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Beyond the checklist: CUSP slashes infection rates 40%

"Too often quality is something that is done to you. Now this is something we do. It's a change in mindset."

- Peter Pronovost, MD

By **Gary Evans**, Executive Editor



Peter Pronovost, MD

The successful use of checklists to prevent central line associated blood-stream infections (CLABSIs) has been highly publicized, in part because of the sheer novelty of using a simple solution to solve a highly complex problem. The media, legislators and the medical community have become much enamored of the "checklist revolution," but it turns out that this highly effective little tool is only the spear point of a much larger culture change: the Comprehensive Unit-based Safety Program (CUSP).

The rest of the story is now being told, and all signs are that CUSP will be increasingly implemented in hospitals as various federal health care agencies continue to collaborate in an aggressive effort to reduce health care associated infections (HAIs) and other preventable patient harms.

Special Report: CUSP Culture Change

Inspired by the death of a single patient more than a decade ago, the CUSP culture change to prevent infections and other harms is revolutionizing patient safety. Nationwide expansion to other units and hospitals is very much on the table, perhaps finally putting the sword to the rothe, repeated edicts that have too long passed for patient safety programs (as described by **Michael Tooke**, MD): "Try harder. Don't forget. Don't make mistakes."

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Carolyn M. Clancy, MD

“CUSP is an approach that helps clinical teams provide safer care. It combines clinical best practices with an understanding of the science of safety and improved patient safety culture,” **Carolyn M. Clancy**, MD, director of the Agency for Healthcare Research and Quality (AHRQ),

said at a Sept. 10 press conference announcing new CLABSI reduction data in Bethesda, MD. “Until recently these infections were thought to be an unfortunate consequence of care. Our work to fight CLABSIs with CUSP demonstrates definitively that they are not. These infections can be prevented. These results changed our idea of what’s possible.”

Indeed, the CUSP approach may be used to prevent a variety of other infections and even non-infectious events like medication errors. But it is CLABSI prevention that has really verified the power of the tool, with the most recent data showing hospitals across the country cut infection rates by 40%. A nationwide CUSP program partially funded by AHRQ in partnership with the American Hospital Association involved hospital teams at more than 1100

adult intensive care units (ICUs) in 44 states. The unpublished findings indicate that hospitals participating in the project reduced the rate of CLABSIs nationally from 1.903 infections per 1,000 central line days to 1.137 infections per 1,000 line days over a four-year period — an overall reduction of 40%.

“Forty percent isn’t just a number,” Clancy said. “It means that more than 500 lives were saved and more than 2,000 fewer people suffered an infection.”

The Centers for Disease Control and Prevention estimates that 41,000 bloodstream infections strike hospital patients with central lines each year. Of these patients, one in four die from infections caused by such pathogens as Staphylococcus, Enterococcus, Candida and a variety of gram negatives. In addition to reducing infections and saving lives, the CUSP project also saved some \$34 million in health care costs.

To help infection preventionists and other clinicians adopt the program, AHRQ has created a comprehensive website with a wealth of tools. (See related story, p. 114.) The CUSP tool kit breaks the program down into modules, one of which is engaging senior leadership. Infection preventionists are cited as key players in this role, as a toolkit IP checklist calls upon them to “Meet with the CEO and hospital project leader to learn about the initiative and understand the infection prevention roles.” (See IP checklist, p. 111)

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Infection Prevention Checklist

Checklist items	Leader Responsible	Date Started
1. Meet with the CEO and hospital project leader to learn about the initiative and understand the infection prevention (IP) roles.		
2. Introduce the project to all IP staff members and explain their role.		
3. Require all current and new IP staff to receive Science of Safety training.		
4. Assign an IP to each <Insert Project Name> team.		
5. Require the IP to contribute actively to monthly team meetings.		
6. Participate in project calls and face-to-face meetings.		
7. Work with unit teams to investigate each incident and report the findings across the institution.		
8. Shadow the nurses.		
9. Arrange for nurses to shadow IPs.		
10. Identify and mitigate barriers to achieving the project goals.		
11. Ask clinicians what is difficult in achieving the project goals.		
12. Collaborate to remove barriers to achieving the project goals.		
<Insert Infection Name>		
1. Collaborate with clinical and administrative leaders to develop a coordinated plan for <Insert Infection Name> reduction throughout the organization.		
2. Ensure that all IP staff are skilled in the use of CDC <Insert Infection Name> definitions and surveillance methods.		
3. Maintain an active infection surveillance program using CDC criteria.		
4. Monitor hand hygiene no less than quarterly and report performance to all employees and the board.		
5. Ensure the accuracy and efficacy of staff education on strategies to prevent <Insert Infection Name> (e.g., electronic learning systems that document required education).		
6. Provide monthly unit-level <Insert Infection Name> data to project leads for posting and transparent tracking.		
7. Send senior hospital leaders unit-specific weekly reports on the number of people infected with <Insert Infection Name>, the weeks without <Insert Infection Name>, and quarterly rates of <Insert Infection Name>.		
8. Lead efforts to assess the utility and necessity of infection-related technologies, including special dressings and catheters.		
9. Enter <Insert Infection Name> data into the <Insert Project Name> program's central database to ensure accuracy, focused analysis, and data integrity.		

