

# Briefings on Infection Control

Practical information on compliance and staff training for ICPs

## Electronic surveillance systems increase efficiency Technological advancements in data-mining systems are worth the expense



Continuing Education | Learning Objectives

After reading this article, you will be able to:

- ▶ Explain how data-mining systems can improve your IC program
- ▶ Justify ways in which this technology can save money
- ▶ Recognize how automated hand hygiene will increase compliance

The demands on today's IP are extensive. In addition to managing and educating frontline staff members, IPs are asked to conduct risk assessments for a variety of infections, initiate facilitywide goals, and stay on top of IC measures within their facilities.

However, doing so requires a tremendous amount of infection data tracking, whether it's by patient, by infection,

or by unit. Before elaborate computer software became available to medical facilities, IPs had to go through microbiology reports by hand, manually sorting and calculating rates and trends, says **Joan Hebden, RN, MS, CIC**, director of IC at the University of Maryland Medical Center in Baltimore and author of "Leveraging Surveillance Technology to Benefit the Practice and Profession of Infection Control," published in the April 2008 *American Journal of Infection Control*.

"The major pro to using data-mining software is efficiency," Hebden says. "You'll have a perspective on what was done historically—and when I say historically, there are some ICPs that are still doing this—where you literally are printing out a re-

**"As preventionists, part of our job is coaching, mentoring, working with the folks on the units, and manual surveillance, unfortunately, ties us to our desk."**

—Linda R. Greene, RN, MPS, CIC

port from your microbiology laboratory from all your abnormal results, and then you have to go through that and sort it depending on what type of surveillance you are doing."

However, the recently released *2009 APIC Economic Survey* found that technology use associated with IC programs is lagging. Only one in five of the nearly 2,000 survey respondents used data-mining technology to track infections.

This means IPs need to be able to bring a business case to administration to obtain technology such as data-mining systems, says **Linda R. Greene, RN, MPS, CIC**, director of IP at Rochester (NY) General Health System and author of *APIC Position Paper: The Importance of Surveillance Technologies in the Prevention of Healthcare-Associated Infections (HAIs)*.

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## Surveillance systems

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“As preventionists, part of our job is coaching, mentoring, working with the folks on the units, and manual surveillance, unfortunately, ties us to our desk,” says Greene. “The technology is very, very important.” (See p. 4 for a related story.)

## Balancing the cost

The trick to achieving leadership buy-in with data-mining technology is being able to show that investment in the system will balance the bottom line. However, Greene concedes that it’s difficult for many IPs to present a business case since they are often more clinically minded.

“It’s probably something we haven’t done very well because we’re pretty altruistic and we are thinking about patients, and they are the most important thing,” Greene says. “But what’s important is that we make our administrators

realize that when we prevent an infection, we not only save a life, which is the most important thing, but we also decrease length of stay and decrease the bottom line, and that’s a really important message in these economic times.”

Hebden notes that calculating even basic cost-savings numbers is relatively simple. For example, if the average IP makes \$35 per hour and spends eight hours per week on manual surveillance, that hospital could save nearly \$15,000 per year with the use of data mining, and the IP could better invest his or her time elsewhere.

“And that has nothing to do with the actual reviewing of patient records that might have to be done, like aggregating your reports for presentation to clinicians and all the other work that goes along with the process of surveillance,” Hebden says. “Because surveillance is not just simply data collection; surveillance is data collection, data aggregation, data reporting, and evaluation of data to determine if outcomes of interventions are working. So the data collection piece should be streamlined as much as possible.”

If you show how purchasing a data-mining system can offset the skyrocketing cost of HAIs, administration may be more likely to invest. For example, making the argument that automated data collection helps eliminate patient days may be convincing.

“Most hospitals in the country, we are running at 100% capacity,” Greene says. “And part of what the CEO and the people in the administration want to see is that throughput, so that if we can move patients out of an ICU bed, get people waiting in the emergency department into those beds, and decrease the length of stay, it’s really important.”

## Leveraging regulatory agencies

Another keyword that might make hospital administrators perk up is “reimbursement.”

With the announcement that the Centers for Medicare & Medicaid Services (CMS) will not reimburse

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“never events,” including catheter-associated urinary tract infections, vascular catheter-associated infections, and surgical site infections, hospital CEOs are going to pay more attention to infections they may not have watched as closely before.

