

Hospital Employee Health®

THE PRACTICAL GUIDE TO KEEPING HEALTH CARE WORKERS HEALTHY

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IN THIS ISSUE

- **'They should know better':** HCWs face rebuke for failing to get flu vaccine cover
- **Stay home:** CDC backs away from N95s with influenza and tells HCWs to stay home if they're sick 100
- **Green light for N95s:** Dispute over the fit of the 3M 8000 highlights issues involved in new NIOSH fit requirements 101
- **Checklist for change: Peter Pronovost,** MD, PhD, renowned for his use of checklists to cut infections in the ICU, says they can work just as well to prevent injuries 103
- **QI in EH:** Review your operations and documentation to promote quality improvement in employee health 104

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HCW flu vaccination rates rise as mandated policies spread

One in 10 HCWs must comply with flu vaccine

More health care workers received the flu vaccine last season than ever before, but that has not eased the pressure to boost immunization rates. Health care workers who fail to get their flu vaccine increasingly face additional infection control burdens, possible termination – or public rebuke.

Last spring, in an editorial titled “They Should Know Better,” *The New York Times* took health care workers to task and advocated mandatory vaccination, saying: “We were disturbed to learn that health care workers shunned the swine flu vaccine in droves. Their training and skills will be essential if there is a dangerous flu outbreak. They, of all people, should know how important it is for them to get vaccinated — and that the risk of serious side effects is negligible.”

The Immunization Action Coalition’s “honor roll” now lists about 45 hospitals and health systems with mandatory programs. In a survey of about 1,500 health care workers sponsored by the Centers for Disease Control and Prevention, one in 10 reported that their employer required influenza vaccination.

“We can’t simply rely on employee incentives to really get influenza coverage rates in the numbers that make a difference — above 90 percent,” says **Mary Quirk**, a consultant to the coalition. “The data really demonstrate that requiring vaccination is a very important component.”

Yet pushback against mandatory policies continues. Four HCA hospitals in California challenged a mandatory policy that required unvaccinated health care workers – including those with medical contraindications – to wear masks throughout their shifts and identifying marks on their badges. An arbitrator ruled that the hospitals could maintain the flu vaccination policy but must negotiate with the union about how to enforce it.



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The Service Employees International Union (SEIU) has won other battles against mandatory influenza policies, including one at the University of Iowa Hospitals and Clinics. The union's argument against mandatory policies was further fueled by a report by the Centers for Disease Control and Prevention in Atlanta that the H1N1 vaccine was 62% effective.

"If the vaccine was effective, you could maybe make the argument that [mandates] made sense,"

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says **Bill Borwegen**, MPH, SEIU health and safety director. "To fire people for not getting a vaccine that's not all that effective, it's just massive over-reach."

Hospital rate hits 74%

In the 2009-2010 flu season, about 74% of hospital-based health care workers received either the seasonal or H1N1 flu vaccine (or both), according to a survey commissioned by CDC. That is far higher than the 40% coverage rate that was previously cited for health care workers overall.

The vaccinations were highly sought after as the H1N1 pandemic struck last fall. But despite recommendations from CDC to continue vaccinations through the winter, few health care workers received vaccines after January, the survey showed.

Although the vaccine was considered to be an excellent match with the prevailing H1N1 virus, the vaccine effectiveness was lower than expected. That means a substantial number of health care workers still were susceptible to H1N1 despite vaccination. And that is why some occupational health physicians have not supported mandatory policies that include punitive actions.

Employee health professionals need to "do everything we can to encourage people to get the flu vaccine," says **Mark Russi**, MD, chair of the Medical Center Occupational Health section of the American College of Occupational and Environmental Medicine (ACOEM) and director of occupational health at Yale-New Haven Hospital. "Most of us at ACOEM have stopped short of saying we should fire people who don't get the flu vaccine."

There's no question, however, that the mandatory programs immediately increase flu vaccination rates. Among health care workers who reported employer mandates, 97% said they received the seasonal and H1N1 vaccines. If there was no mandate, 71% received the seasonal vaccine and 50% reported receiving the H1N1 vaccine. "Obviously mandates make a huge difference," says **Carla Black**, PhD, a CDC epidemiologist who helped coordinate the survey, which was conducted by the RAND Corp. of Santa Monica, CA.

The primary reason health care workers said they failed to get vaccinated was their belief that they didn't need the vaccine – "I never get sick."

"They don't realize they can be colonized and transmit the virus to patients and family members

and not even know it,” says Gary Euler, DrPH, a CDC epidemiologist with the Assessment Branch of the Immunization Services Division. “They need to be more altruistic in considering vaccination.”