Source: Agency for Healthcare Research and Quality (AHRQ): www.ahrq.gov/cusptoolkit

Empowering frontline care givers

Though AHRQ and the AHA provided resources to collect and analyze the data in the CLABSI collaborative, each individual hospital funded its own CUSP prevention effort. Project cost efforts were not provided, but the benefit of reduced infections and energized unit teams would seem to be more than enough to justify upfront costs. Consider the testimony of

frontline care givers and clinicians, who shared their CUSP results at the press conference with a fervor not typically seen in discussing an infection control intervention.

"In my 32 years as a nurse CUSP is the most powerful program I've ever seen," said **Theresa Hickman**, RN, nurse educator of Peterson Regional Medical Center in Kerrville, TX, a 125-bed rural, not-for-profit hospital.

The entire hospital has not had a CLABSI in



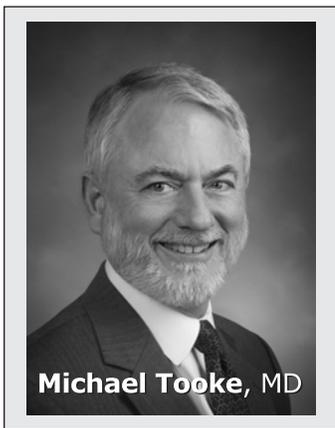
31 months, she said, crediting the success in large part to the fact that 90% of the central lines inserted at the facility are placed by nurse-led IV access teams.

"Historically, frontline care givers, especially nurses, have not been included in safety programs," Hickman said. "CUSP turns

that model on its head and it empowers the frontline care giver to make a difference. In our hospital we empower the frontline care giver to fix any issue that can cause a patient harm. Failure is not an option — every minute that a defect goes unresolved a patient is in danger. "

The most culture-changing aspect of the program may be the realization among staff that infections are no longer viewed as an unfortunate tradeoff for providing care to sick patients.

"I really want to emphasize the profound impact that is at the heart of the success of CUSP, and that is the shift in our thinking. It was actually possible to eliminate something we had come to view as inevitable," said **Michael Tooke**, MD, chief medical officer at Memorial



Hospital in Easton, MD. "It meant that we didn't have to accept the harm we were causing our patients. It meant that eliminating them was possible. And frankly, if that was the case, it meant that the only acceptable target was zero."

Under the two-hospital system's

"Target Zero" CUSP program — as of the date of the press conference — it had been 810 days since the last CLABSI in the ICU at Memorial and 1,025 days at affiliated Dorchester Shore Health, he said.

"In February of 2010 we experienced the last ventilator associated pneumonia in either one of our ICUs," Tooke said. "We're our community's only health care system. Our patients are our neighbors, our friends, our coworkers and often even our own families. Target Zero struck a very personal chord."

Sustaining the gain

Infection preventionists are all too familiar with the wildly successful program that inevitably loses energy and fades back to baseline levels. How is the gain sustained under CUSP?

"Success is a rocket fuel," Tooke said. "I can't emphasize how important it is to get the results back in the hands of the unit. When you have success — when you go for an entire month [with no infections] or 100 days, six months — some have gone a year. People own that and they are proud of it. They realize they are taking care of patients. Feeding back those results is crucial. It gets people's attention and then you can use that success to go on to another issue and say, 'Look it worked here, let's try it here.' It sustains itself, it really does."

Indeed, health care workers actually become "protective" of their infection rates, particularly if they have reached zero levels, Hickman said. "Not too long ago one of the charge nurses on the floor called me and said, 'We have a CLABSI.' She was distraught. It turned out we did not, but they become very proud of this and have [the attitude] 'Not in their hospital.'"

The success-breeds-success attitude extends to comparisons and competition between facilities because "when hospitals see other hospitals succeeding it goes viral," Clancy said.

With so many national efforts underway to prevent HAIs, there were several questions at the press conference trying to clarify which larger program this latest CUSP initiative falls under. The multiple-agency effort called the Partnership for Patients is the answer, but just that the question had to be asked shows how far infection prevention has come from the days when IPs labored in obscurity and HAIs were not on the national radar. Major players throughout health care are now on board, including the AHA, which wants to expand the CUSP initiative.

"We now have 1,100 or so hospitals and 1,700 to 1,800 units, but we know that there are thousands more hospitals and tens of thousands more units," said **Richard J. Umbdenstock**, AHA president and CEO. "We want to see this spread."

It's not about the list

CUSP is the brainchild of Peter Pronovost, MD, PhD, senior vice president for patient safety and quality at Johns Hopkins Medicine. The first broad-scale application of CUSP was in Michigan ICUs, which significantly reduced

CLABSIs using the program Pronovost developed at Johns Hopkins.¹ Several different types of checklist are included in the CUSP toolkit, but the Pronovost's original checklist included these key elements:

- Hand hygiene
- Full-barrier precautions during catheter insertion

- Skin cleansing with chlorhexidine
- Avoiding the femoral insertion site
- Removal of unnecessary catheters.

"When we first published our Michigan results [in 2006] the media often translated that story as if it was only a checklist," he said. "We did CUSP in Michigan – that's why it worked. This work builds upon that. These are brand new data that we are presenting today that haven't been published, and the results are really astonishing."