“I think in light of the CMS zero tolerance of these infections going forward, we are in a position where I think they now understand they are losing money from their bottom line,” Hebden says. “They have always been losing money from their bottom line potentially, but now it is much more evident. These infections historically resulted in reimbursement from the payment system, so I don’t think leadership truly understood their impact. Now we’re in a position where they’re eliminating reimbursement for potentially preventable adverse outcomes of care.”

These infections are now tied to a monetary value. For example, the cost of a central line-associated bloodstream infection could be as much as \$34,000, Hebden says. Purchasing a data-mining system may be more appealing if there is proof that its value would be realized after eliminating just a few infections.

And although The Joint Commission (formerly JCAHO) doesn’t require an automated system, having one will certainly help comply with the National Patient Safety Goals and other IC standards that focus on conducting a risk assessment, which is easily mapped out with surveillance technology, Greene says. Additionally, the presence of an automated system shows an accrediting agency that the IP has a broad overview of IC in the facility.

“With an electronic surveillance system, you can prove to regulatory agencies that you really have your [finger on the] pulse of the whole organization,” Greene says. “It may not even be something you are following intentionally like bloodstream infections in the intensive care unit, but you have a handle on it.”

### **Purchasing a system**

There are several data-mining vendors on the market, each with different accessories, but there are a few things

to look for when purchasing a system, according to the previously mentioned APIC position paper. It’s important that a data-mining system be able to do the following:

- Obtain essential clinical information for individual patients from sources throughout the facility
- Retrieve data from various clinical systems such as the laboratory, pharmacy, and radiology departments and send alerts
- Provide real-time updates
- Send standard electronic messages and documents to public health departments, such as the CDC’s National Healthcare Safety Network

APIC’s position paper also suggests steps that are useful in choosing an appropriate system:

- Make a list of must-have and nice-to-have features
- Write down standard scenarios that you would like the system to respond to and ask vendors to demonstrate their system’s functionality in those situations
- Talk to other users of the system
- Assess the system’s ability to adapt to change
- Evaluate the system’s security

Hebden says it’s important not to downplay the importance of staff members such as programmers or data analysts, who can help enhance the productivity of the system. For example, the University of Maryland Medical Center has a central repository from which analysts can quickly pull data with flexible degrees of specificity.

“I could just call the data analyst up and say, ‘I want you to go back three years and tell me how many positive bloods we’ve had for a certain organism,’ and they can do that,” Hebden says. ■

### **Questions? Comments? Ideas?**

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## A look at the future of IC technology

Although data-mining systems are arguably the most important in new hospital technology, there are several IC technologies that could change the way IPs do their jobs. For more about these technologies, visit **OSHA Healthcare Advisor** at [www.oshahealthcareadvisor.com](http://www.oshahealthcareadvisor.com).

### Hand hygiene surveillance

Everyone knows the importance of following proper hand hygiene protocols. The trouble is justifying the staff time required to conduct manual surveillance. But there are a couple of surveillance technologies that could eliminate the need to be the hand hygiene police.

A new product developed by HyGreen utilizes the same sensors used in breathalyzers, except it's aimed at your hands. The technology, developed by **Richard J. Melker, MD**, an anesthesiology professor at the University of Florida College of Medicine, uses a fan to draw in fumes after a healthcare worker puts his or her hands underneath a hand washing product (e.g., soap or alcohol-based hand sanitizer).

There are four major components to the technology:

- A HyGreen sensor with a unique identifier is installed everywhere there is a hand washing product (e.g., alcohol-based hand sanitizer or soap and water)
- Each healthcare worker wears a badge holder with a unique identifier; this badge holder communicates with the sensor when a hand washing product is used
- Each bed has a proximity-sensing monitor with a unique identifier; when an employee steps within 8 ft. of a monitor, it recognizes the badge holder and determines whether the employee has washed his or her hands
- A database collects all of the information; the data can be broken down according to individual badge holders, hand washing stations, or bed monitors

If an employee has not washed his or her hands and approaches the bed monitor, the badge will give off three vibrations as a "gentle reminder," Melker says. If the employee returns to the sink and washes his or her hands, the database does not flag the incident, but if the employee ignores the reminder, the system flags him or her as noncompliant.