Asymptomatic disease a concern

Asymptomatic transmission of influenza is a concern for health care workers – including those who have been vaccinated but still contract the disease.

A seroprevalence study of 140 health care workers in Japan found that 28% had titers indicative of infection but only one reported having had influenza-like illness. These infections occurred despite the widespread use of masks or N95 respirators among the health care workers, the researchers said in their abstract, which was presented at the 2010 International Conference on Emerging Infectious Diseases in Atlanta in July.¹

Although the influenza vaccine has gaps in its effectiveness, it remains the best tool to protect health care workers from influenza, says **William Schaffner**, MD, an infectious disease expert who is chairman of the Department of Preventive Medicine at Vanderbilt University in Nashville.

“I think we all have to remember that influenza has a very good vaccine but not a perfect vaccine,” he says. “Even when you have a perfect match, as we did with H1N1 last year, you will not be able to protect everyone optimally. That’s just a realization of the science of the influenza vaccine at this time. Sixty-two percent effective for \$15 [per dose] is about the best track record in preventive medicine today. Our obligation is to protect our patients.”

The 2010-2011 vaccine will include H1N1, but it also will contain H3N2 and influenza B antigens. For the first time, the CDC’s Advisory Committee on Immunization Practices has recommended universal vaccination — flu vaccination of everyone six months old or older. Although this will increase demand for the flu vaccine, the CDC says it does not anticipate any supply problems this year.

REFERENCE

1. Suzuki A, et al. Asymptomatic infection of Influenza A(H1N1) 2009 Pandemic Virus among Japanese healthcare workers. 2010 International Conference on Emerging Infectious Diseases, July 11-14, 2010, Atlanta, GA. ■

Sick leave protects against flu spread

CDC: Use masks, not N95s with H1N1

Masks are sufficient protection for health care workers involved in routine care of patients with H1N1, according to proposed new guidance from the Centers for Disease Control and Prevention. Preventing transmission also will depend upon vaccination of health care workers and policies that discourage employees from coming to work sick, the agency said.

This multi-dimensional strategy was well-received in the occupational health community, but with some reservations.

“It’s important that protecting patients and protecting health care workers is a multifaceted process,” says **Mark Russi**, MD, chair of the Medical Center Occupational Health section of the American College of Occupational and Environmental Medicine (ACOEM) and director of occupational health at Yale-New Haven Hospital. “The document did a nice job of giving good specific guidance about when [employees] should and shouldn’t be in the workplace.”

Yet monitoring the reason for health care worker absences can be challenging, especially for large hospitals or those that have a bank of leave days that can be used for either sick time or vacation, says **William Buchta**, MD, MPH, medical director of the Employee Occupational Health Service at the Mayo Clinic in Rochester, MN. In fact, asking why they are out could be a violation of privacy of medical information, he says.

“How much medical information can the employer require the employee to disclose and how would you verify the information?” says **Melanie Swift**, MD, medical director of the Vanderbilt Occupational Health Clinic at Vanderbilt University in Nashville, TN, who notes that employees are also allowed to take paid time off to care for a sick family member.

“You can’t require people to submit to a medical exam because they called in sick. Most are treated with self-care and don’t need to see a provider,” she says. “It’s all on the honor system.”

The employee health physicians agreed that the best approach is to educate health care workers about when to stay home and why it is an important aspect of patient safety. *(For more information on CDC recommendations related to sick leave policies, see box on p. 100.)*

“Ultimately, you’ve got to trust your workers to be honest and you have to have policies that don’t punish them [for taking sick time],” says Swift.

Unions object to mask policy

Many employee health professionals expressed support for the CDC’s proposal to scale back from N95 respirators to masks as protection for health care workers caring for patients with H1N1. The CDC noted that the H1N1 pandemic resulted in fewer hospitalizations and deaths than feared, and that a vaccination is now widely available.

Yet union leaders balked at the reduction in protection, especially since this flu strain caused severe illness in previously healthy adults and children. **Bill Borwegen**, MPH, health and safety director of the Service Employees International Union in Washington, DC, questioned CDC’s emphasis on vaccination while it de-emphasized respiratory protection — particularly since the H1N1 vaccine was determined to be just 62% effective. (*See related article on p. 101.*)

“The imbalance of protection is really startling,” he says. “[They] won’t give health care workers a 50-cent, fitted N95 respirator when they go into a room with a coughing patient with suspected or confirmed H1N1.”