Pronovost described the program as three legs of a stool. "It's a checklist for best practices," he said. "It's CUSP — which is really the culture change and teamwork programs — and then it is measuring and feeding back infection rates. All three of those are important. The checklist could change if you are working on UTIs or VAPs, but CUSP endures. It is the lifeblood of this program."

Tooke concurred, saying "This is not just about the checklist. We made our checklist mandatory and saw our rates drop, but they didn't go to zero because it is an entire process. You have to look at how the line is maintained, [know] how long the line has been in and make sure that you assess a patient every day to [consider] pulling it out. All of these things are factors. You don't just do the checklist and then you are done."

The CUSP culture change goes beyond infection control issues, creating an environment that encourages the identification of any number of problems, Hickman added.

"One of the defects that was identified in our ICU was that a nurse made a drug error because we draw medications out of very small amps. The print is very small," she said. "We found that this was a common problem — the nurses were having trouble reading. So we bought a whole bunch of magnifying glasses and we didn't have that defect happen anymore. CUSP is very broad [and could be applied] to fix anything that could cause harm to a patient."

Likewise, the approach is not necessarily limited to a specific unit type or particular health care setting, Pronovost said. "CUSP applies anywhere. We are using it in outpatient and inpatient [areas]. In part it started in the ICU

because I'm an ICU doc and I used the ICU as the learning laboratory. We tested, changed it, and improved it in real time while we were caring for patients. But it really applies throughout health care."

The CUSP approach is somewhat radical in that it empowers health care worker teams and breaks down the traditional hierarchy of power in the hospital.

"One of our problems was verifying that a physician washed his hands," Hickman says. "So [we agreed] if the nurse did not see the physician washing his hands prior to the procedure, then it was considered that he didn't wash."

This aspect of the program may sound a bit daunting and nursing empowerment is a legitimate concern for some CUSP teams. The CUSP tool kit suggests using role-playing exercises during training sessions to allow nurses to practice speaking up and help them to gain confidence. It also advises distribution of pocket cards with information on the targeted improvement areas — such as unit infection rates — as a way to add impetus to speak-up situations.

Pronovost ran head-on into this briar patch when he first began the program at Johns Hopkins years ago, but he knew that giving team members equal footing and full voice would be critical to protect patients. "The nurses rolled their eyes and said, 'My job isn't to police the docs. If I do, I'm going to get my head bit off,'" he said. "And the docs said, 'You can't have a nurse question me in public. It makes it look like I don't know things.'" To which I said, "Welcome to the human race. We all don't know things."

Things that go bump in the night

Another way to look at CUSP is in terms of "common harms" and "local harms," Pronovost said.

"Common harms are the ones in the news that the Partnership for Patients is focusing on — urinary tract infections, bloodstream infections, pneumonias," he said. "All of those could absolutely be supported by this. The checklist or the evidence-based practices will vary, but how you implement them, how you get staff engaged, absolutely applies."

However, each health care facility also faces its share of local problems, and the safety culture built through CUSP can be used to address those as they occur.

"We need to build capacity for those front-line clinicians to address all of those things that

could go 'bump in the night,'" he said. "That is what this program does. Really, the power of it is coupling those two – the ability to address these major types of harm across the U.S., but also building that capacity and the skills in front-line clinicians to solve [local problems]."

Now a widely acknowledged leader in the national patient safety movement, Pronovost recalled a time when he had only a cursory knowledge of such infection prevention strategies and safety programs.

"A snowy night Feb. 22, 2001, ironically my birthday," he said. "An adorable 18-month old girl who looked hauntingly like my daughter was taken off life support and died in her mother's arms at Johns Hopkins. She died from a cascade of errors that started with a central line associated bloodstream infection."

The child's mother asked essentially how could her daughter have been saved — how could such infections be prevented in the future? Pronovost took up the plea as a call to action that continues.

"At the time our rates of infections — like most hospitals in the country — were sky-high, and I was one of the doctors putting in these catheters and harming patients," he said. "No clinician wants to harm patients, but we were. So we set out to change this. We developed a checklist of best practices and an intervention called CUSP to change the culture and engage frontline clinicians, and use performance measures so we can be accountable for our results. It worked."

REFERENCE

1. Pronovost P, Needham D, Berenholtz S, et al. An intervention to decrease catheter-related bloodstream infections in the ICU. *N Eng J Med* 2006; 355: 2,725-2,732. ■

Got culture change? CUSP tools can transform safety

Challenges include engaging senior leadership

The Agency for Healthcare Research and Quality (AHRQ) has created a website with a wealth of tools to help hospitals set up the Comprehensive Unit-based Safety Program (CUSP). (www.ahrq.gov/cusptoolkit) Frontline users that have implemented CUSP say they not only reduced infections, but dramatically transformed their overall patient safety culture.

While a proven method to reduce central line associated bloodstream infections (CLABSIs), CUSP is adaptable to various projects and can also be used to prevent non-infectious adverse events. It combines clinical best practices with an understanding of the science of safety, improved safety culture, and an increased focus on teamwork. Because different users will need different resources, the toolkit is designed to be modular and flexible to local needs.