"It's one thing to improve hand hygiene, it's another thing to actually reduce hospital-acquired infections," Melker says.

Similar to the data-mining systems, the database tracks each incident so users can pull up information according to a patient's bed, a specific hand washing station, or a particular employee. "The nurses love it, and the nursing administration and epidemiologists really like it," Melker says. "For instance, we can show when somebody didn't wash their hands, and six seconds later, they went back and washed them after the reminder. Most of the nurses are telling us that it helps them remember, and after about three days, they really improved their adherence."

But HyGreen isn't the only hand hygiene surveillance product out there. Epidemiologists and computer scientists at the University of Iowa developed a similar system, called Zigbee, which was released in March at the annual meeting of the Society for Healthcare Epidemiology of America.

Zigbee, like HyGreen, uses wireless technology. Employees wear "pager-sized badges to monitor their use of hand hygiene dispenser stations prior to entering patient rooms," the press release states.

However, Zigbee stores data in the badges rather than a network. Users' badges record dates, times, and lengths of dispenser use, as well as dispenser identification numbers. Data can then be uploaded to a computer system.

### Cleanable keyboards

These devices have become more prevalent as focus has shifted toward the spread of bacteria through high-touch surfaces. Nurses constantly enter data on computers between caring for patients. As a result, there has been increased marketing for cleanable keyboards that are water- and chemical-resistant to prevent the spread of infection among patients and workers. However, two ex-Microsoft employees have taken the idea a step further. The founders of a Seattle-based company called Vioguard have created a self-cleaning keyboard that claims to kill 99.9% of bacteria with UV light.

The keyboard retracts into an enclosed device that uses UV light to kill nearly all the germs. Vioguard expects to launch the first version of the keyboard in the second quarter of this year, but the downside is the price: \$499–\$599.

## IC deficiencies elicit a close look at the MRI suite

### Questions about proper cleaning procedures grab Joint Commission attention



#### Continuing Education | Learning Objectives

After reading this article, you will be able to:

- ▶ Explain how safety hazards have restricted cleaning the MRI suite
- ▶ Describe the IP's responsibility in building an IC plan for the MRI
- ▶ Identify what Joint Commission surveyors will look for in the MRI suite

If a patient walked into a doctor's office or a hospital and saw evidence that the facility lacked adequate IC, it wouldn't be surprising to see that patient turn around and walk out.

The MRI suite doesn't seem to have that problem, says **Peter Rothschild, MD**, president and founder of Patient Care Systems, Inc., in Newark, CA. For years, many MRI suites in hospitals and outpatient facilities have operated without proper IC procedures, primarily because the dangers of the MRI's magnetic field bar almost all employees from entering the room, Rothschild says. As a result, the area has flown under the IC radar.

In June 2008, Rothschild released *Preventing Infection in MRI: Best Practices for Infection Control in and Around MRI Suites*, a white paper that detailed some of these IC concerns, which include a lack of cleaning procedures and a detailed IC plan specific to the MRI. In May, Rothschild released another paper, *Survey of Infection Control in the MRI Environment*, in which he questioned 100 hospitals and outpatient imaging centers to determine the state of MRI-specific IC policies.

"Unfortunately, it's an area that has just been ignored," Rothschild says. "I think that's the nicest way to say it."

Rothschild surveyed 53 hospitals and 47 independent outpatient imaging centers and asked three questions:

- ▶ Do you have written IC procedures, and are they posted where everyone can see?
- ▶ If so, do you follow them for every patient?

- ▶ What do your IC procedures say? Are your procedures specific for the MRI suite? (For this, the surveyor was listening for whether staff members washed their hands or cleaned the pads.)

Of the 53 hospitals, 35 stated they have a written policy, three said it was clearly posted, and only seven stated that staff members wash their hands after every patient interaction. Of the 47 outpatient centers, 18 said they have a written policy, although five stated that it was in the employee manual and two said it was clearly posted; not one facility said its staff members wash their hands between patients.

Rothschild notes that even though a few facilities said they had detailed IC procedures, they would not send a copy to the surveyor.

