Outpatient nurses “own” MRSA prevention initiatives

By Stacy Love, BSN, RN; Candace Cunningham, RN; Mary V. Rudy, RN, NEA-BC; and Darlene Dietrich, MBA, MSN

It’s a reality that no part of a healthcare system exists as an island; inpatient and outpatient settings overlap. This became apparent at VA Pittsburgh Healthcare System (VAPHS), an integrated three-division system with a medical center consisting of 583 operational beds, servicing a veteran population of over 360,000 patients. VAPHS had made an organizational commitment to reduce methicillin-resistant Staphylococcus aureus (MRSA) infections, even though in national comparisons its MRSA rates were less than the national average. Of particular concern at VAPHS was the relationship between MRSA and surgical site infections (SSIs).1 Although MRSA prevention efforts were concentrated on inpatient areas and there were no immediate plans to expand into other areas, the outpatient staff recognized the efficacy of a proactive approach and also began working toward MRSA prevention.

The MRSA Prevention Initiative
The first ambulatory area to embrace the MRSA Prevention Initiative was physical therapy (PT). Through their regular contact with our pilot areas, PT observed changes and participated in unit-based efforts. The PT department’s efforts began in exactly the same way as the inpatient areas, with a Discovery and Action dialogue in which they identified barriers and discovered solutions that they implemented by utilizing the scientific method.2 PT began by asking for the daily contact precautions list developed for inpatient areas and using it to identify the MRSA-positive inpatients scheduled for therapy. Armed with this information, they began to cohort MRSA patients in the course of scheduling. Next, they devised measures to maintain contact precautions and environmental cleaning that were harmonious with their unique practices. The end result? They vested their time and talent in self-developed solutions to identified barriers. They weren’t required to buy in; they were the authors of their own practices and standards.

Separated by the limited focus restriction inherent to a complex healthcare system, communication of promising practice changes is challenging. The Vascular Clinic was unaware of changes in the PT department and only vaguely aware of inpatient efforts. However, they developed the same type of authorship to their practices. The trigger here for initiating change was vastly different. After a retrospective review of vascular operative cases, it was found that although the number of MRSA complications was relatively low, the potential for catastrophic outcomes was enormous.3 The MRSA experience of a patient precipitated a Vascular Clinic decision to tackle the overwhelming prospect of outpatient MRSA prevention.

The vascular catalyst was a 57-year-old veteran who had a history of bilateral neck dissection and a total laryngopharyngectomy. He also had peripheral vascular disease and was evaluated in February 2006 for worsening symptoms of left leg pain. Workup for a revascularization ensued with multiple outpatient tests. In March, he was admitted for an unrelated procedure at which time he had three documented positive nasal MRSA screenings. Although documentation was present, there was no consistent approach to address the positive screening. The vascular team successfully performed a right axillary to bilateral femoral bypass, which utilized a synthetic expanded-polytetrafluoroethylene graft. Before his operation, the patient couldn’t walk across the room without having to stop due to claudicating. Now able to walk several blocks without difficulty, he was very happy with his outcome. However, the happiness was short-lived when he presented 2 months later with a serious graft infection. He underwent three subsequent...
operative procedures to drain the infection from around the graft and remove the infected graft. He required major reconstruction of the bypass. In retrospect, the team wondered: Could measures that addressed the identified positive MRSA screenings have prevented this morbid outcome? What measures could be taken to avoid SSIs?

The vascular department initiated a Discovery and Action dialogue as a first step. The vascular surgical coordinator and a physician champion of MRSA prevention invited staff from all realms of the hospital. Essentially anyone who dealt with patients in the clinic setting was included with disregard to credentials. The premise was that everyone brings a valuable perspective to the table. This first step toward “positive deviance” proved to be quite rewarding. The response was extremely constructive and ideas were exchanged and interventions explored. Before long, a list of staff-owned solutions was generated and immediately implemented.

Rooms in the outpatient area were designated and appropriately supplied for isolation use. Additional measures were also implemented. (See Figure 1.) All prospective Vascular Clinic patient records were reviewed for a positive MRSA notation before the clinic day so that those patients could then be placed into the appropriate rooms. This was conducive to staff/physician compliance with isolation and infection control measures because the rooms were so easily identified. The list of MRSA-positive patients was also communicated daily to the staff in the diagnostic vascular lab. Staff members were encouraged to offer ideas “outside the box.” For example, one clinic nurse had the idea to utilize a MRSA Vascular Initiative stamp to designate the MRSA status of each patient.

A parallel effort was made to address the unique needs of the preoperative vascular surgical patient population, specifically those patients scheduled for prosthetic graft placements. The vascular coordinator proposed to start big and attempt to protect every clean vascular incision from MRSA. With that in mind, and with input from the Discovery and Action dialogues, a protocol was developed. (See Figure 2.)

The inpatient surgical unit actively involved in MRSA prevention also began to explore infections in the vascular patient population in relation to post-op hyperglycemia. Staff members enthusiastically adopted a self-designed initiative. All post-op vascular patients are ordered blood glucose level checks four times daily, along with an insulin treatment scale that’s individualized to each patient. Wound healing status is monitored and documented daily via an electronic template. The practice changes from this collaborative effort have been incorporated as a patient-care standard. By avoiding wild blood glucose excursions, the initiative strives toward the broader goal of preventing SSIs.

Positive outcomes always the goal
Although it’s too early to retrospectively evaluate the outcomes of these staff-driven initiatives, anecdotal results demonstrate no MRSA infections in the vascular patients who were decolonized. In addition, the surgical unit reports better control of blood glucose results in this patient group. Perhaps the most remarkable aspect of the initiatives is that these changes have endured. Contrary to a top-down management directive, these practices were developed and implemented by the staff members who owned the ideas. It’s more likely that their vested interest in these initiatives will ultimately result in positive outcomes.

REFERENCES
1. Muto CA, Jernigan JA, Ostrowsky BE, et al. SHEA guideline for preventing
Figure 2: Pre-op vascular surgery patient algorithm

**VASCULAR SURGICAL PRE-OP PATIENT**

- Known MRSA history
  - MD order pre-op mupirocin ointment twice a day 5 days
  - Chlorhexidine scrub distributed to surgical pre-assessment clinic for use 5 days pre-op
  - Vascular RN instructs vascular surgery of need for vancomycin
  - Weight-based vancomycin prophylaxis given 1 hour pre-op
  - MRSA negative: Routine surgical course
  - MRSA positive: Vascular RN obtains mupirocin ointment order
    - Vascular RN calls patient with result and instructions
    - Pharmacy overnights medication to patient home
    - Patient completes pre-op therapy with mupirocin and chlorhexidine as prescribed
    - Vascular RN instructs vascular surgery of need for vancomycin
    - Weight-based vancomycin prophylaxis given 1 hour pre-op
- Unknown MRSA history
  - MD orders screening PCR nasal swab
  - Swab obtained in surgical pre-assessment clinic
  - Chlorhexidine scrub distributed for use 5 days pre-op
  - Screening result available in 24 hours
  - Vascular RN reviews screening result

---


At VA Pittsburgh Healthcare System in Pittsburgh, Pa., Stacy Love was a vascular nurse coordinator for 21 years and is currently a clinical informatics instructor, Candace Cunningham is a MRSA prevention coordinator, Mary V. Rudy is a nursing program leader, and Darlene Dietrich is a surgical nurse manager.

DOI-10.1097/01.NUMA.0000397924.34337.4d