"It is essentially a multipronged quality improvement program, and very importantly it is customizable and self-paced," said **Carolyn M. Clancy**, MD, director of AHRQ. "It includes instructive guides, presentation materials, and implementation tools such as checklists and videos that demonstrate desired behaviors. As a physician myself, I need to point out that the toolkit was developed by clinicians for clinicians."

The CUSP evolved out of an effort to prevent central line associated bloodstream infections by **Peter Pronovost**, MD, PhD, senior vice president for patient safety and quality at Johns Hopkins Medicine. The current model in the toolkit can be used to address a variety of infections, harms and hazards. (*See related story, p. 115.*)

"[CUSP] is an iterative process because we are always learning," Pronovost said. "The first [step] is to make sure all of the staff know the science of safety — there is a science that underlies it. Too few of us clinicians were trained in that. There is a great program in the tool kit for this."

With high staff turnover a common problem at some facilities, the CUSP science safety module can also be used as a primer for new employees.

Recruiting hospital leadership

Involvement of executive leadership is stressed heavily in CUSP, suggesting that interventions undertaken without clear administrative support are less likely to be successful.

"The senior leadership at our hospital is involved in this [CUSP] process," said **Theresa Hickman**, RN, nurse educator at Peterson Regional Medical Center in Kerrville, TX. "Every month I make a report on how we are doing, and it goes straight to the board."

The CUSP tool kit suggests recruiting executives who can authorize the use of the resources needed to help unit-based teams resolve patient safety issues. Senior lead-

ers should be familiar and comfortable with the goals of the project. Executives who have a vested interest in the quality of care make great CUSP team members, the program emphasizes.

"Leadership is so key — leadership becomes part of that unit team trying to fix problems," Pronovost said.

However, the CUSP program concedes that senior executive buy-in might be the most significant obstacle a team faces, particularly if the administrator does not have a clinical background.

"In these situations the use of a tool like an Opportunity Estimator, which calculates estimated lives lost and dollars spent as the result of CLABSIs, can engage hospital executives with the prospective cost savings that

can result from CUSP implementation," the CUSP tool kit states. "Encouraging senior executives, particularly those without a clinical background, to 'shadow' a nurse or physician champion can [also] help them to better understand unit challenges firsthand."

Team building is a critical part of the program, as health care workers are empowered to work for positive change in ways that may break down some of the traditional roles in medicine. The key CUSP team members—nurses, physicians, and senior executives—are needed to ensure that the initiative is implemented on the frontlines and adequately resourced. However, input and participation is then needed from other unit or hospital specialists. These team members include:

- infection preventionists

CUSP key tenets include a 'just culture'

The Comprehensive Unit-based Safety Program (CUSP) tool kit includes many modules and elements, but a few of the basic principles include:

Understand the Science of Safety: The CUSP team and unit staff members should watch the "Science of Safety" video to make sure everyone is familiar with the concepts, particularly the three principles of safe design:

- standardizing
- creating independent checks
- learning from defects

Assemble the Team: The ideal CUSP team has six characteristics:

- Understands patient safety culture is local.
- Comprises engaged frontline providers who hold themselves responsible for patient safety.
- Includes staff members who have different levels of experience.
- Is tailored to include members based on the nature of the clinical intervention they are planning.
- Meets regularly (weekly or at least monthly).
- Has adequate resources to do its job.

Engage Senior Executives: Ensure a senior executive is assigned to a CUSP team. Each CUSP team must have one senior executive team member. This executive should meet with the unit team regularly and be included in any project-related communications. Recruiting senior executives in these initiatives forges bonds and improves communication among hospital staff members, which will ultimately increase patient safety and reduce unneces-

sary expenses and harm. Remember to appeal to the senior executive's interest in maintaining patient safety, as well as the hospital's financial gains that will result from participating in the CUSP initiative. Display statistics that show how the initiative reduces both patient harm and the average cost per occurrence for the hospital.

Teamwork and Communication: Clear communication among health care providers is paramount. Communication failures lead to patient harm, increased length of stay, provider dissatisfaction, and staff turnover. Effective communication is particularly important in the unit if complicated care plans are to be effectively managed by the care team. People who use complete communication provide all relevant information while avoiding unnecessary details that may cause confusion. People who use clear communication convey information that is plainly understood and use layman's terminology with patients and their families. They use common or standard terminology when communicating with team members.

Just Culture: A Just Culture is a system that holds itself accountable, holds staff members accountable, and has staff members who hold themselves accountable. The work environment is ruled by both transparency and accountability and supports improved outcomes by emphasizing both robust systems and appropriate behaviors.

Editor's note: The complete CUSP Toolkit is available at the Agency for Healthcare Research and Quality's website at: www.ahrq.gov/cusp-toolkit ■

- medical directors
- pharmacists
- respiratory therapists
- patient safety officers
- chief quality officers
- ancillary or support staff

“The team is a concept really — it is not necessarily a list of people,” said **Michael Tooke**, MD, chief medical officer at Memorial Hospital in Easton, MD. “When you put in a central line, at any given point in time the team is an entirely different set of people because it depends on who is on duty. So it will not work without [complete] unit-based participation. These lines are put in in the middle of the night by different nurses and doctors. It has to be engrained in the way the entire unit takes care of patients.”