"This should not be a secret. This should be told to everybody," Rothschild says. "Not a single one of any of the 100 places we called sent us anything. They said they would, but they didn't. We can only assume they didn't have one or didn't have access to it."

### Ensuring employee safety

Employee safety is one of the main reasons that the MRI suite lags behind in IC and environmental cleaning, says **Tobias Gilk, M. Arch**, president and MRI safety director at Mednovus, Inc., an MRI safety consulting firm in Leucadia, CA.

Because the MRI houses a powerful magnet (tens of thousands of times more powerful than Earth's magnetic field, according to Gilk), it creates a hazard for those unaware of how it operates.

On February 14, 2008, The Joint Commission (formerly JCAHO) issued a Sentinel Event Alert regarding MRI safety for employees and patients.

The Joint Commission said that of the five MRI-related cases in the Joint Commission's Sentinel Event database,

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## IC deficiencies

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four deaths resulted, including a case that involved a projectile.

Since these dangers exist, the suite is usually restricted to MRI technologists and operators.

"We restrict access to it, and a lot of times this means that we restrict access such that infection control officers or chief nursing officers or directors of medical care don't spend the same amount of time or have the same degree of day-to-day oversight for the MRI part of an enterprise that they do for, say, the patient care floors," Gilk says.

The machine's magnetic field can be harmful to people with pacemakers or orthopedic inserts, such as metal plates, rods, or screws. Further, the incredible strength of the magnet draws in anything ferromagnetic with dangerous strength and speed, meaning equipment used by environmental services should be restricted.

"Let me tell you, a floor polisher is going to do six figures' worth of damage to the MRI if it's brought into the room," Gilk says.

## Establishing proper cleaning procedures

Rothschild places some of the blame on the MRI manufacturers. Nearly every piece of equipment in the hospital comes with cleaning instructions, but cleaning one of the most expensive and most dangerous is left up to the judgment of the MRI technologist.

"One of the funny stories is 'I bought a frying pan for \$10, and it came with cleaning instructions. I bought a \$1.5 million MRI, and it had no cleaning instructions. What is wrong with this picture?' " says Rothschild.

Couple that with the long bore of the MRI, which makes cleaning very difficult. Additionally, the pads and coils can suffer extensive damage from potent cleaning chemicals.

"It's a catch-22," Rothschild says. "What happens is the older pads are sewn together with cotton threads, and the cleaning materials will eventually seep in them and destroy those threads, causing them to deteriorate even faster. If [the MRI] is cleaned wrong, [the chemicals] can damage the magnet or damage these coils, and it's quite expensive to fix, so there's reluctance, especially with outpatient imaging centers, to clean these coils and tables very aggressively because a new coil could be \$150,000 or \$200,000."

## Creating a plan

These safety hazards make it easy to ignore MRIs altogether, but the risks make it essential to create a detailed plan that includes specific responsibilities and procedures. Gilk and Rothschild agree that IC should be involved in three-way collaboration with environmental services and the MRI staff.

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"I do not think we want to have infection control dictating how cleaning is going to be done in the MRI environment because there are so many risks in bringing people and tools and equipment and material into the MRI suite that ultimately, I feel, in the interest of safety, it's best that the MRI staff control that aspect of it," Gilk says. "That's not to say we divorce the infection control officer from any responsibility to this area."

Rather, IC should provide performance specifications, standards interpretation, and best practices, which will assist in creating a detailed cleaning procedure. From there, the MRI staff can decide how to handle each job, but the IP should be available to help ensure compliance, check for efficacy, and provide guidance. "Our push is it needs to be in writing," Rothschild says. "There needs to

be written infection control procedures that technologists and operators are required to follow. It can't be left up to best judgment."

### Complying with Joint Commission standards

For accredited organizations, there may be much more focus implementing a specific IC plan for the MRI suite, because The Joint Commission may begin looking for one. (See "Passing a Joint Commission survey" below for some helpful tips.)

The February *Environment of Care*, a Joint Commission-published newsletter, included an article about IC in the MRI suite that indicated surveyors would pay closer attention to this area.

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### Passing a Joint Commission survey

The Joint Commission has said it is shifting its focus to the MRI setting, particularly concerning IC protocols.