CDC still recommends that health care workers use respiratory protection (an N95 respirator or higher) while performing aerosol-generating procedures, such as bronchoscopy, sputum

Induction, endotracheal intubation and extubation, open suctioning of airways, cardiopulmonary resuscitation, and autopsies.

High-risk employees may find themselves reassigned during community outbreaks. CDC stated that if health care workers “identify themselves as being at higher risk of complications, [of H1N1]” employers should “consider offering work accommodations to avoid potentially high-risk exposure scenarios, such as performing or assisting with aerosol-generating procedures on patients with suspected or confirmed influenza.” ■

CDC to HCWs: Stay home when sick

In its proposed new guidance on Prevention Strategies for Seasonal Influenza in Healthcare Settings, the Centers for Disease Control and

Prevention stresses the need for health care workers to stay home when they’re sick. Specifically, the guidance includes these recommendations:

HCP who develop fever and respiratory symptoms should be:

- Instructed not to report to work, or if at work, to stop patient-care activities, don a facemask, and promptly notify their supervisor and infection control personnel/occupational health before leaving work.
- Excluded from work until at least 24 hours after they no longer have a fever, without the use of fever-reducing medicines such as acetaminophen.
- Considered for temporary reassignment or exclusion from work for 7 days from symptom onset or until the resolution of symptoms, whichever is longer, if returning to care for patients in a Protective Environment (PE) such as hematopoietic stem cell transplant patients (HSCT) <http://www.cdc.gov/hicpac/pdf/isolation/isolation2007.pdf>. HCP recovering from a respiratory illness may return to work with PE patients sooner if absence of influenza viral RNA in respiratory secretions is documented by real-time reverse transcriptase polymerase chain reaction (rRT-PCR).

Patients in these environments are severely immunocompromised, and infection with influenza virus can lead to severe disease. Furthermore, once infected, these patients can have prolonged viral shedding despite anti-viral treatment and expose other patients to influenza virus infection. Prolonged shedding also increases the chance of developing and spreading antiviral-resistant influenza strains; clusters of influenza antiviral resistance cases have been found among severely immunocompromised persons exposed to a common source or healthcare setting.

- Reminded that adherence to respiratory hygiene and cough etiquette after returning to work remains important because viral shedding may occur for several days after resolution of fever. If symptoms such as cough and sneezing are still present, HCP should wear a facemask during patient-care activities. The importance of performing frequent hand hygiene (especially before and after each patient contact and contact with respiratory secretions) should be reinforced.

HCP with influenza or many other infections may have fever alone as an initial symptom or sign. Thus, it can be very difficult to distinguish influenza from many other causes, especially early in a person’s illness. HCP with fever alone should follow workplace policy for HCP with fever until a more specific cause of fever is identified or until fever resolves.

HCP who develop acute respiratory symptoms without fever may still have influenza infection but should be:

- Allowed to continue or return to work unless assigned to care for patients requiring a PE such as HSCT <http://www.cdc.gov/hicpac/pdf/isolation/isolation2007.pdf>; these HCP should be considered for temporary reassignment or excluded from work for 7 days from symptom onset or until the resolution of all non-cough symptoms, whichever is longer. HCP recovering from a respiratory illness may return to work with patients in PE sooner if absence of influenza viral RNA in respiratory secretions is documented by rRT-PCR.

- Reminded that adherence to respiratory hygiene and cough etiquette after returning to work remains important because viral shedding may occur for several days following an acute respiratory illness. If symptoms such as cough and sneezing are still present, HCP should wear a facemask during patient care activities. The importance of performing frequent hand hygiene (especially before and after each patient contact) should be reinforced.

Facilities and organizations providing healthcare services should:

- Develop sick leave policies for HCP that are non-punitive, flexible and consistent with public health guidance to allow and encourage HCP with suspected or confirmed influenza to stay home.

- Policies and procedures should enhance exclusion of HCPs who develop a fever and respiratory symptoms from work for at least 24 hours after they no longer have a fever, without the use of fever-reducing medicines.

- Ensure that all HCP, including staff who are not directly employed by the healthcare facility but provide essential daily services, are aware of the sick leave policies.