On the other hand, Tooke’s ventilator-associated pneumonia [VAP] prevention team is a multispecialty group that makes rounds in the ICU twice a day. “So that team is pretty much the same people,” he said. “They make rounds to make sure that the ventilator care is appropriate.”

In addition, urinary catheters are placed all through the hospital, thus prevention of catheter associated urinary tract infections [CAUTIs] must involve teams throughout the facility to determine if and when catheters can be removed.

“So you have a [CAUTI] team at one level — say the overall nursing and medical staff — but then each unit has a team because there is a nurse manager that is making sure the protocol for getting out Foley catheters is the same,” he said. “The team is set up depending on where it is, the breadth of the intervention, and who is there the day that the device or the intervention is put into place.”

Four E’s take the fifth

The CUSP toolkit suggests keeping the “4 E’s” model in mind in both starting and sustaining initiatives:

Engage: Engaging a staff member is an example of adaptive work in which CUSP teams help unit staff understand the effects of a preventable harm caused by a clinical problem. One method of engagement is sharing stories about patients affected by this problem and estimating the number of patients who could be harmed as a result of this problem.

Educate: CUSP team members transmit information to staff and senior leaders regarding actions to take to prevent clinical problems.

Execute: An example of adaptive work, execution is based on the principles of safe system design: Simplify the system, create redundancy, and learn from mistakes.

Evaluate: Evaluation is an example of technical work in which unit teams collect and submit data related to any clinical problem to analyze the progress of an intervention.

“We also added another E — enthusiasm,” Tooke says. “We acknowledged every victory. One month without infections, 100 days, a whole year. We had a unit-based celebration every time we had a victory. This helped reinforce the role of ownership of this project to those at the bedside. We have gone from keeping track of days since the last infection to days until the next celebration.”

Learning from mistakes

If an infection or another adverse event occurs, the CUSP model recommends a “learning from defects” approach that often reveals that systems contribute to the underlying causes of problems. The CUSP mantra in this regard is: “Every system is perfectly designed to achieve the results it obtains.” Learning from defects is termed “second-order” problem solving, which examines the underlying causes and processes that contributed to the event. Clinicians are generally adept at “first-order” problem solving, which is “recovery” problem solving to correct errors after they occur.

“But we want them to learn — not just recover — from those mistakes,” Pronovost said. “In other words, make sure another patient won’t be harmed.”

Tooke cited this defect-evaluation aspect as an example of ongoing use of the CUSP tools to improve medical care.

“We experienced two bloodstream infections in patients that were undergoing an innovative therapy on one of the medical floors,” he said. “We used the [defects] tool to work through the process and determine the root cause of those infections. We haven’t had a similar infection on that floor in over a year.”

The majority of the CUSP Toolkit modules focus on quality improvement projects at the unit level, where culture is necessarily local. However, the program also includes a “spread” module that helps an organization move the components of a successful intervention from the unit level to the larger organization. By the same token, a CUSP program that began in a unit and then went

hospital-wide may ultimately be adopted by a completely different facility.

"We have a growing list of research studies that show in one institution, one community dramatic results, but getting this into communities across the country — that is a really big deal," Tooke said. ■

'Serial infector' charged in hospital HCV outbreak

CMS: Secure narcotics, use precautions

It began as an infection control nightmare in New Hampshire, but it didn't stop there. A medical technician who worked in the cardiac catheterization lab in Exeter Hospital in Nashua was charged with diverting drugs and reusing the syringes on patients. He is hepatitis C positive, and at least 30 patients have new HCV infections that are linked to his strain, investigators report.

The accused, David Kwiatkowski, was dubbed a "serial infector" by federal prosecutors because he worked for an agency that sent health care workers to hospitals around the country. Kwiatkowski has denied diverting drugs. The medical technician worked at some 13 hospitals in eight states: Arizona, Georgia, Kansas, Maryland, Michigan, New York, Pennsylvania and New Hampshire. Investigations are proceeding at the other locations.

The case highlights the importance of pre-employment background checks and raises the issue of random drug testing of health care workers. It also underscores the risk of transmission of hepatitis C in health care settings, either through intentional drug diversion or infection control lapses, such as reuse of single-dose vials.

Between 2008 and 2011, the Centers for Disease Control and Prevention received reports of 31 outbreaks of hepatitis B or C in a health care setting, with about 250 people infected and about 88,000 patients tested. In the Exeter case, eventually more than 4,000 patients will have been tested.

Hospitals can take steps to improve both infection control and narcotics control, says New Hampshire state epidemiologist **Sharon Alroy-Preis**, MD, MPH.

"It's important for every hospital to look at their own processes," she says. "Who has

access to narcotics? What is the process of preparing and administering narcotics? It's important to make sure those are very tight. You can minimize [the possibility of] drug diversion."

Cath lab was common link

The Exeter case came to light on May 6, with a report to public health authorities of a cluster of four people with newly diagnosed acute hepatitis C. "It became clear that the common link between all of them was the cardiac cath lab," says Alroy-Preis.