The following are five elements a surveyor is likely to look for:

➤ **A detailed plan.** The IC plan should be specific to the MRI suite, taking into consideration elements of safety as well as specific procedures for cleaning the bore and the pads. Louise Kuhny, RN, MPH, MBA, CIC, senior associate director of the Standards Interpretation Group at The Joint Commission, said in Joint Commission Resources' *Environment of Care News* that the requirements of IC.01.05.01 would apply in this case.

The following is Kuhny's outline of this approach:

*First, every accredited organization must have a unique and specialized infection prevention plan that meets its specific needs. Second, each organization must have a risk assessment strategy, along with methods for evaluating the success of that strategy. In the case of the MRI, accredited organizations could assess this as a risk point and would be expected to have goals and strategies to address these risks.*

➤ **Established goals and strategies.** This is similar to the requirement to establish IC goals in other areas of the hospital, but these goals should be specific to the MRI suite.

➤ **A person designated for cleaning.** One person should be in charge of cleaning the MRI equipment, most likely an MRI technician who understands the associated hazards. The MRI staff may choose to assign tasks such as floor cleaning to environmental services, says **Tobias Gilk, M. Arch**, president and MRI safety director at Mednovus, Inc., in Leucadia, CA, but there should be specific training and screening procedures in place to ensure safety, and IC should have a hand in making sure the plan is followed correctly.

➤ **Documented cleaning.** Once you have established your cleaning schedule for the pads, coils, bore, and the room, develop a documentation system, says **Peter Rothschild, MD**, president and founder of Patient Care Systems, Inc., in Newark, CA. With documentation, if a surveyor asks about the last time the pads were cleaned, there is evidence to fall back on.

➤ **Pads checked and replaced.** MRI pads that are torn or frayed are sure to be a red flag for surveyors, Rothschild says. Set up a schedule for someone to inspect the pads and a procedure for ordering new ones if needed.

*Editor's note: For more on MRI compliance, visit **OSHA Healthcare Advisor** at [www.oshahealthcareadvisor.com](http://www.oshahealthcareadvisor.com).*

## IC deficiencies

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**Louise Kuhny, RN, MPH, MBA, CIC**, senior associate director of the Standards Interpretation Group at The Joint Commission, says the MRI suite is treated the same as any other part of the hospital.

“The MRI suite is considered an integral part of any Joint Commission survey,” Kuhny says. “All Joint Commission standards apply to care in the MRI suite in the same way that they apply to other areas of a hospital or ambulatory center. Some compliance areas that prove particularly challenging for accredited organizations are HR (particularly competence), PC (verifying the correct order for testing), and IC (cleaning of equipment and the general environment, as well as hand hygiene).”

Kuhny says surveyors are trained annually to survey effectively, and “problems unique to the MRI suite have been a recent focus of surveyor education.”

However, Gilk remains frustrated with The Joint Commission and the accreditor’s apparent lack of attention to MRI safety.

He says he has solicited input from facilities that have undergone surveys this year, and in his opinion, there hasn’t been an evident focus on the MRI.

“They wanted to see a fire extinguisher and shadowed a patient, but none of the things that were really identified in that Sentinel Event Alert or infection control issues appear to be on the radar of most surveyors,” Gilk says. ■

*Editor’s note: For more information on MRI safety and IC, download Rothschild’s “11 Steps to Prevent Infection in the MRI Environment” by visiting **OSHA Healthcare Advisor** ([www.oshahealthcareadvisor.com](http://www.oshahealthcareadvisor.com)).*

## How to plan better for infectious waste disposal

**Along with the safety officer, IPs should have a hand in planning for a pandemic**

### Continuing Education | Learning Objectives

After reading this article, you will be able to:

- ▶ Explain why it’s important to plan for a pandemic with your waste disposal facility
- ▶ Recognize the IP’s role in planning
- ▶ List reasons on-site waste disposal technology should be considered

Although the summer months usually override the thought of flu season for healthcare workers and patients, it’s these months before the season kicks in that are most crucial for planning.

On June 11, the World Health Organization officially declared a phase six pandemic. Although the organization considers the severity to be moderate, organizations such as the CDC have stressed the importance of planning for the upcoming fall flu season, when the combination of seasonal flu and novel influenza A H1N1 could intensify

the effect on healthcare facilities. “Moving forward, we’ll have to address two different challenges: seasonal flu, as we have each year, and novel H1N1 influenza,” newly appointed CDC director Tom Frieden, MD, said in a June 11 press conference. “We’ll be looking at those separately and how they relate to each other.”

