

# Hospital Infection Control & PREVENTION

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## CLABSI prevention success pressures hospitals to adopt similar programs

*National 58% reduction means prevention "expected"*

A recently reported dramatic national reduction in central line associated blood stream infections (CLABSIs) puts a harsh light on hospitals that have not adopted a "checklist" protocol and other proven measures to fight infections that are both expensive and deadly.

CLABSIs — which have mortality rates in the 12% to 25% range — were decreased by 58% in intensive care unit patients from 2001 to 2009 in national surveillance data reported by the Centers for Disease Control and Prevention.<sup>1</sup>The striking decrease translates to some 27,000 lives spared and \$1.8 billion saved in excess health care costs.

After the celebratory reactions, this is the new normal: Hospitals that have not adopted similar CLABSI prevention measures — particularly in ICUs — risk being perceived in violation of a standard of care that has now been widely proven in clinical practice.



"The message from CDC and everybody in this field is that compliance with these best practices for catheter insertion should be 100%," says **Arjun Srinivasan, MD**, associate director for Healthcare Associated Infection Prevention Programs at the CDC. "Each and every time a catheter is put in it should be done in the best way. We know what that best way is and we want

hospitals to do it that way."

Srinivasan's boss — CDC Director **Tom Frieden, MD, MPH** — was likewise unequivocal: "Preventing bloodstream infections is not only possible — it should be expected," he says.

That may certainly be the position of patients who take the CDC's advice to "ask which infection prevention methods will be

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used, why a central line is needed, and how long it will be in." Patients with central lines and their caregivers can prevent bloodstream infections by asking their doctors and nurses to clean their hands before and after touching patients, the CDC urged in releasing the CLABSI findings.

From this growing awareness among patients it is only a short leap to liability, as those with CLABSIs may conclude that their infection — given the national "getting to zero" hub-bub — was completely preventable. Plaintiffs' attorneys are increasingly taking that view with healthcare associated infections (HAIs) in general, a medical liability attorney warns.

"From a legal standpoint [people] are looking at this and saying if they can do it in 'Hospital A,' then we should be able to do it in 'Hospital B,'" says **Russell Nassof**, JD, health care liability attorney and national practice leader of TRC Companies Inc. in Phoenix.

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### ***A single CLABSI costs \$16,550***

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Thus, health care systems ignore this CLABSI success story at their peril. However, infection preventionists are not alone in this fight. The CDC credited at least part of the success to "increased financial and leadership support for CLABSI prevention." While preventing these

infections does require some time and money, the bang for the buck is considerable. The CDC estimates that preventing a single CLABSI saves a health care facility \$16,550 in excess costs.

"[But success] takes an investment in the types of resources that people need to prevent and monitor these infections," Srinivasan says.

The CDC did not have any estimates of the number of hospital ICUs that have still not adopted the checklist and other bundle measures, but a pioneer behind the CLABSI protocol says it appears to be way too many.

"Nationally, our program now has about 1500 [intensive care] units in it," says **Peter Pronovost**, MD, PhD, medical director of



the Center for Innovations in Quality Patient Care at Johns Hopkins Hospital in Baltimore. "But there are still a large number of hospitals who have infection rates that are unacceptably high. There is no reason for that if they would do these programs. In our peer-review work hundreds and hundreds of hospitals of all types have nearly eliminated these infections. If any hospital's [CLABSI] infection rate is anywhere other than zero they should start looking into these programs."

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Though the CDC surveillance report did not collect the specific practices at each ICU, the main infection prevention focus has been on the key moments before the catheter needle pierces the skin (i.e., of the neck, chest or groin), when it could possibly take the patient's endogenous bacteria deep into the blood stream. To prevent seeding infection that way or via cross transmission during catheter placement, the CDC recommends using an insertion checklist that includes hand hygiene, maximal barrier precautions and use of a skin prep agent (preferably chlorhexidine). (See *CDC recommendations p. 39; checklist inserted in this issue.*)

"It gives you a tool for how you can monitor and measure how well people are doing in following those recommendations," Srinivasan says. "The [national] interventions are all very similar — they are focused on the correct placement or insertion of central catheter lines. All the bundles and checklists in their various forms distill the CDC recommendations surrounding how to best insert catheters."

Just for the record, even when patients are admitted with pathogens on their own skin flora, keeping the bugs out of their bloodstreams is the responsibility of the health care workers who are placing the central line.