In the investigation, "we decided the most likely method was drug diversion," she says. "In other hepatitis C outbreaks in the past, there have been infection control problems — specifically with using a single dose vial on multiple patients, reusing syringes — that we did not find in this case."

In an investigation, it came out that a co-worker had complained on one occasion that Kwiatkowski's eyes were blood shot and he seemed to be "on something." Other employees noted that Kwiatkowski would come into the cardiac cath lab when he wasn't on call, and that he appeared to be sweaty and shaky.

"In every case, concerns raised by hospital staff were evaluated, in one instance including the involvement of the hospital's human resources team," the hospital said in a statement. "In each of these few instances, Kwiatkowski provided plausible explanations related either to medical issues he had previously made claims about, or to family crises."

Thomas Wharton, MD, FACC, medical director of the Cardiac Catheterization Unit, called Kwiatkowski "the ultimate con artist."

"David had stories for everything that pulled at your heart strings and we had no reason to disbelieve him," Wharton said in a statement. "David claimed to have several important medical conditions, and we had no reason to challenge this. The day he reportedly arrived to work with red eyes he told us his aunt had died the night before and he had been up all night crying."

Exeter Hospital says that Kwiatkowski had pre-employment drug testing, a national and state criminal background check, and a federal sanctions check before he began working. He also had favorable recommendations.

However, that background check did not pick up the fact that Kwiatkowski had been fired from an Arizona hospital in a case of suspected drug diversion.

Coming to a hospital near you?

What can be done to prevent such situations from happening at other hospitals? The Patients Speak, a group of victims from this outbreak, is pushing for mandatory drug testing at hospitals and a national registry or national certification for licensed health care professionals.

"It's an incident waiting to happen at a hospital near you because the proper protocols, the proper legislative efforts, and the proper regulatory efforts are not in place," says **Elenore Casey Crane**, a former state representative from Nashua who co-founded The Patients Speak with Domenic Paolini, a former cardiac surgeon who is a Boston-based malpractice attorney and has filed a class action suit on behalf of patients.

"You have people who work at Home Depot being scrutinized more than people who work in an operating room, which is crazy," says Paolini. "If the staffing company and the hospital had done their due diligence — if they had called places where he had worked, if they had called places where he claimed to receive diplomas — it would have come out that there were problems."

The Center for Medicare & Medicaid Services (CMS) conducted a survey at Exeter and cited the hospital for failing to sufficiently secure controlled medications. CMS also cited the hospital for lax infection control.

The hospital "failed to provide a sanitary environment and avoid sources of transmission of potential infections" and failed to have adequate policies and procedures, "allowing an employee with draining wounds to participate in an environment where invasive procedures were being performed," CMS said. (According to news reports, this employee with draining wounds was Kwiatkowski.)

A CMS surveyor also reported observing a physical therapist who was not wearing gown or gloves despite close contact with a patient on contact precautions.

In response, Exeter Hospital said it took additional steps to secure pain medications and re-educated staff about appropriate personal protective equipment.

Crane is looking beyond procedural changes for a cultural change that encourages hospitals and health care workers to root out incompetence and drug abuse.

"We could have stopped him, and we can't

let it happen again," she says. "The only way we're going to prevent this to happen to someone in a hospital near you is to put something in place that allows for tracking of the bad apples. I do believe there's a culture of secrecy and cover up." ■

Do childhood vaccines protect young HCWs?

CDC considers options for HBV response

In the age of safer needles, vaccination and prophylaxis, the risk of hepatitis B among health care workers has dropped dramatically, from a high of about 12,000 cases a year in the 1980s to 203 reported acute cases from 2005 to 2010. Routine HBV vaccination of infants, which began in 1991, promises to make transmission from blood and body fluid exposures even rarer.

But universal vaccination also has raised some difficult questions: How do you handle young employees who had the vaccine as infants but never were tested for an immune response? Do you assume they are protected? Or do you re-vaccinate everyone? And does the HBV immunity wane over time?

A group of experts is now working to draft advice for hospitals on handling these new issues. About 92% of infants and young children are vaccinated against HBV.

"It is a very challenging question," says **Mark Sawyer**, MD, a pediatric infectious disease specialist from the University of California, San Diego, and chair of the hepatitis workgroup of the Advisory Committee on Immunization Practices, a panel that advises the Centers for Disease Control and Prevention. "There's a lack of hard data on lots of things you'd like to be sure about in this equation."

CDC currently recommends a three-dose series of HBV vaccine for health care workers. More than 90% of health care workers will respond if they receive the full series. Many non-responders will show an immune response to an additional one to three vaccinations, but a small portion (about 5%) of health care workers remains non-responders.¹

If non-responders have a bloodborne pathogen exposure and the source patient is positive for hepatitis B surface antigen,

they should receive hepatitis B immune globulin and additional vaccination, the CDC says.

About 9 in 1000 source patients test positive for hepatitis B surface antibody, says **Sara Schillie**, MD, MPH, MBA, medical epidemiologist at CDC. There are about a million people in the United States who have chronic HBV infection.

