SPLETE
Senior Writer

During the past year, more than 75% of infection prevention and control professionals have taken extra steps to prevent transmission of methicillin-resistant *Staphylococcus aureus* in health care facilities, according to results of a survey conducted by the Association for Professionals in Infection Control and Epidemiology. The results were presented in a June 17 teleconference.

The nationwide survey was conducted in the wake of a 2007 report that showed a surprisingly high prevalence of MRSA in hospitals—eight times higher than previously estimated, and not limited to the intensive care units, said Janet E. Frain, R.N., president of the Association for Professionals in Infection Control and Epidemiology (APIC) and a certified professional in health care quality.

“We conducted the Pace of Progress poll among our members to find out if news about the escalating problem of MRSA had led to increased efforts on the part of health care institutions to combat MRSA in the 1 year since our study results were released,” she said. “The answer is a resounding ‘yes.’”

The poll results included data from 2,041 infection control professionals, representing 17% of the APIC’s nearly 12,000 members.

Staff education was the most common new action among those who reported taking additional steps to prevent and control MRSA (64%).

Other measures included stricter use of gowns and

gloves for anyone who tests positive for MRSA (53%); improved compliance with house cleaning, equipment cleaning, and decontamination practices (49%); and targeted patient MRSA screening (49%).

But more than half of the survey respondents (54%) also reported that their institutions were not doing as much as they could or should to prevent and control MRSA.

“The reason for that is not going to be news to anyone,” said Kathy Warye, chief executive officer of APIC. “We are still seeing some infection control professionals struggling to get the support they need.” But the overall trend of the poll is encouraging, she said. “We believe that the prevalence study results empowered our members to acquire additional resources, including adding extra staff dedicated to infection control.

“Infection prevention and control is in the spotlight today for a variety of reasons,” she said. “The resources need to catch up.”

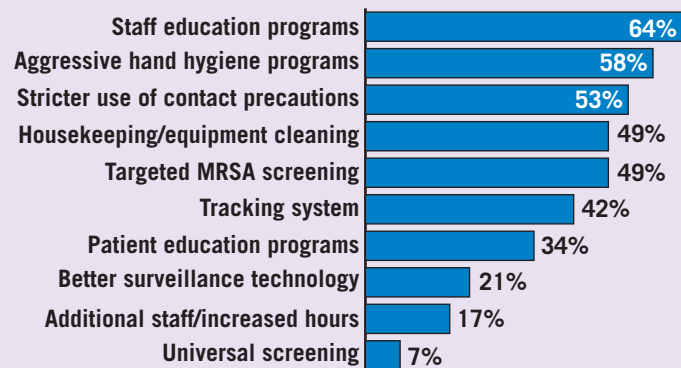
The death rate from MRSA is estimated to be more than 2.5 times higher than the death rate from *Staphylococcus aureus* organisms that are susceptible to methicillin, according to APIC.

Support from the health care administration is essential for successful infection control procedures, whether the organism is MRSA or any other pathogen such as *Pseudomonas* or *Clostridium difficile*.

“We are talking about a complete culture change within the organization, where infection prevention and control is everyone’s job,” Ms. Frain said.

“I have a CEO who gets it,” said Marcia Patrick, R.N., who serves as the infection control director for the Multi-Care Health System in Tacoma, Wash. “In October 2008,

Newly Implemented MRSA Interventions



Note: Based on a survey of 1,544 APIC members who adopted interventions.

Source: Association for Professionals in Infection Control and Epidemiology

Medicare will stop paying for things that shouldn’t happen, such as urinary tract infections from Foley catheters. If hospitals aren’t working on reducing these things, they are going to be in a world of hurt financially.”

Support for infection control practices has to come from the top down and from the bottom up to be successful, she said.

Successful infection control strategies that have been implemented at her facility include improving hand hygiene by installing alcohol gel dispensers in convenient places, adding an infection control professional to the staff, and using data-mining software to review culture reports and identify infections quickly.

For more information about preventing infections, visit the Association for Professionals in Infection Control Web site at www.apic.org, or the group’s patient-oriented Web site, www.preventinfection.org.