"If it is on your skin, it should stay on your skin," he says. "The act of placing the catheter is what creates the risk of infection. It may be their own bacteria, but we gave them the infection because we put the catheter in without, [for example], cleaning the skin properly."

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### ***Going beyond the ICU***

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To estimate the total number of CLABSIs among patients in the United States, the CDC multiplied central-line utilization and CLABSI rates by estimates of the total number of patient-days in each of three settings: ICUs, inpatient wards, and outpatient hemodialysis facilities. In 2001, an estimated 43,000 CLABSIs occurred among patients hospitalized in ICUs in the United States. In 2009, the estimated number of ICU CLABSIs had decreased to 18,000.

Looking at just one year, 2009, the reductions represent some 3,000—6,000 lives saved and \$414 million in prevented excess costs in ICUs. Going beyond the ICU may reap similar success.

## **CDC urges action by hospitals, patients**

To prevent bloodstream infections in patients with central lines, the Centers for Disease Control and Prevention recommends the following for caregivers and patients at hospitals, dialysis centers, and other medical care settings:

- Make sure CDC infection control guidelines are followed every time a central line is put in and used.
- Encourage staff members to speak up when guidelines aren't followed.
- Use data for action. Track infection rates and germ types with CDC's National Healthcare Safety Network (NHSN) to learn where and why infections are happening, target actions to stop them, and track progress.
- Recognize staff members or units that work hard to prevent central line infections or that solve issues with infection control.
- Join state-based prevention programs such as the Agency for Healthcare Research and Quality's expansion of "On the CUSP: Stop BSIs." On the web at: <http://bit.ly/dVuCS3>
- Patients with central lines and their caregivers can prevent bloodstream infections by asking their doctors and nurses to clean their hands before and after touching patients.
- Patients should ask which infection prevention methods will be used, why a central line is needed, and how long it will be in. Tell a nurse or doctor if the area around the central line becomes sore or red, or if the bandage falls off or looks wet or dirty.

"This is one of the areas where we know we can simultaneously improve the quality of care that is delivered, save money and most importantly save lives," Srinivasan says. "When you do the right thing, these other factors fall into place."

ICUs have been the prime target for intervention, but the CDC is now making it a high priority to prevent CLABSIs in hospital wards and hemodialysis settings. About 23,000 CLABSIs occurred in non-ICU patients in 2009 and about 37,000 infections occurred in dialysis clinic patients in 2008, the CDC estimated. The substantial number of CLABSIs among hemodi-

# Gram negatives elude CLABSI prevention

*CDC creating catheter maintenance bundle*

In compiling national surveillance data on central line associated blood stream infections (CLABSIs) the Centers for Disease Control and Prevention made an interesting finding: Reductions in CLABSIs caused by *Staphylococcus aureus* were more marked than reductions in infections caused by gram-negative rods, such as *Candida* and *Enterococcus*.<sup>1</sup>

With multidrug resistant gram negative infections becoming an increasing threat, the finding gives one pause — but may have a straightforward explanation.

“We suspect the current focus on the proper insertion of catheters would be more likely to influence those types of pathogens that are more likely to be on the skin — and therefore could be a cause of an infection related to putting the catheter in,” says **Arjun Srinivasan**, MD, associate director for Healthcare Associated Infection Prevention Programs at the CDC. “Of the organisms that cause these infections, *Staph aureus* is the one that is most likely to be on a person’s skin.”

Of course *S. aureus*, particularly the methicillin-resistant variety, has been the subject of eradication campaigns that include active screening and “seek and destroy” programs. “The other reason we think this could be happening is that there is a lot of attention in health care on reducing or preventing MRSA,” he adds.

The smaller reduction among gram negative pathogens suggests a need for improved implementation of post-insertion line-maintenance practices and strategies to ensure prompt removal of unneeded central lines.

“Gram negative [infections] are more likely to occur as the result of the way the catheter is maintained, rather than the way it is put in,” Srinivasan says. “So to prevent infections with these other pathogens we need to be focusing on people who already have a catheter in and look at the proper maintenance of the catheter. There may be other factors that we don’t really understand yet, but this difference was important for us to point out.”

The CDC is consulting with experts with an eye toward developing protocols and checklists — essentially a central line maintenance bundle — similar to the approach that has had so much success for insertion.