Several options have emerged as CDC considers this quandary, but two were receiving the greatest focus, Schillie says:

Post-exposure protection: Document previous HBV vaccination, but don't test for titers or revaccinate. Monitor for exposures, then screen and revaccinate employees after an exposure. "The problem with that approach is it doesn't help people who don't report," says Sawyer. Only about half of all trainees and health care workers report their bloodborne pathogen exposures, according to the CDC. Employees also would need to have documentation of their HBV vaccination as infants.

Pre-exposure testing: Get a baseline test of HBV antibody levels for all employees at risk of bloodborne pathogen exposure and revaccinate those with low antibody levels. Antibody levels are known to drop in infants after vaccination, says Sawyer. "We don't know that they're less well-protected just because their antibody levels go down," he says.

Another option would be to revaccinate all health care workers as trainees or new hires, then test for antibody response, says Sawyer.

Regardless of the option chosen, hospitals still will be required to offer the hepatitis B vaccine to health care workers. That is a requirement under the Bloodborne Pathogen Standard of the U.S. Occupational Safety and Health Administration.

The CDC is conducting studies of the long-term effectiveness of the HBV vaccine. "Over time, we'll be able to address this more clearly," says Sawyer.

REFERENCE

1. Centers for Disease Control and Prevention. Immunization of Healthcare Personnel – Recommendations of the Advisory Committee on Immunization Practices. *MMWR* 2011; 60: 1-45. ■

CNE/CME Instructions

To earn credit for this activity, please follow these instructions.

1. Read and study the activity, using the provided references for further research.
2. Log on to www.cmecity.com to take a post-test; tests can be taken after each issue or collectively at the end of the semester. First-time users will have to register on the site using the 8-digit subscriber number printed on their mailing label, invoice or renewal notice.
3. Pass the online tests with a score of 100%; you will be allowed to answer the questions as many times as needed to achieve a score of 100%.
4. After successfully completing the last test of the semester, your browser will be automatically directed to the activity evaluation form, which you will submit online.
5. Once the completed evaluation is received, a credit letter will be e-mailed to you instantly. ■

CNE/CME Objectives

Upon completion of this educational activity, participants should be able to:

- Identify the clinical, legal, or educational issues encountered by infection preventionists and epidemiologists;
- Describe the effect of infection control and prevention issues on nurses, hospitals, or the health care industry in general;
- Cite solutions to the problems encountered by infection preventionists based on guidelines from the relevant regulatory authorities, and/or independent recommendations from clinicians at individual institutions. ■

COMING IN FUTURE MONTHS

■ CMS incentives – did they make a difference for UTIs?

■ If and when to end contact isolation for gram negative infections

■ Feedback: CMS is honing hospital infection control survey

■ Using patient risk factors to predict colonization

■ Hantavirus, West Nile, et al. IPs as a community resource

CNE/CME Questions

- In a national program, the Comprehensive Unit-based Safety Program (CUSP) reduced central line associated bloodstream infections (CLABSIs) by what overall percentage?
 - 23%
 - 40%
 - 44%
 - 60%
- Peter Pronovost, MD, PhD**, said the key features of the CUSP program are:
 - checklists for best practices
 - culture change and teamwork
 - measurement and feedback
 - all of the above
- While CUSP is a proven method to reduce CLABSIs, clinicians warned not to expect similar results if the approach is applied to non-infectious adverse events.
 - True
 - False
- Though other specialists may be added, which of the following were cited as one of the three key members of a CUSP team?
 - medical directors
 - patient safety officers
 - chief quality officers
 - senior executives

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Networking: The only thing missing is you

By **Patti Grant**, RN, BSN, MS, CIC, Infection Preventionist, Addison, TX.



Patti Grant
RN, BSN, MS, CIC

It is almost surreal that I've been in infection prevention and control (IP&C) since January 1990.

I couldn't have known that demoting myself from the head of a university hospital 34-bed cardiovascular step-down unit to become an "infection control coordinator" would open up a new professional path.

It was a change I thought would be temporary – something to do until I got my Master of Science in Health Promotion and returned to nursing administration. Little did I know what I'd learn about networking along the way. Hopefully sharing my experience will push you along much faster than it took me to learn, so you can benefit and help those you serve in the fight against infection.

Much of why I learned to appreciate this vigorous discipline of IP&C is because of my first mentor and manager, Jo Ellen Gilstrap. An amazing thing happened within six months of changing jobs and it involved going to my first international conference of the Association for Professionals in Infection Control and Epidemiology, Inc (APIC). The graduation date of Jo Ellen's daughter was changed at the last minute and since the conference was already paid for, they let me attend in her place. I was excited and humbled by that experience. Seeing all those "smart people" give talks, doing posters, and watching friends — who obviously saw each other only at the annual conference — was electrifying. I was alone yet I didn't feel lonely. Without knowing it the networking had already started just through watching and listening to others.

It is odd how life can steer us sometimes without our even knowing a huge change has occurred. One day, without even really recognizing the shift,

I was being asked questions as an "experienced" Infection Preventionist. Of course, I was still seeking resources and help from those truly experienced professionals that (still) know more than I. It took about four years before I realized, "This is how it will always be. I'll be there for others while others are still there for me, and none of us can be an expert at everything."

IP&C is not a spectator sport. I quickly learned that with the power of APIC behind my practice I'm never alone, yet must continuously participate and seek to belong through networking and "paying it forward."