Although IPs will be focused on employee safety and mitigating the transmission of the disease, one important planning consideration should revolve around disposing of an increase in infectious waste during a pandemic. IPs’ involvement in pandemic planning and knowledge of the flu’s infectious properties mean their input is vital.

Unfortunately, it’s often an issue that is put on the back burner, says **Alice Jacobsohn**, director of the Medical Waste Institute, a subgroup of the National Solid Waste Management Association. “It’s very hard to get people to focus on it,” Jacobsohn says. “And to some degree, it’s understandable. You are more concerned with human

life than what to do with the waste on the back end. Obviously, protecting the public health is more critical in terms of planning.”

But failing to consider disposal options for excess infectious waste could lead to risky situations. In a May 18 op-ed article for *The Washington Times*, Darrell Henry, executive director of the Healthcare Waste and Emergency Preparedness Coalition, wrote that facilities that do not plan for infectious waste disposal could put public health at risk. “Ninety percent of our hospitals since the mid-1990s have chosen to export their infectious waste through their local communities and over our roads and highways,” Henry wrote. “However, during a pandemic, infectious waste should not be allowed to leave the realm of the clinical experts on disease control at our nation’s hospitals.”

Although not all hospitals have the option for on-site disposal systems, every medical facility should plan for what to do with an excess of infectious waste.

### Contacting your hauler

The primary concern in building a pandemic waste disposal plan is the amount that is being generated, but that amount is difficult to predict, and the pandemic planning

team usually ends up making an educated guess. Fortunately, waste disposal facilities are used to handling infectious waste on a daily basis, so the challenge is determining how much will exceed their limits.

“The infectious substance itself is not unusual in the sense of what medical waste disposal companies handle every day,” Jacobsohn says. “And there are certainly other diseases out there that are far worse than flu-type treatments. So in terms of the materials itself, there’s expertise out there in terms of dealing with this, so you don’t have a sort of ‘Gosh, what do we do with this?’ approach.”

To be fully prepared to handle an increase in waste, the No. 1 initiative for hospitals is to contact their waste hauler and work out the details should a pandemic arise. Because pandemic prevention has so much to do with mitigating the spread of disease, the IP should be a part of this planning call. (See “Questions for your waste hauler” below.)

### Considering on-site options

In his editorial, Henry pointed out that modern technology allows facilities to sterilize or autoclave infectious

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### Questions for your waste hauler

The most important element of pandemic planning for an increase of infectious waste is communication with your waste hauler. The following is a list of questions to consider for your facility and for the hauler:

- What is the potential quantity of waste that the medical facility could see?
- What is the potential quantity of waste that the disposal facility can handle on an emergency basis? Are there any restrictions regarding a spike in infectious waste?
- Is a spike in infectious waste accounted for in the contract between the facility and the hauler?
- Does the disposal facility have the necessary equipment to handle those loads?
- Are there enough additional staff members trained at the medical facility, the waste hauler, and the disposal facility to handle this waste?
- What is the situation regarding waste containers? Will the medical facility need to have extra containers available during an emergency situation? If so, where can it obtain them?
- Does the medical facility have on-site sterilization equipment? If so, can it handle an increase in waste? If not, should the facility consider purchasing its own equipment?
- Who is in charge at the medical facility and at the disposal facility?
- Who is signing off on documents or forms verifying that the containers are leakproof, packaged correctly, and ready to move?
- Are there any additional considerations for excess infectious waste? What should each party know from an IC standpoint about infectious waste during a pandemic?

## Waste disposal

< continued from p. 9

waste on-site, reducing the amount transported and decreasing risk to the public. “With real threats of pandemics, transporting infectious and contagious medical waste is no longer prudent,” he wrote. “Modern, affordable technologies can cleanly, safely, and economically sterilize infectious and contagious waste on the premises of healthcare facilities. Treating hazardous materials on-site is also a cleaner, greener, less costly, and, most important, safer option.”