“When catheters are placed we know exactly what we want people to do every time,” he says. “We want to have similar steps that they can use and follow every time a catheter is used or cared for.”

Focusing on antibiotic-resistant pathogens is especially important given the increased risk for mortality associated with these pathogens. The variation in reductions among different organisms underscores the importance of collecting pathogen and susceptibility information as part of CLABSI surveillance, the CDC concluded.

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1. Centers for Disease Control and Prevention. Vital Signs: Central Line-Associated Blood Stream Infections — United States, 2001, 2008, 2009. *MMWR* 2011;60(08):243-248. ■

alysis patients is also a problem for hospitals, as the infections are a major cause of admissions and readmissions. A primary prevention measure is the avoidance of central lines in favor of arteriovenous fistulas for dialysis patients. Though dialysis interventions pose a whole different set of problems, preventing infections in hospital wards could be done by essentially expanding the ICU interventions. Of course that’s easier said than done, as CLABSI prevention requires meticulous insertion and care of the central line by all members of the clinical care team.

“There is empowerment of everybody on the health care team to feel responsible for making sure that everything is being followed correctly,” Srinivasan says.

Such an approach may be more conducive to an ICU than a ward bed, but the opportunity for infection prevention is clear.

“It’s easy to know which practices work; it is much harder to make sure that everybody is doing those practices,” Srinivasan concedes. “But there is now support for [the infection preventionist] saying ‘It is not acceptable to us that you don’t do these things. And it is a

uniform message from the very highest levels of our health care facility.”

While the checklist has drawn widespread attention, just as crucial to the overall success has been broad collaborations necessary to get CLABSI prevention programs implemented nationwide. For example, CLABSI prevention campaigns are in full stride at both the Association for Professionals in Infection Control & Prevention and the Agency for Healthcare Research and Quality. The forward thinking in all of this is that the CLABSI prevention model may be successfully extended to other infections, which is already happening with ventilator associated pneumonia (VAP).<sup>2</sup> (*See related story p. 41.*) Perhaps VAP and other HAIs will eventually become the target of national campaigns a la CLABSIs.

“It’s important to recognize why we made progress [with CLABSIs],” Pronovost says. “One reason is that we kept score with a valid measure — that is really important. Two, we were guided by science — there were good studies about what to do and how to do it. And three — and maybe most importantly — is that we committed to work together. This was a collaborative effort of many different groups aligned with a common purpose and common measure. There are very few examples right now where those three things are happening in patient safety.”

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### ***CMS brings the fiscal pressure***

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Indeed, the CDC shared its success with a nod to the Centers for Medicare and Medicaid Services (CMS), which has taken a keen interest in preventing health care associated infections (HAIs) to lower health care costs. “The collaborative efforts with CMS have been very important in drawing attention to this problem — drawing attention to the preventability of CLABSIs,” Srinivasan says. “Their mandates spur a lot of action.”

The 58% reduction of CLABSIs is a “remarkable achievement” that underscores the role of infection prevention in health care reform, says CMS Administrator **Donald Berwick**. “We can’t afford the human and financial costs of



[HAIs],” he noted at a recent forum on HAIs. “We understand the causes of these problems, and I think we are moving away, happily — from a culture of blame — where we just keep

pointing fingers at everybody when things go wrong — into a culture of science.”

HAIs are known to be a prime target of Berwick, who remains politically embattled as Republicans in Congress threaten to leave his recess appointment unconfirmed. In any case, even as CMS provides incentives and pressure, evolving health care reform should not rely solely on cutting reimbursements, Pronovost emphasizes.

“The reality is that real health care reform isn’t going to come from paying doctors and nurses and hospitals less — they are already working hard,” he says. “It’s going to come from preventing complications and infections. It’s these kinds of things we should be doing for health care reform. Yet so much of the work is just ratcheting down — cutting staff at hospitals because they are paying them less. That may actually make the quality problem worse. These kinds of programs — especially this CDC data — should be celebrated and become the main driver of how we are going to improve quality and reduce costs of care.”

[*Editor’s note: IPs looking to start or improve a CLABSI prevention program in their hospital can find a wealth of CDC materials at: <http://1.usa.gov/htz1Ib>.*]

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## **CLABSI intervention also whaps VAP**

*Study suggests that ‘most VAPs are preventable’*

A highly successful team approach to preventing blood stream infections shows similar efficacy against ventilator associated pneumonia (VAP), which was sharply reduced in more than 100 participating intensive care units.