Employee health services should establish procedures for:

- Tracking absences

- Reviewing job tasks and ensuring that personnel known to be at higher risk for exposure to those with suspected or confirmed influenza are given priority for vaccination

- Ensuring that employees have access via telephone to medical consultation and, if necessary, early treatment;

- Promptly identifying individuals with possible influenza. HCP should self-assess for symptoms of febrile respiratory illness. In most cases, decisions about work restrictions and assignments for personnel with respiratory illness should be guided by

clinical signs and symptoms rather than by laboratory testing for influenza because laboratory testing may result in delays in diagnosis, false negative test results, or both. ■

NIOSH: No flaws found in 3M 8000 respirators

Cal-OSHA still worries about poor fit of N95s

The 3M 8000 respirator recalled by the state of California as poorly fitting has passed muster in a review by the National Institute for Occupational Safety and Health (NIOSH). And Cal-OSHA, the state's occupational safety agency, is none too happy about it.

The case once again highlights the quandary of fit posed by N95 respirators. NIOSH has proposed a "Total Inward Leakage" rule that would set tough new criteria for fit for all filtering facepiece respirators. (See *HEH*, August 2010) But California officials say hospitals and other employers may still have a hard time purchasing and stockpiling respirators that will fit most of their workforce.

Meanwhile, they aren't satisfied by a NIOSH report that concluded that any fit-test problems with the 3M 8000 didn't result from "any defect in the units' characteristics on which the product was certified." In two NIOSH fit-test evaluations, the respirator was successfully fit-tested on 55% and 62.5% of test subjects, using quantitative fit-testing.

That placed the 3M 8000 "within the expected performance levels for [filtering facepiece respirators] of similar construction," the report concluded. The 3M 8000 is a "one-size-fits-all" respirator with a headband strap that attaches at a single midpoint of the mask.

"While that's not optimal fitting characteristics, there is a segment of the population that can be fit-tested and presumably use it successfully," says **Roland Berry Ann**, deputy director of the NIOSH National Personal Protective Technology Laboratory in Pittsburgh. The proposed NIOSH rule would require a pass-rate of at least 74% for a 35-person panel of different facial dimensions.

Cal-OSHA officials say the NIOSH report still doesn't demonstrate that the 3M 8000 could be successfully fit-tested in a workplace.

Problems with the respirator came to light when Kaiser Permanente attempted to fit-test employees with the stockpiled respirators and found that all of the first 15 employees tested failed their fit-tests.

“The study is basically calling acceptable a situation we don’t really think is acceptable,” says Cal-OSHA chief **Len Welsh**, MS, JD. “We would like to see a test procedure that more closely mirrors the real world.”

Berry Ann notes that the NIOSH evaluation was designed specifically to look for defects. NIOSH does not currently have a fit requirement for N95 filtering facepiece respirators, although it is developing new fit criteria in a proposed Total Inward Leakage rule. (*See related article in HEH, August 2010.*)

Testing allows for failures

Many hospitals use a qualitative fit-test method with Bittrex, a bitter-tasting agent, and it is this method that led to a higher failure rate in California. As employers do the maneuvers required for the fit-test procedure, a momentary break in the seal will cause them to taste or smell the Bittrex and fail the fit test.

Quantitative fit-testing produces an overall pass-fail score, and a respirator can still pass even if the seal is momentarily breached. The Kaiser failures occurred with qualitative fit-tests. When a 3M representative repeated fit-tests with a quantitative method, 40% passed.

While NIOSH got a somewhat higher pass rate when it tested two lots of respirators, the agency allowed three fit-test attempts per person tested. Employers generally test each person once per respirator model or size.

“If you wanted people to repeat a fit-test three times and the likelihood they would pass is only 40%, that’s an enormous investment of time on the employer’s end,” says **Deborah Gold**, MPH, CIH, senior safety engineer in the research and standards health unit at Cal-OSHA in Oakland.

The NIOSH evaluation of the 3M 8000 involved 40 test subjects who represented all the facial sizes of the agency’s new test panel. However, in some size categories, or cells, only one or two people were tested.

That makes it impossible for an employer to know who best fits this “one-size-fits-all” respirator, notes Gold. “[The test panel] needs to be large enough so that you can get statistical signifi-

cance in the cells represented by the respirator,” she says.

Tougher tests for respirators?

In short, Cal-OSHA is not satisfied that the 3M 8000 has demonstrated adequate fit characteristics for the health care workforce. Based on this real-life circumstance, they want NIOSH to alter its proposed Total Inward Leakage (TIL) rule.

“[T]he TIL-style results [of the NIOSH tests of the 3M 8000] did not well represent the performance of the respirator in real-world situations,” Cal-OSHA said in written comments to NIOSH.

NIOSH should require manufacturers to test more than 35 people to gain certification for their respirators, and the detailed results should be available to purchasers so they know which facial dimensions the respirator is most likely to fit, Cal-OSHA said.