Options for Treating Skin Infections in the CA-MRSA Era

BY BETSY BATES
Los Angeles Bureau

HONOLULU — For community-acquired methicillin-resistant *Staphylococcus aureus* infections of the face, cephalosporin should rarely be the antibiotic of choice, according to a decision analysis performed by researchers at the University of California, San Francisco, and presented at the annual meeting of the Pediatric Academic Societies.

A second study, this one from Cardinal Glennon Children’s Medical Center in St. Louis, called into question whether an antibiotic is needed at all to treat a primary skin infection if abscesses are incised and drained.

In the San Francisco study, Dr. Adam Hersh and associates from the university weighed the tradeoffs associated with three antibiotic choices—cephalexin, trimethoprim/sulfamethoxazole, or clindamycin—for empiric treatment of a purulent skin infection in a child under the age of 18.

Cephalexin does not treat CA-MRSA; trimethoprim/sulfamethoxazole does not treat group A *Streptococcus*; while clindamycin treats both, CA-MRSA is becoming increasingly resistant to it in some communities, said Dr. Hersh.

When community physicians consistently culture skin infections and preva-

lence and resistance rates can be developed, a decision tree analysis can be a method of “exquisitely weighing the tradeoffs between treatment choices,” he commented.

In communities that now have a prevalence of CA-MRSA of greater than 10%, cephalexin is least likely to treat the infection effectively, despite the fact that the drug remains the most widely prescribed antibiotic for this indication, Dr. Hersh and his coauthors reported.

Choosing between trimethoprim/sulfamethoxazole and clindamycin remains a delicate decision, depending on CA-MRSA resistance and prevalence of group A strep in an individual community.

In San Francisco, the overall prevalence of *S. aureus* in cultures of purulent pediatric skin infections is 90% (80% of them caused by CA-MRSA; 20% caused by methicillin-sensitive *S. aureus*). Of the remaining 10%, cultures show group A strep more than 99% of the time, said Dr. Hersh during his late-breaking presentation.

Using these figures for a “base case” analysis, he concluded that probability rates for each drug having activity against

an empiric skin infection were 95% for clindamycin, 89% for trimethoprim/sulfamethoxazole, and 28% for cephalexin.

Higher group A strep prevalence or high-rate clindamycin resistance in a community would tilt the decision tree model to trimethoprim/sulfamethoxazole or cephalexin, but it would be the rare community in which CA-MRSA prevalence was so low it would favor cephalexin for skin infections or other CA-MRSA affected conditions such as osteomyelitis or septic arthritis, said Dr. Hersh.

Dr. Myto Duong and associates in St. Louis selected trimethoprim/sulfamethoxazole

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for a randomized, controlled, double-blind trial comparing antibiotic treatment of skin and soft tissue infections with

treatment with incision and drainage in 161 immunocompetent children.

All patients presented to the emergency department at Cardinal Glennon Children’s Medical Center. About half of the children were less than 5 years old.

Wound cultures revealed CA-MRSA in 129 children (80%)—with 18% clindamycin resistant as well—and methicillin-sensitive *Streptococcus aureus* in 14 (9%).

Other bacteria were responsible for the infections in the remaining cases, including group A strep in 1%.

Twelve patients were lost to follow-up.

Among patients with complete data available, complete resolution of the lesions was seen in 95% receiving a placebo following incision and drainage (with or without wound packing). Complete resolution was also seen in 96% of those who received incision, drainage, and a 10-day antibiotic prescription filled in the emergency department before children were discharged.

Compliance, defined as taking at least half of the medication prescribed, was poor, at just 66%.

Development of a new purulent skin lesion following treatment was equally likely in compliant patients receiving the antibiotic or placebo.

However, in the noncompliant subset, receipt of an antibiotic reduced the risk of developing a new purulent skin lesion. In this group, 23% of those receiving placebo developed a new lesion, compared with 4% who received an antibiotic prescription at the emergency department.

“Antibiotics may be useful in specific cases,” concluded Dr. Duong.

Both Dr. Hersh and Dr. Duong stated that they had no relevant financial conflicts to disclose.