A multifaceted intervention was associated with an increased use of evidence-based thera-

pies and a substantial (up to 71%) and sustained (up to 2.5 years) decrease in VAP rates, reports **Peter Pronovost**, MD, PhD, medical director of the Center for Innovations in Quality Patient Care at Johns Hopkins Hospital in Baltimore.

The VAP intervention was part of a quality improvement effort involving Hopkins and Michigan ICUs participating in the Keystone project, which has been widely hailed for a similar success against central line associated blood stream infections (CLABSIs).

"It's the exact same model," Pronovost tells *Hospital Infection Control & Prevention*. "We used a checklist, teamwork and feeding back data on performance. We are showing that this method could apply to other types of preventable harm like VAP. We are really on to something for advancing the science to make care safer."

The researchers implemented a VAP prevention bundle that included five key patient care practices:

- Semirecumbent positioning to decrease the risk of VAP.
- Stress ulcer prophylaxis to decrease gastrointestinal bleeding.
- Prophylaxis to decrease deep venous thrombosis.
- Adjustment of sedation until the patient can follow commands.
- Daily assessment of readiness to extubate, to reduce the duration of mechanical ventilation.

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### ***Culture change***

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Just as important as the clinical bundle was the adoption of the kind of unit-based culture change used in the CLABSI model. Before the program began and annually thereafter, a quantitative assessment of the institutional safety culture was performed using a validated survey. A team of frontline staff, which included at least a physician and a nurse, was assembled to implement the program. The process included the following steps:

Step 1: Educate staff on the science of improving patient safety, including systems redesign.

Step 2: Ask teams to identify defects (defined as anything clinically or operationally that should not recur).

Step 3: Involve "senior executive partner-

ships" to bridge the gap between management and frontline staff, to help prioritize safety hazards and interventions, and to provide resources to improve safety.

Step 4: Ask staff to choose and learn from 1 defect per month.

Step 5: Ask teams to implement tools (e.g., daily goals and morning briefings) to help improve teamwork and communication.

In addition to the bundle practices, the VAP intervention sought to increase use of evidence-based therapies for the prevention of VAP. Those included recommendations to use orotracheal route of intubation, change ventilator circuits for each new patient and for soiled circuits, use closed endotracheal suction systems that are changed for each new patient and as clinically indicated, and use heat and moisture exchangers with weekly changes in the absence of contraindications.

A standardized CDC definition of VAP was used. Baseline data were reported and post-implementation data were reported for 30 months. VAP rates (in cases per 1,000 ventilator-days) were calculated as the proportion of ventilator-days per quarter in which patients received all 5 therapies in the ventilator care bundle. Overall, 112 ICUs reporting 3,228 ICU-months and 550,800 ventilator-days were included. The overall median VAP rate decreased from 5.5 cases (mean, 6.9 cases) per 1,000 ventilator-days at baseline to 0 cases (mean, 3.4 cases) at 16–18 months after implementation and 0 cases (mean, 2.4 cases) at 28–30 months after implementation. Compared to baseline, VAP rates decreased during all observation periods, with incidence rate ratios of 0.51 at 16–18 months after implementation and 0.29 at 28–30 months after implementation.

"This study suggests that most VAPs are preventable, which has important public health implications," Pronovost and co-authors concluded. "[T]he Keystone ICU project may be a model for large-scale improvement projects in patient safety and public health."

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# APIC: “Ethical” duty to mandate HCW flu shots

*Employee health group skeptical of data, efficacy*

With low rates of influenza immunization among healthcare workers still more the national rule than the occasional exception, the nation’s largest infection prevention group has toughened its mandatory policy and closed some opt-out loopholes.

The Association for Professionals in Infection Control and Epidemiology now recommends mandatory seasonal influenza immunization as a condition of employment within healthcare facilities. With patient safety in the balance, organizations should not be deterred by workers threatening to quit, APIC argues.

“In the organizations that have really stepped up to the plate and had a mandatory policy, a lot of people threatened that they were going to leave,” says **Linda Greene**, RN, MPS, CIC, lead



author of APIC’s position paper and director of infection prevention and control at Rochester (NY) General Health System. “But what we have heard anecdotally is that they have lost very few of their employees. They may lose two or three nurses and they have 7000

employees. It’s a minute number of people.”