“If this respirator had been slightly better, maybe it would have passed the TIL and we would still have had no indication of who it fit because we don’t know how the fit is distributed among the matrix [of facial dimensions],” Gold says. “You need to have a sample that’s of sufficient size to know reliably who it’s going to fit.”

Testing more people might mean manufacturers pay more to receive certification, says Gold. But it could reduce costs for employers because they would need to conduct fewer fit-tests to find respirators for their workers, she says.

Cal-OSHA also said respirators should fail if they fail any portion of the test — during maneuvers that simulate workplace movements — and shouldn’t be given three tries per person.

With or without new fit requirements, Berry Ann advises employers to fit-test some respirators brands or models to determine which would best fit their workers before they make a major purchase.

Getting better fitting respirators will be important to protect health care workers from the next — possibly more serious — pandemic, says Welsh.

“We were so lucky to get a dry run with H1N1. You couldn’t have asked for a better situation to test our readiness for a more serious pandemic,” he says, noting that H1N1 was not as deadly as many had feared. “We now know what we need to do to be much better prepared.” ■

Checklists work with culture change

Safety expert saved lives with checklist technique

When pilots prepare to take off, they follow an audible checklist. A similar strategy, adapted to health care, helped hospitals around the country reduce central-line-associated bloodstream infections.

And the same methods can reduce injuries and improve health care worker safety, says **Peter Pronovost**, MD, PhD, an anesthesiologist and critical care physician who has become a leading voice for checklists as a tool in health care. He proved that checklists – distilling guidelines into easily repeated steps – could have a vast impact on safety, dramatically reducing infections at Johns Hopkins Hospital and intensive care units in Michigan.

In an interview with *HEH*, Pronovost explained that the real transformation is the culture change. “The biggest barrier that we had in improving safety was a culture barrier that said all these bad things are inevitable. Stuff happens,” says Pronovost. “When you change the mindset [and say] these are preventable, that’s when you really get a lot of leverage.”

Pronovost, now director of quality and safety research at the Johns Hopkins University School of Medicine in Baltimore, began by seeking simplicity. There was a 64-page federal guideline for preventing hospital-associated infections. He distilled it into a five item checklist to be used when inserting a central line. Doctors should:

1. Wash their hands with soap.
2. Clean the patient’s skin with chlorhexidine antiseptic.
3. Put sterile drapes over the entire patient.
4. Wear a sterile mask, hat, gown and gloves.
5. Put a sterile dressing over the catheter site.

When the checklist was implemented across the state of Michigan, it saved an estimated 1,500 lives in 18 months. Pronovost was named one of the world’s 100 most influential people in 2008 by *Time* magazine because of his safety work and he was the recipient of a MacArthur Foundation “genius” grant.

The checklists worked, in part, because nurses were empowered to ask doctors to follow them, says Pronovost. And they were part of an approach to safety that looked for systematic causes of problems and measured results. The ICU teams received regular feedback on their infection rates.

Hospitals that try to implement the checklist without making other changes in the safety culture

will not necessarily see an improvement. “Checklists can’t be the end. The end is reduced harm,” says Pronovost.

Target injury, build a team

So how can you make checklists work to improve employee health? Begin by targeting a specific type of injury, such as falls due to wet floors, or back injuries from repositioning patients.

Gather an interdisciplinary team and look for systematic problems that led to the injury, Pronovost advises. “One of the lessons we learned in safety is to respect ground truth, the wisdom of the frontline workers,” he says.

Conduct a literature review to see if other facilities have tackled the same problem. Ultimately, your safety effort should ask – and answer – some basic questions, he says: “What happened? Why did it

Evaluate Ability to Manage Emergency

What is the patient population and age range of the unit?

What types of procedures are performed in the clinical area (e.g., invasive procedures, cardiac testing)?

Are injectable drugs administered?

How comfortable and skilled in emergency care are the physicians?

Is staff trained in and competent to assist with emergency care?

What equipment, drugs, and supplies are available? What additional equipment, drugs, and supplies might be required?

Where are the supplies kept? How often are they inventoried and updated?

What is the location of the clinical area in relation to emergency care at a hospital, and what is the typical response time for those attending the emergency?

If the facility is located outside of a hospital, how long does it take the emergency medical services (EMS) in the area to respond? ■

Key findings of the report

A recently release benchmarking report on some of the major causes of surgical malpractice cases found that risks are inherent in all stages of the surgical process, from issues related to preoperative decision-making, to technical issues in the operating room, to those that occur postoperatively such as recovery management and communication. It also highlights that errors leading surgery patients to allege malpractice are primarily due to narrow clinical judgment, poor technical performance, or miscommunication among team members.