Jacobsohn says on-site disposal or sterilization is a valid option, but facilities should be wary of treatments that falsely claim to sterilize the waste—these may reduce the risk but will not eliminate it. She says each facility should look at its current equipment, determine how much extra waste it can handle, and coordinate with the waste hauler.

### Finding storage

A final consideration is figuring out where your healthcare facility will store its excess waste. Jacobsohn notes

that most hospitals do not have extra storage space for waste containers.

For example, if your facility normally produces 5 lb. of waste each day and fills up one container, a pandemic could mean it produces 10 or 20 times more and would require additional containers.

“Most hospitals don’t have the kind of storage that you could keep that many additional containers in a closet somewhere,” Jacobsohn says. Thus, the hospital needs to coordinate a plan with the waste hauler to get extra containers quickly.

Another part of the waste problem is that some disposal facilities are not equipped to handle an increase in loads. If your hospital has a contract with the hauler, make sure it stipulates that the disposal facility can handle the spike in waste. If it cannot, speak with other facilities about handling additional waste or consider employing on-site disposal methods. ■

### Standard of the month: NPSG.07.04.01

## Reducing central line infections outside of the ICU

#### Continuing Education | Learning Objectives

After reading this article, you will be able to:

- Identify the requirements of NPSG.07.04.01
- List the evidence-based interventions that make up the central line bundle
- Explain how online tools can help with compliance

Meeting the requirements of The Joint Commission’s National Patient Safety Goal (NPSG) concerning central line–associated bloodstream infections (CLABSI) shouldn’t be an issue in the ICU.

In many facilities, the central line bundle from the Institute for Healthcare Improvement, which includes a central line checklist, has already been integrated into the ICU for years (see “Implementing the central line bundle” on p. 11).

But come January 1, 2010, Joint Commission–accredited medical facilities will need to have implemented some of those same prevention efforts facilitywide, according to NPSG.07.04.01. Compiling infection data in other units will be foremost on IPs’ minds between now and the beginning of the year, says **Carolyn S. Wieging, RN, BSN, CIC**, IP and IC manager at St. Rita’s Medical Center in Lima, OH. “Probably the biggest thing and the most time-consuming thing is doing whole-house surveillance for catheter-related BSIs,” Wieging says. “Before, we were just doing ICU, and now we have to [consider the] whole house, so that will change our surveillance.”

### Working with non-ICU units

**Peggy Prinz-Luebbert, MS, MT(ASCP), CIC, CHSP**, owner and consultant of Healthcare Interventions, Inc.,

in Omaha, NE, says she has found that anesthesiologists in preop are one group that may need additional help with compliance. If they can't find a vein before surgery, they usually resort to a central line.

"So that's just about implementing the checklist and making sure the supplies are there so when the doctor has to quickly put one in, it's all right there," says Luebbert.

Wieging says her unit has been working with the IV team to help track CLABSIs in the non-ICU setting and point out areas that need improvement.

"They are helping us collect some of that data, especially when they see a line that looks infected with redness or pus at the site, or they note that a patient with a central or [peripherally inserted central catheter] line is spiking a temperature," Wieging says. "They also call us any time they take a line out because they think it might be sepsis." She notes that the IV team also helps in calculating device days.

"In the ICU, it's easier because you've got a unit secretary there that can just do a tally every day," Luebbert says. "But when you have to do it in every unit, that's a big challenge."

### Using online tools to achieve compliance

Wieging says she has been able to collaborate with her information technology (IT) department in numerous ways to implement best practices on all units of her hospital. When nurses enter documentation, there is an area on the screen that allows them to fill out a central line checklist.

"We did all paper before, but now we have been working with [IT] to get it online, and I think that's going to be a big help," Wieging says.

Wieging also uses the computer system to satisfy the patient education requirement of NPSG.07.04.01. When a nurse is getting ready to put in a central line, he or she can simply right-click to access a patient education form and print it out.

If you have the IT capabilities, streamlining procedures through an online database that's easy to use

can improve compliance and satisfy Joint Commission (formerly JCAHO) surveyors. "Anything to make it quicker and easier for the nurses is going to be a big help," says Wieging. "The easier you make it for the nurses, the more compliant they will be."

### 'Scrub the hub' campaign

Wieging has also initiated a facilitywide "scrub the hub" campaign, which reminds employees to disinfect catheter hubs with alcohol before insertion.