Another factor, is that hospitals that have gone to mandatory policies have thus far been able to hold the line, rather than reverting to a voluntary policy in the face of pressure from nurses and other health care worker union groups.

“In our literature search for this we found that everyone who has made a mandatory policy has not backed down,” Greene says. “There is value to looking at these early adopters. They did it, it worked, and they did not have a lot of people leave employment. These mandatory policies really do work, and we are seeing more and more organizations saying, ‘This is what we need to do.’”

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## ***AOHP has different tack on ‘mandate’***

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The Association of Occupational Health Professionals in Healthcare (AOHP) opposes the APIC position, particularly any definition

# AOHP supports worker right to decline vaccine

The Association of Occupational Health Professionals in Healthcare (AOHP) position on flu immunization of health care workers includes the following key points:

- In an effort to promote the health and safety of the HCW, AOHP advocates for a policy with the coordination of state, local, and national government that mandates that all HCW be offered the influenza vaccine, at no charge, as long as it is not medically contraindicated.
- AOHP strongly supports that all HCW receive the influenza vaccine based upon an informed decision through education regarding influenza illness, vaccine efficacy and safety, and infection control practices including CDC recommendations.
- AOHP respects the individual HCW right to make an informed decision regarding declination of the influenza vaccine and encourages HCW support of the influenza vaccination program. Declination forms are recommended to document lack of participation in the influenza vaccine program.
- AOHP advocates for education to prevent the spread of influenza to patients, coworkers and visitors regardless if the HCW has had the influenza vaccine, or has made an informed decision to decline the vaccine.
- AOHP advocates that individual health-care institutions initiate their own policy/procedures that are consistent with their local, state and/or federal guidelines or mandates in the implementation of their influenza vaccine program.
- AOHP supports that research and evidence based practice is necessary related to influenza transmission in the healthcare environment and vaccination of HCWs. Prompt communication of current study findings to the association and partnering organizations is critical in improving influenza prevention programs. ■

of “mandatory” as a condition of employment. Instead, in a new position paper posted on its website, the AOHP recommends that facilities be mandated to offer the vaccine.

“That kind of mandate [often] comes from

the state governments, which say the facilities have to offer the influenza vaccine to their employees," says **Mary Bliss**, RN COHN, director of AOHP Region 3. "That is the position that AOHP is [taking]. We support that it be mandated that health care workers be offered the vaccine. The mandate falls on the facility."

AOHP "respects the individual HCW right to make an informed decision regarding declination of the influenza vaccine" but nevertheless encourages a strong emphasis on immunization programs, the position paper states. (See *related story*, p. 43.) Declination forms are recommended to document lack of participation in the influenza vaccine program. The position was based on a survey of AOHP members, many of whom voiced concern about mandating a vaccine that changes every year and is known to lack a 100% efficacy.

"The vaccine is at best a guess," says **Dee Tyler**, RN, COHN-S, FAAOHN executive vice president of AOHP. "We don't know what the strains are going to be for a particular flu year, [so] mandating it as a condition of employment becomes something of a challenge. What happens if they have a reaction? How do you handle that under worker's comp? What will the employer's responsibility be?"

In addition the AOHP cites a recent Cochrane review paper that concluded "there are no accurate data on rates of laboratory-proven influenza in healthcare workers" and many of the studies showing a protective affect are "at high risk of bias."<sup>1</sup>

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### ***38% of workers not vaccinated***

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In citing its stronger position, APIC emphasized the current policy of voluntary vaccination has not been effective and that healthcare personnel have not achieved acceptable vaccination rates.

"We are finding that despite all of the efforts coverage levels are around 62%, [immunized] which really is only a marginal increase," Greene says. "If you look at the history of our position papers, we have gone from the entirely voluntary effort of going around with the [flu shot] carts, to informed declinations, and now to this very firm stance because clearly voluntary efforts have not been successful."

Rather than accepting some general philosophical or personal objection to being immunized, APIC says only employees that are

## **OSHA: Mandatory flu shots OK, but with a key caveat**

In the continuing hue and cry over mandatory flu shots for health care workers, questions have arisen about the regulatory position of the Occupational Safety and Health Administration.