It “really relates to this whole ‘allegation’ category of technical error,” says **Bob Hanscom, JD**, is vice president of loss prevention and patient safety at RMF (Risk Management Foundation) Strategies, a division of CRICO/RMF, the medical malpractice insurer for the Harvard medical institutions and the driving force behind RMF Strategies’ Comparative Benchmarking System (CBS), which published the report.

“Of course [provider error] is alleged in a lot of malpractice cases, but when you look at the facts, you’re not always sure it occurred,” Hanscom says. “What you do see are outcomes the patient or family was simply not expecting.”

Sometimes patients could not distinguish between a normal risk of complication or an error, he says. “It may have been covered in informed consent, but done in such way that most patients or families do not understand how much risk there really is,” says Hanscom. “Communication really needs to happen with patients ahead of time, so they are much more aligned with the reality of what they are undergoing. Some procedures are much more risky than they understand them to be.”

The second key point raised in the study is that “there are errors that occur, which we believe are quite preventable,” Hanscom says. While some can be traced back to training or skills, he says, “there are a number of distractions in the operating environment that pull skilled surgeons away from concentrating on the procedure.” This raises “important opportunities for training or thoughts about the environmental factors surgeons operate under,” he says.

In addition, notes Hanscom, surgeons could be helped greatly by a much more team-based environment. “Many surgeons go into a room that has just turned over, with a team of nurses or techs whose names they do not know, and they try to do very high-level procedures,” he explains. “To me, I hope this study gives rise to having a much more structured way of getting surgeons and the people who help them aligned with each other; the data scream out for interventions along these lines.” ■

happen? What did you do to reduce risk? How do you know risk was actually reduced?”

In one case, Pronovost became aware of an employee fall and several patient falls in one unit. “Most of the falls were occurring at the same corner of the floor,” he says. “I went up there to look and what I found is that someone had put wax on the floor inadvertently.

“The solution wasn’t to tell people to be more careful. We had to get the wax off and find out how [environmental services workers] came to make the mistake. It’s a systems approach [to solving problems] rather than just blaming people,” he says.

The best solution is always one that removes the hazard — such as needleless devices to replace sharps. “We always seek the system design changes that eliminate the need for a checklist. They don’t always exist, but when they do we should use them,” says Pronovost.

Checklists help prioritize

Create a checklist if there’s well-established guidance that may be cumbersome to follow. The checklist is essentially a summary of its most important points, he says.

“One of the key lessons [of our project] was to prioritize. Reduce ambiguity,” he says. “One of the main reasons people don’t use guidelines is that the guideline is often worded vaguely and it’s unclear who is to do what, when and how.”

For example, the central-line insertion checklist told health care workers to wash their hands. “We assumed that the command, ‘wash your hands,’ was clear to staff about exactly what it meant,” he says. “[Yet] there was wide interpretation of when they were supposed to wash their hands.”

He urges people to be specific: “When you enter a patient room, wash your hands with alcohol gel.”

(For a sample hand hygiene checklist, see box on p. 103.)

The checklist needs to be easily accessible. Pronovost's central-line checklist was taped to the central-line kits.

As with any safety initiative, it's important to follow up by measuring compliance and monitoring the impact. For example, hospitals have used observers to monitor hand hygiene or appropriate use of lift equipment.

"Don't think of the checklist as an independent intervention. Couple it with measurement and feedback and culture change," he says.

Can there be too many checklists? Pronovost readily concedes that there can be. Wrong-site surgery has continued to occur despite the widespread use of verification protocols. Perhaps surgical teams are too often just going through the motions, he says.

"Checklists aren't Harry Potter's wand," Pronovost is fond of saying. It's what you do with them that counts. ■

Reviews to look at 10 years of needle safety

OSHA rule effective, but gaps remain

Ten years after the Needlestick Safety and Prevention Act was signed into law, the mandate for safer sharps devices is under review – both legally and academically.

The U.S. Occupational Safety and Health Administration (OSHA) announced a regulatory review of the Bloodborne Pathogens Standard, in which the agency will consider the effectiveness and the continued need for the regulation. And in November, sharps safety experts will gather at the University of Virginia in Charlottesville to focus on "Mapping Progress, Charting a Future Path." [See editor's note for more information.]

The reviews will find much to laud about the landmark law and standard that transformed safety practices at hospitals and other health care facilities.