In addition to posting reminders throughout the hospital, St. Rita's Medical Center is rolling out a hospital-wide educational program, separate from its annual employee education, that aims to demonstrate to surveyors how the facility is concentrating on CLABSIs outside of the ICU.

"We're using flyers and posters around the hospital just so everyone knows they need to use alcohol to scrub the hub and they need to do that every time," says Wieging. ■

### Implementing the central line bundle

The central line bundle that is already implemented in most ICUs should translate to other areas of the hospital to reduce infections and help with compliance. The bundle consists of evidence-based interventions for patients with intravascular catheters. When implemented together, the interventions result in better outcomes and decreased infections.

The key components of the central line bundle are:

- ▶ Hand hygiene
- ▶ Maximal barrier precautions upon insertion
- ▶ Chlorhexidine skin antisepsis
- ▶ Optimal catheter site selection, with subclavian vein as the preferred site for nontunneled catheters
- ▶ Daily review of line necessity, with prompt removal of unnecessary lines

*Editor's note: For more on implementing the central line checklist, see "Are checklists the future of infection prevention?" in the July **Briefings on Infection Control**.*

## Train the Trainer

# A rap video to improve hand hygiene compliance



### Continuing Education | Learning Objectives

After reading this article, you will be able to:

- ▶ Explain how the MGH video helped boost hand hygiene compliance
- ▶ Illustrate how creative training techniques achieve better retention

*Editor's note: The following article was originally published in the June **Strategies for Nurse Managers**. Visit [www.strategiesfornursemanagers.com](http://www.strategiesfornursemanagers.com) for more information.*

Hospitals commonly display visual aids such as banners, posters, and signs to remind staff members to practice proper hand hygiene, but nurses in Massachusetts General Hospital's (MGH) same-day surgery unit (SDSU) may have found a more memorable way to get the message across: creating a rap video.

Dubbed the "Cal Stat Rap," the humorous, educational music video depicts **Pauline M. Albrecht, RN, BSN**, as she rhymes about the importance of using the facility's Cal Stat sanitizers and performing proper hand washing protocol to prevent the spread of infection. Various other hospital staff members can be seen dancing with bottles of Cal Stat.

The rap, written and produced by Albrecht, is the latest component of MGH's hand hygiene campaign, which formerly led staff members in the neonatal ICU, medical ICU, and one cardiac unit to achieve 100% compliance before and after patient contact for three consecutive months. The facility's overall hand hygiene compliance is currently peaked at 90%.

"I was thrilled to offer my colleagues a fun way to remember to use good hand hygiene. It is such an important part of our terrific care that we give at MGH," says Albrecht. "My coworkers, the 'SDSU dancers,' deserve a lot of credit for sharing their creative dance moves."

Albrecht's recent hand hygiene efforts are what **Judy Tarselli, RN**, in the IC unit, describes as truly unique.

"We have more than 150 of what we call hand hygiene champions who are peer leaders," Tarselli says. "Pauline was not a designated champion, but a nurse working on one of our units, and just a perfect example of what can be achieved even if you're not officially affiliated with the improvement group. This is how ingrained hand hygiene has become in our culture."

It took Albrecht about two months to write and record the rap and another month to choreograph and film it. The end product, which is about two and a half minutes, supports the tone of MGH's previous IC initiatives.

"It represents how we have tried to keep our improvement efforts positive and fun," says Tarselli. "Champions here have created everything from bulletin boards to songs to poems to contests."

Although the rap addresses hand hygiene in a light-hearted manner, its lyrics touch on some crucial hospital challenges, such as maintaining compliance with The Joint Commission (formerly JCAHO).

The lyrics read:

*So you better pay attention to the rules.*

*We gotta beat the nasty bugs, we got the tools.*

*Too much sharing and not caring gotta cease,*

*says JCAHO and the Cal Stat police.*

The "Cal Stat police," or undercover agents at MGH, such as Tarselli, have been directly observing staff members on all units and conducting routine surveys for the past seven years.

"You need a measure for improvement, and you can have hand hygiene among nurses and doctors, but that alone isn't going to get you anywhere," says Tarselli. "Everybody that is affiliated with patients and their environment must be included in the hand hygiene program." ■