

## ATTACKING MRSA THROUGH POSITIVE DEVIANCE

### ALBERT EINSTEIN MEDICAL CENTER

- ◆ Philadelphia, PA
- ◆ 440 beds
- ◆ [www.einstein.edu](http://www.einstein.edu)

Albert Einstein Medical Center, a tertiary care hospital, with a Level I regional trauma center and a Level III neonatal intensive care unit, counts more than 600 primary care doctors and specialists on staff and 1,200 affiliated physicians. It is part of Albert Einstein Healthcare Network, which is a member of Jefferson Health System.

# STEEEP

## Safe

Prevention of health care associated infection.

## Effective

Makes use of evidence-based guidelines.

### THE PROBLEM

MRSA is a virulent bacteria that thrives in the health care setting, putting at great risk immuno-compromised patients. It is blamed for more than 18,000 deaths annually, according to the CDC. At Einstein, officials identified 107 cases of hospital-acquired MRSA in 2006, a rate of 0.535 infections per 1,000 patient days. Compared with matched patients who had not acquired MRSA, patients with MRSA infections had an 8.3 percent higher mortality, an increase in average length of stay of 19.75 days, and an increase of average variable costs of \$33,347. An internal analysis revealed that no routine surveillance cultures for MRSA colonization were being performed, and that reliable implementation of practices to combat MRSA was uncommon.

### THE SOLUTION

In May 2006, the hospital undertook the “Stop MRSA Acquisition and Spread in our Hospitals” initiative, known by its acronym SMASH. Using a concept known as positive deviance, Einstein instituted a bundle of practices, including identifying colonized and infected patients, placing these patients in isolation rooms, adhering to contact isolation precautions through the use of gowns and gloves, and, especially, adherence to hand hygiene guidelines. Positive deviance says that for every group of people performing a similar function, there are certain individuals (positive deviants) whose attitudes, practices, strategies or behaviors allow them to accomplish tasks better than others.

### RESULTS

- » The hospital-acquired MRSA infection rate declined 27 percent in the first quarter of fiscal year 2008, compared to 2006.
- » Alcohol-based gel use climbed from 65 cases per quarter to 125 cases per quarter.
- » Gown use has increased from 33,000 to 80,000 gowns per quarter.

### BACKGROUND

Like many clinicians, Albert Einstein Medical Center officials were frustrated by the persistence of MRSA in their institution. The hospital had engaged in traditional infection control efforts. “We put up a lot of signs and told a lot of people what to do,” says Jeffrey Cohn, MD, Einstein’s chief quality officer. It was only when Cohn discovered the concept of positive deviance—which focuses on those who already perform the practices desired for all—that he saw a fresh opportunity to combat it.

“In every community there are people or groups who, because of some sort of uncommon practices, have figured out a way to have better outcomes—in whatever the context—than their peers around them, without access to any different or better resources,” Cohn says. Positive deviance has been used to combat childhood malnutrition in Vietnam, neonatal mortality in Pakistan, and HIV transmission in Myanmar. “Basically, it’s a way of solving a problem by identifying those who have already figured it out.”

Armed with a grant from the Robert Wood Johnson Foundation and with assistance from researchers at Tufts University, Cohn and his team identified evidence-based guidelines from the CDC, the Society for Healthcare Epidemiology of America, APIC, and the Institute for Healthcare Improvement. The team held a kickoff meeting with 300 clinical and administrative leaders to learn about the impact of MRSA on patients and about the concept of positive deviance. Cohn recalls that the process lacked structure at the start. “It was really amorphous,” he says. “As things evolved, a sense of organization came out of it.”

From the initial group, 50 individuals volunteered to support SMASH. Many of these individuals were positively deviant—they were already doing the right things. Four

## TEAM MEMBERS

- » **Dottie Borton, RN**  
Infection Control Nurse
- » **Barry R. Freedman**  
President and CEO
- » **David Hares, MD**  
Quality Manager
- » **Jeffrey Cohn, MD**  
Chief Quality Officer,  
Albert Einstein  
Healthcare Network
- » **Joan T. Granberry**  
Administrative Director of  
Quality Management
- » **Jerry Zuckerman, MD**  
Medical Director of Infection  
Prevention and Control

units—surgical intensive care, medical stepdown, general medicine surgery (transplant and oncology), and rehab—volunteered as pilot units to begin performing surveillance cultures on admission and discharge. “These guys volunteered—they weren’t recruited by any stretch,” recalls Jerry Zuckerman, MD, medical director of infection prevention and control.

Positive deviance was implemented via regular “Discovery and Action Dialogues,” 15- to 30-minute opportunities for frontline staff to learn together what was working and what actions needed to be taken to improve. These dialogues led to a series of “ground-up” recommendations from frontline staff. Recommendations included ensuring that personal protective equipment, such as gowns and gloves, were readily available, simplifying signage in isolation rooms and notifying clinicians about patients that might have a positive culture.

In the process, a culture of trust among physicians and nurses, and among frontline caregivers and the administration, was born. “This was all about trust that people on the frontlines, who are the ones whose behaviors ultimately need to change, are the ones who can come up with the solutions to make it work,” Cohn says. “The model for health care traditionally has been us telling people what to do. This is much more about listening to them about what they need, and then it’s up to us to make it happen.”

## PRINCIPLES OF PERFORMANCE EXCELLENCE

### Creation of High-Reliability Culture

SMASH has led to a culture change where all departments of the hospital—even those that rarely come into contact with the patient—are focused on the patient. “You’ve got people from the storeroom sitting down with nurses ordering supplies—that never happened before,” Cohn says. “The purpose of this project was not to change the culture, the purpose was to eradicate MRSA. Culture change has been a byproduct of the work that gets done.”

SMASH relies on encouraging people to do the right thing rather than telling them what to do. Call it the difference between influence and power; many leaders find they can achieve more with the former than with the latter. “The folks on the frontline have the wisdom to figure out the problems that are relevant to them,” Cohn says. “We just needed to let them do so.”

## CONTINUAL IMPROVEMENT

In May 2007, Einstein committed to making SMASH a hospital-wide initiative, planning to screen all eligible admissions for MRSA colonization by the end of fiscal 2008. Not all units are engaged in formal positive deviance projects—for instance, it was decided that it wasn’t necessary in labor and delivery—but surveillance cultures are now conducted broadly.

The SMASH core leadership team continues to meet every other week, identifying issues that had not been considered before the initiative. One such instance arose in mid-2008 with elective procedures. These patients had been swabbed for MRSA just before surgery was to begin; if they tested positive, they would awaken from anesthesia in an isolation room being attended to by gowned clinicians, a disorienting and frightening experience that the surgeons disliked. With the surgeons’ assent, elective procedure patients are now swabbed pre-admission and they and their physicians can know what to expect before the surgery begins.