Can hospitals mandate that health care workers be immunized without running afoul of OSHA? The answer is "yes," with a key caveat, according to an OSHA position established in 2009.

In a "letter of interpretation" in response to a question about the increasingly popular but controversial policy, OSHA ruled that employers may mandate the vaccination as long as they don't retaliate against employees who have "a reasonable belief" that they would have a serious medical reaction to the vaccine. There's no mention of philosophical or religious beliefs, but if the worker claims to be at risk, for example, of "a serious reaction" to the flu vaccine, OSHA says they may be protected under "whistleblower" statutes.

The position was established during emergence of the H1N1 influenza A pandemic strain. The agency states: "OSHA does expect facilities providing healthcare services to perform a risk assessment of their workplace and encourages healthcare employers to offer both the seasonal and H1N1 vaccines. It is important to note that employees need to be properly informed of the benefits of the vaccinations. However, although OSHA does not specifically require employees to take the vaccines, an employer may do so. In that case, an employee who refuses vaccination because of a reasonable belief that he or she has a medical condition that creates a real danger of serious illness or death (such as serious reaction to the vaccine) may be protected under Section 11(c) of the Occupational Safety and Health Act of 1970 pertaining to whistle blower rights." ■

medically contraindicated to the seasonal flu vaccine should be exempted. That said, the association left the matter of religious objections to be handled on a case by case basis, with the possibility of reassigning or masking

employees if it is a legitimate issue.

"Certainly, one could understand religious beliefs if they are part of an organized religious effort — with an authenticated [statement] that this religion truly does not believe in vaccines," Greene says. "There are ways that one could accommodate them and respect religious beliefs, but with the realization that patient protection comes first. Do they need to wear a mask during flu season or do we need to reassign them to an area where they are not exposed to highly vulnerable patients?"

The recommendations are published in APIC's newly-released position paper, "Influenza Vaccination Should Be a Condition of Employment for Healthcare Personnel, Unless Medically Contraindicated," ([www.apic.org](http://www.apic.org)). The recommendations apply to acute care hospitals, long-term care and other facilities that employ healthcare personnel. The APIC paper states that the mandatory requirement should be part of a comprehensive strategy incorporating all of the recommendations of the Centers for Disease Control and Prevention's Healthcare Infection Control Practices Advisory Committee (HICPAC) and the Advisory Committee on Immunization Practices (ACIP).

Influenza results in an estimated 150,000 hospital admissions and 24,000 deaths annually. The most efficient way to decrease transmission of the illness to or from high-risk persons, such as hospitalized patients, is through vaccination of health care workers, APIC argues. Mandatory vaccination programs have proven to be the single most effective strategy to increase worker influenza vaccination rates.

"If you want to work in [a health care] organization you really need to get vaccinated because we believe it is that important," Greene says. "We believe it is an ethical responsibility. APIC is taking a leadership role because this is an issue that is very near and dear to the hearts of all of our members. They are very passionate about this."

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## More stick, less carrot: Hand hygiene fines

*Docs face \$1,000 fine, lost credentials*

Money talks when it comes to infection prevention, particularly if it's coming out of your purse or wallet. That appears to be the lesson thus far of an infection control policy taken to an unusual extreme.

As of this writing, a punitive policy in place at the University of Pittsburgh Medical Center (UPMC) — a vanguard institution in infection prevention — calls for fines of up to a \$1,000 for physicians who ignore a hand washing edict. Second offenses could mean a temporary loss of hospital privileges. With varying fines for other health care workers, the policy was enacted amid a persistent outbreak of multidrug resistant *Acinetobacter baumannii* (MDR-Ab).

How did we come to such a place, we ask rhetorically, knowing full well many infection preventionists will answer, "Well, we've tried everything else!" But are such punitive



approaches counterproductive, breeding worker resentment in the name of patient safety? Surprisingly there has been little "pushback" thus far, in part because no fines have had to be levied, explains **Carlene Muto, MD, MS**, UPMC's medical director

for infection control.

"We've had the support of our entire team — our physicians, our nurses, our [administration] and medical executives," she tells *Hospital Infection Control & Prevention*. "I think people want to do the right thing. They intend to do the right thing, but for lots of reasons they don't. They are in a hurry; they didn't see the sign, whatever. But they get it — they know these organisms are very problematic and that patients can die from them. We just needed something to bring it home."