"We've been able to document that [the standard] has had an enormous impact on health care worker safety," says Jane Perry, MA, associate director of the International Healthcare Worker Safety Center at the University of Virginia.

Sharps injuries in non-surgical settings declined by about 32% after the federal mandate required the use of safety devices. However, adoption of blunt

suture needles and other sharps safety measures in the operating room has lagged. Injury rates in the OR actually increased by 6.5% from 1993 to 2006.¹

Other weak areas remain, as well. "We want to look at gaps in safety-engineered devices," says Perry, noting that some less-common devices still do not have a safety-engineered version. Underreporting of sharps injuries remains a problem, as does the continued use of conventional devices. The International Healthcare Worker Safety Center's EPINet surveillance found that 58% of the sharps injuries occurred with non-safety devices.

The November conference also will consider sharps safety globally and the impact that U.S. legislation and regulation has on safety measures in other countries.

Enforcement is the key

Maintaining progress in sharps safety will depend in part on continued vigilance, says Perry. "[Enforcement] has been key in the improvements we have seen in injury rate reduction," she says.

The Bloodborne Pathogens Standard remains the most frequently cited standard in OSHA inspections of hospitals. Inspectors were most likely to cite hospitals for failing to have an adequate exposure control plan or failing to update the plan to reflect changes in technology. The standard requires employers to review their exposure control plans annually.

Hospitals also were cited for failing to provide safety-engineered devices or failing to document that employees had been offered the hepatitis B vaccine.

Despite that enforcement, June M. Fisher, MD, director of the TDICT (Training for Development of Innovative Control Technologies) Project in San Francisco, worries about backsliding that puts health care workers at risk. For example, too often, she says, "health care workers aren't involved in evaluation of devices."

The Bloodborne Pathogens Standard requires the involvement of frontline workers in the selection of devices.

When health care workers fail to activate safety devices, that may indicate insufficient training in the use of the device or that health care workers don't feel comfortable with the device, she says. The EPINet data indicated that in 70.8% of sharps injuries that occurred with safety devices, the user had not activated the safety mechanism.

A recent French study also underscores the importance of selecting the best safety device. An analysis of 435 sharps injuries at 61 hospitals in France found

that passive devices — which are activated in use without additional steps by the health care worker — were involved in the fewest injuries. Self-blunting needles would be one type of passive device.

“Semi-automatic” devices, in which the user must apply extra pressure to activate the safety mechanism — such as some retractable syringes — were associated with the next fewest injuries. Those with a “toppling shield” that requires one-handed activation to cover the needle were more effective than sliding shields, which often require two-handed action and were the least effective, the authors said.²

Overall, the use of safety-engineered devices resulted in a 74% decrease in injuries in phlebotomy, the authors reported.

OSHA cites non-hospital settings

In the announcement of its review of the Blood-borne Pathogens Standard, OSHA said it would consider both the effectiveness and the burden of the rule. Specifically, OSHA said it would look at:

- Exposures in non-hospital settings;
- Recent technological advances in needlestick prevention;
- Effectiveness of needlestick prevention programs;
- New, emerging health risks from bloodborne pathogens; and
- Any other experiences related to compliance with the standard.

Hospitals are not the only focus of its enforcement efforts. According to OSHA enforcement data, from October 2008 to September 2009, there were more bloodborne pathogens citations at skilled nursing facilities (long-term care) than any other workplace. Ambulance services, doctors’ offices, and dental clinics also had more citations under the standard than hospitals.

The provisions requiring safety devices, an updated exposure control plan, employee training, hepatitis B vaccination, and proper sharps disposal “have all been extremely important and extremely effective in reducing risk in the workplace,” says Perry.

[Editor’s note: The International Healthcare Worker Safety Center at the University of Virginia is sponsoring a conference marking the 10th anniversary of the Needlestick Safety and Prevention Act, Nov. 5-6 at the Omni Hotel in Charlottesville. Online registration is available at www.cmevillage.com. For more information, contact Jane Perry at janeperry@virginia.edu.]

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stick legislation. *J Am Coll Surg.* 2010;210:496-502.

2. Tosini W, et al. Needlestick injury rates according to different types of safety-engineered devices: results of a French multicenter study. *Infect Control Hosp Epidemiol.* 2010;31:402-407. ■

Look beyond patient handling to tackle MSDs

Hazards lurk in food service, materials, laundry

Hospitals had a larger number of injuries from overexertion in 2008 than any other industry in the country, according to the U.S. Bureau of Labor Statistics. But even if you cut out most of the patient handling injuries, many back and neck strains and other musculoskeletal injuries would still occur.

