Pittsburgh Regional Healthcare Initiative
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VAPHS pioneers learning on antibiotic-resistant infection

The basics of antisepsis—hand washing, gloves, gowns and masks—have been known to medicine since Lister's work in 1865. Yet studies confirm—as does a stubborn threshold of hospital-acquired infection—that workers sometimes circumvent the basics.

Last year the Centers for Disease Control and Prevention (CDC), in collaboration with the Veteran's Administration Pittsburgh Healthcare System (VAPHS), began investigating what it would take to establish a PRHI Perfecting Patient Care Learning Unit focusing on infection control. Specifically, the CDC is interested in *increasing compliance with procedures known to halt the spread of infection.*

"The cupboards talk to us now," says Ellesha Miller, RN, Team Leader at the VAPHS

The VAPHS became the site for this Learning Unit despite its low rate of hospital-acquired infection. To act on PRHI's bold goal of ZERO nosocomial infections, VAPHS's top leadership joined with the CDC in making the necessary resources available to create this Learning Unit—eight rooms in 4 West, the inpatient surgery unit at the confluence of 12 surgery lines. Although a small sub-unit, the VAPHS Learning Unit marks a new level of collaboration among government agencies, community-based PRHI and frontline caregivers.

"This is a great opportunity for two federal agencies and a community organization to partner in an effort to solve a problem that exists in all of health care," said VAPHS Director, Michael Moreland. "Although the rates of nosocomial infections at the VAPHS have been at or better than the industry standard, this collaborative is focused on achieving a zero rate of infections. This effort matches our goal of providing the highest quality of care to America's veterans."

"The first thing we had to do was change the question," says Peter Perreiah, the Perfecting Patient Care teacher at the VA. "We had to stop asking, 'Why ***don't*** you follow procedures?' to 'Why ***can't*** you follow procedures?' Workers are conscientious people of good will, and the reasons usually involve systemic barriers that prevent them from getting something done. It's a principle in the Perfecting Patient Care System that you follow those reasons: ask ***WHY*** five times and you'll usually uncover the root cause."

Under the guidance of Team Leader, Ellesha Miller, RN, the Learning Unit is striving to create an ideal system where each patient receives what is needed on demand, without waste or defect, one by one, immediately. For the worker, waste will be eliminated, the environment will be physically, emotionally and

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*Methicillin resistant *Staphylococcus aureus*

professionally safe, and work will be redesigned and balanced.

But they had to start somewhere. They began to look for ways to begin stabilizing the system.

It didn't take long to discover one reason why workers were having trouble complying with infection control procedures. Some glove dispensers were empty. Some rooms had gowns; some did not. Stock-outs occurred daily.

Workers on the Learning Unit established (1) who would be responsible for re-stocking gloves and gowns (the nurse's assistant); (2) how often supplies would be checked (daily); and (3) how the cupboards would be labeled so that any deficiency would immediately become obvious (see illustration, page 2). Visual cues are key.

"The cupboards talk to us now," said Miller. "We can't be out of something and not know it."

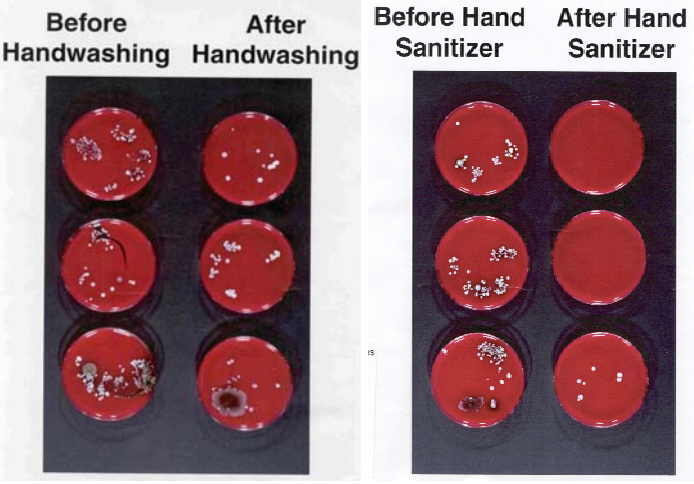
Within days, the new system became successful: "stashes" of gloves and gowns workers had secreted away came out of closets as the system supported the workers. Within weeks, the system was introduced throughout the floor.

Most important, because compliance is up, patients have more protection against the spread of infection. (Interestingly, although gloving compliance is up, glove consumption and costs have dropped by about 15%. Those "stashes" are costly.)

The most frequent reason given for skipping hand washing was " lack of time." Workers feel tremendous pressure to complete their work in a system that does not ensure that they have what they need, when they need it. Setting up a system to guarantee a steady supply of gloves and gowns helped workers recoup several minutes of work time each day, and immediately raised compliance rates. Miller and Perreiah set their sights on freeing up even more time.

Two opportunities were identified for capturing time to redirect to compliance: one involving the bar-code medication administration (BCMA) process, the other involving shift change.

The BCMA process required nurses to scan armbands multiple times due to weak batteries in the BCMA computer. The other area was the time required to brief oncoming staff at shift change. For the BCMA system, the team installed operating instructions, a method for ensuring reliably charged batteries, a quick troubleshooting guide and a way to get help when needed.



Visual cues are key. Posters are installed in staff areas in 4 West show petri dishes created on-site from clinicians' hands. The poster demonstrates the superiority of hand sanitizing as opposed to hand washing alone.

The nurses also teamed up to streamline shift change. By applying a manufacturing technique for quick changeovers, nurses aim to reduce the briefing time from 1 hour to just 15 minutes. And standardizing the briefings is expected to improve the quality of the reports.

Another principle of Perfecting Patient Care is to strive to reveal problems in their true dimension. On 4 West, they have begun performing nasal swabbing of every patient upon admission and discharge from the unit. This procedure has produced something close to "real-time" data. What is the possible effect?

"The ability to say, 'You remember Mr. Smith, who was released last week? Well, when he came in, he didn't have MRSA, but when he left, he'd been colonized.' You say that to a professional, and that one data point has far more impact than generic quarterly data on infection 'rates,'" says Perreiah.

Can swapping out weak batteries and putting gowns in the cupboard reduce the rate of infection? By shutting down opportunities for transmission, by removing barriers to compliance, 4 West at the VAPHS believes it can. The unit has already gained ground on the CDC's original goal of improved compliance. Hand hygiene is up; frustration is down.

The system changes that regain worker time and produce a safer environment for patients—these are initial Learning Unit benefits that accrue to the whole hospital.

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