I've seen many changes (understatement) and I hope to be part of more improvements as we strive to improve patient safety through the vision of achieving an irreducible minimum of health care associated infections. Despite these changes the one constant has been accepting my limitations, figuring out how to access resources based on those limitations, and trying to remember names, faces, and the areas of expertise associated with those astute people.

Networking cannot happen in a vacuum and APIC has just made it easier to get started through a Mentoring Matching Program (see <http://community.apic.org/Mentoring1/FrequentlyAskedQuestions/> for more information). Another useful homework assignment to get you started is calling the Infection Preventionist at the facility closest to you. Invite yourself to visit them for a question/answer session (with you buying them lunch as a 'Thank You' of course). It'll give you a chance to know him/her beyond the traditional job aspects of networking, as *knowing the person* is key to securing and sharing knowledge and expertise. It is a cliché, but seriously, there is power in numbers, and **you** need to be part of the IP&C network.

Although not one to promote many publications outside of scientific peer-review journals, about two years ago I stumbled upon an excellent book by James M. Penny called *Networking Genius: Getting the people you know to make you more successful than you ever dreamed possible*. (Just do a web search — it is not available in bookstores). This succinct and user-friendly publication has helped me organize my networking without added stress or frustration. My patient population has directly benefited from a wider networking base — as will yours! ■

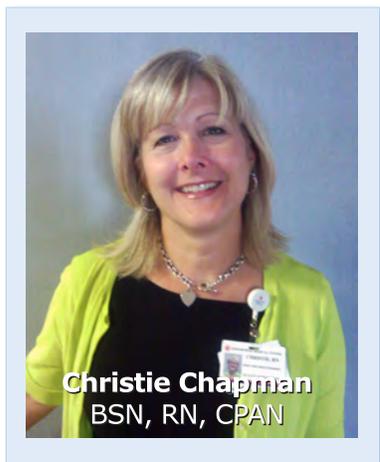
Nominate a Newbie!

Do you know someone relatively new to infection prevention that would be a good candidate for one of our IP Newbie profiles? Drop us a line and tell us why you think their story may be of interest to *HIC* readers. Send nominations to gary.evans@ahcmedia.com.

We can be heroes

"To achieve true success, one must be an influencer rather than an enforcer."

- Ann Marie Pettis, RN, BSN, CIC



Meet **Christie Chapman**, BSN, RN, CPAN. A California hospital infection preventionist for scarcely more than a year, she is plenty smart enough to recognize the truth when she reads it. As in the quote above from a blog by an IP with more than three decades of experience.

(<http://ow.ly/dRwpC>)

"That makes a lot of sense to me," Chapman says. "To me, being an influencer is so much more lasting than being an enforcer. Infection prevention has always kind of been the policeman making sure you wash your hands, but I think that's changing. They've attached some money to our job now with this value-based purchasing. That kind of increased our stock in the world in a way. People are more willing to cooperate with us because they know the hospital is going to lose a lot of money if we don't get it right."

We caught up with Chapman right before she was to don snorkel gear and head for open waters. "I keep hearing the theme from *Jaws*," she says. Understandable, but Chapman was otherwise unflappable as we asked about taking the plunge into infection control when an opening came up.

"I wasn't ever particularly interested in bugs or micro, but I think what really attracted me to this position was that the education possibilities were limitless," she says. "To be able to make a difference that way was a big factor for

me."

The question she wanted to answer was "why."

In my past experience as a nurse, administration would come to us and say: 'You have to do this with your instruments, do this many hand hygiene audits, and you cannot wear fake fingernails.' They told us all these things, but they never told us why. So the buy-in from nursing in general was rather low. We thought the preventionist sat in an office somewhere and just kind of thought up things for us to do."

Now the fake nail is on the other finger, as it were, and Chapman is quick to tell her co-workers "you can't wear artificial fingernails because bacteria get stuck in the little crevices and can cause infections in patients."

Ditto for those previously ignored hand washing audits.

"Hand washing is the single most important way we can prevent HAIs," she says. "You have to track your baseline to understand where you are in this process. Once I understood why we did so many of the things we had to do as nurses, I was happy to do it and happy to help others do it. I really feel like I can make a difference with compliance and buy-in from staff."

That is critical when you work in a state that probably has more infection rate reporting requirements and regulations than any other.

"If it can be done, California wants it reported, but that's ok," she says. "Their heart is in the right place. They want to prevent infections and promote patient safety. It's just new and we are having to try to figure it out with our electronic medical records, the coding -- it kind of pulls everybody in. We report [HAI data] for 29 different surgeries, for example."

Chapman relays stories from actual outbreaks and patient outcomes to workers, trying to improve compliance by putting a human face on all the rules and regulations.

"What I see in infection prevention is that you always have to have a lot of different perspectives," she says. "The clinical perspective of understanding practice, how nurses practice, disease process and things like that. Then there are the other perspectives of laboratory, micro and epidemiology. Statistics are so important as well. The way we are regulated now, your statistical expertise becomes really important. There are really so many perspectives to this job that you would need a multidisciplinary team to create the perfect Superman, Justice League kind of infection preventionist." ■