And make no mistake, the system was set up with every intention of follow-through on the first offense.

"This fine thing — there's been a lot of talk over the years about whether the carrot or the stick is better," she says. "We've tried a

lot of things with rewards, and I do think it gets you some improvement in behavior. But the bottom-line is we want the right behavior every time."

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### ***Like brushing your teeth***

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Thus, hand hygiene and other infection control measures must become as natural as routinely brushing your teeth, a habit so engrained it prompts the memory immediately if forgotten, she notes.

"If you think you could even be potentially fined, or more so, lose your privileges at the hospital where you work — that's enormous," she says. "It tells our employees this is so important to who we are — to our culture here, to our patient safety efforts — that we will do anything to ensure the right behavior occurs."

That behavior includes hand hygiene and contact precautions as indicated in designated areas of the hospital dealing with clusters of MDR-Ab, a notoriously difficult bug to contain and eradicate. Becoming increasingly prevalent since many early cases were linked to the Iraq War, MDR-Ab is no bug to take lightly. In addition to some strains being practically pan-resistant, a study published last year found that gowns, gloves and the unwashed hands of health care workers were frequently contaminated with MDR-Ab, suggesting it persists in the environment and is more easily transmitted than other resistant bacteria.<sup>1</sup>

"We had some clustering of MDR-Ab in the hospital that we identified," Muto notes. "So as usual, we made the staff aware of it and did everything we normally do: contact precautions and all of the things we would do for MRSA or any other epidemiological significant organism."

However, as cluster reports and suspected transmission sporadically continued, Muto and her top administrators felt it was time to take it further.

"It was really through the support of our administrative and medical staff," she says. "They said, 'You know what — we really mean it this time. Everybody has to do the right thing.' So they actually came up with what they thought would be the appropriate fines for each of the services and divisions."

In addition to the physician fines, fellows and residents on house staff face fines

of \$250 and they have to go through their program director with a disciplinary action plan. "For our non-physician staff, those folks will be immediately dismissed for the day and sent home without pay," she says. "So the fines are not the same, but we thought that each of them would have meaning to each of the different health care worker types. Believe me, everybody is aware. Everybody is willing to comply."

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### ***Seeking a 'Just Culture'***

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The policy is part of UMPC's "Just Culture" approach to patient safety, she explains.

"Our mission statement is 'Your care: Our commitment,'" she says. "We have decided to do whatever it takes to make sure health care workers have the right behavior every time. The systems are perfected now. There's hand hygiene dispensers everywhere, and [infection control] garb and signs on every door. The last piece is accountability."

The policy was adopted with full transparency and clear notice that there would be infection prevention observers in the designated areas to monitor compliance. In addition to the standard contact isolation signs, a strip of blue tape was placed above the designated room doors to prompt workers.

"It was never really our intention to fine people," Muto says. "It was our intention to get them to uphold the right behavior. People are very busy and might be heading into a room without the appropriate garb on. They would be stopped and reminded, and we have not had to issue any fines."

The blue tape also prompts housekeeping to do rigorous environmental cleaning upon patient discharge. "We wanted to make sure that the curtains were changed and the extra things were done for contact precaution rooms," Muto says.

The outbreak peak was in the third week of January, and since then has decreased steadily.

"We also did active surveillance on all of the clustered areas to see if there was reservoir that was undetected," she says. "That is not normally done here for that organism."

In addition, workers' hands were cultured, not so much to find MDR-Ab as to educate them about the persistence of germs and the value of hand hygiene.

"We did their hand cultures both before

and after hand hygiene to show them and prove to them its importance," she says. "We did a lot of things, and the number of new cases has significantly decreased. We're almost there."

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### Reference

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1. Morgan DJ, Liang SY, Smith CL, et al. Frequent Multidrug Resistant *Acinetobacter baumannii* Contamination of Gloves, Gowns, and Hands of Healthcare Workers. *Infect Control Hosp Epidemiol* 2010;31:716-721. ■

### CNE/CME instructions

Physicians and nurses participate in this CNE/CME program by reading the issue, using the provided references for further research, and studying the questions. Participants should select what they believe to be the correct answers, then refer to answer key to test their knowledge. To clarify confusion surrounding any questions answered incorrectly, please consult the source material. After completing the semester's activity, you must complete the evaluation form that will be provided and return it in the reply envelope to receive a credit letter. ■

### 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. ■

## CNE/CME Questions

13. According to the Centers for Disease Control and Prevention, central line associated blood stream infections (CLABSIs) have what mortality-rate range?

- A. 3% to 8%
- B. 9% to 12%
- C. 12% to 25%
- D. 25% to 38%

14. The CDC estimates that preventing a single CLABSI saves a health care facility \$16,550 in excess costs.

- A. True
- B. False

15. A highly successful team approach to preventing blood stream infections showed similar efficacy against which of the following?

- A. Methicillin-resistant *Staphylococcus aureus*
- B. Multidrug-resistant *Acinetobacter baumannii*
- C. patient falls
- D. ventilator associated pneumonia

16. The Association of Occupational Health Professionals in Healthcare (AOHP) opposes mandatory flu shots as a condition of health care employment. What did AOHP recommend instead?

- A. That facilities be mandated to offer the vaccine
- B. All patients be immunized on admission unless contraindicated
- C. Health care workers should be immunized, but not with the live attenuated "mist" version
- D. All of the above

### CNE/CME answers

13. C; 14. A; 15. D; 16. A

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## HAI's are also 'human' associated infections

*Don't lose the 'face' behind the rate*

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

Although we cannot move away from rates of healthcare associated infections (HAIs) — especially in this age of HAI public reporting and transparency — health care professionals might need reminding that people are represented in any HAI data calculated, statistically analyzed or distributed.



**Patti Grant**

During general orientation I state, "Our job is not giving 'extras' to our patient while they are with us. They need to leave with what they bargained for, and not have the rude shock of a urinary, bloodstream, lung, or surgical infection. We don't need to share any extra pain and suffering".

While reading the November 2010 issue of *Hospital Infection Control & Prevention* ("Special Report: MRSA Patient Stories," pp. 122-128) — which brought home the personal side of MRSA infections in our patients — I was intensely aware of both perceptions and reality. Looking back it was obvious from the start what infection prevention and control was all about for those of us in the trenches — it just took awhile for others to take up the passion to move forward as partners with our grass roots effort.

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### ***When family members suffer HAIs***

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On a personal note, my family has experienced several HAI events over the years. Although not a scientific study, let's just say they developed three surgical site infections out of fifteen procedures. I'm not too pleased with these less than stellar outcomes, yet I know full well that these HAI's were probably not "preventable" in

the way a wrong-site surgery is a preventable "never-event." Did this make it any easier to watch the pain and suffering of family members? Watch them have repeated incision and drainage? Removal and replacement of hardware? A resounding "No" is the answer despite my science-based expectations of healthcare.

Working within health care and having these personal HAI experiences has centered my strong understanding of the unrealistic zero tolerance demands by some of those outside our infection prevention system. Keeping the humanity behind an HAI event can be a challenge. We cannot regress back to the days of only counting infections without the level balance field of comparative rates with risk-adjustment. So how can we keep the "face" behind the HAI?

- Include the numerator and denominator numbers when reporting rates, as this helps healthcare professionals see the number of people involved.
- Infection preventionists must give more real-time feedback on HAI surveillance. It is no longer sufficient to share findings at monthly or quarterly meetings. Share the actual event upon discovery. When bedside staff know about the HAI close to the occurrence they can review their practices and look for improvements.
- Encourage bedside staff to include a succinct social history when reporting on their HAI events. Hearing that "the patient is the father of three, with nine grandchildren" is very different than reporting "one total knee replacement infection".
- Engage the bedside professional in the investigation of an HAI event. I've heard many excellent approaches to the (literal) bedside review of HAI's by teams of professionals that are done within 48 hours of the HAI being identified. Physicians, nursing, respiratory therapists, etc, get involved as applicable.

I'm not in a teaching institution so I've settled on a combination of the above. For example, with central-line associated bloodstream infections (CLABSIs) I inform the staff upon discovery. The bedside staff does a review based on a set of questions, and then presents their findings at the next CLABSI Team meeting. It has worked well and is somewhat like providing surgeons with their own surgical site infection rates. The professionals reviewing the CLABSI data want to up their game and succeed. If you'd like a copy of the CLABSI review tool I use just e-mail me at [sngsmart@tx.rr.com](mailto:sngsmart@tx.rr.com) — no reason to reinvent the wheel. ■