The hazards exist beyond patient handling, especially in environmental services and facilities maintenance, says **Rick Barker**, MA, CPE, an ergonomic consultant with Humantech in Ann Arbor, MI. He will be speaking on the topic at the upcoming annual conference of the Association of Occupational Health Professionals in Healthcare (AOHP), Sept. 15-18 in Boston.

The risk comes from pushing, pulling, and lifting in materials handling, he says. “Patient handling is going to be your biggest issue and it has to be your starting point in the hospital [to reduce work-related musculoskeletal disorders]. Probably half of all your sprains and strains are coming from this one activity,” he says. “Once you’ve got some good reductions in those injuries, your injury analyses are going to show some other things bubble up.”

Lifting hospital supplies or hauling dirty linens can cause injury. But it’s also inefficient to have processes that are unnecessarily physically exerting, he says. “These are things that interfere with how someone can do their job well,” Barker says.

Employee health professionals should team up with safety officers and the hospital’s workers’ compensation insurer or third-party administrator to look for ways to reduce risks. Look for tasks that involve high forces or awkward postures, he says.

Mechanical tug for carts

The lessons of safe patient handling can benefit other hospital areas. For example, at Deborah Heart and Lung Center, Brown’s Mill, NJ, patient handling is now the least common cause of musculoskeletal injuries. The specialty hospital purchased beds that

convert into chairs or can be used for transport. The hospital also uses lifts, lateral transfer devices, and powered devices to move wheelchairs and stretchers.

From October 2009 to May 2010, there had been only 13 workers compensation claims related to musculoskeletal injuries. The hospital has about 1,000 employees.

The hospital now also uses a motorized ERGOtug device, which attaches to linen and supply carts. “The supply carts can easily weight 500 pounds,” says **Liz Foy**, RN, BSN, COHN, employee health and wellness coordinator. “We’re trying to replace physical exertion with machine power wherever we can.”

Foy tries to be proactive to prevent injuries. She has analyzed floor surfaces to see how they impact the movement of materials, and she adjusts computer work stations to make sure they are ergonomically correct.

“We try to take a comprehensive approach,” says Foy. “Everything we’ve put in place has really made a big difference. Our injuries are really minimal.”

Benchmarks in the community

Hospitals can learn lessons from other industries to reduce injuries in food services, warehouse, maintenance, and other areas, suggests Barker. The tasks are varied, yet mirror processes that take place in other businesses.

“A hospital is almost like running a little city, with all the things it has to do to support the care of the patient,” he says.

You can begin by benchmarking with another company to learn about injury prevention in a warehouse. “When you look at what goes on in a stock room of a hospital, it’s very much like small warehouse operations are anywhere,” he says.

“People are generally delighted to be seen as a benchmark and to share what they’re doing, especially when it’s outside their competitive industry,” he says. “You start in your community with organizations that may be doing various types of warehousing and shipping.”

Food service also mirrors a commercial operation, where employees face hazards ranging from slips and falls to sharp objects and noise. Food deliveries present similar challenges as materials management.

Haphazard work stations pose risk

Collaboration will be critical as you try to identify potential hazards, says Barker. Your best feedback comes from frontline workers. But you also should have

some input into purchasing to make sure that safety concerns are included in the selection criteria, he says.

Watch out for the unexpected, he advises. For example, in computer workstations, the biggest ergonomic issues don’t occur in offices where people have been working for years. The problems pop up in nursing stations or other areas where someone added a computer, Barker says.

“Oftentimes the work area isn’t changed, but we try to put a computer in there and it doesn’t really fit,” he says.

Nurses or other employees may be forced into an awkward posture to use a computer or look at a monitor while providing patient care. Sometimes the solution is as simple as a pivoting arm that allows the nurse to tilt or move the monitor, he says.

The key is to discover the hazards that cause discomfort before they cause injury, he says. “You need to have a sense of where your problems are,” he says. ■

CNE OBJECTIVES

After reading each issue of Hospital Employee Health, the nurse will be able to do the following:

- identify particular clinical, administrative, or regulatory issues related to the care of hospital employees;
- describe how the clinical, administrative and regulatory issues particular to the care of hospital employees affect health care workers, hospitals, or the health care industry at large;
- cite solutions to the problems faced in the care of hospital employees based on expert guidelines from relevant regulatory bodies, or the independent recommendations of other employee health professionals.

CNE INSTRUCTIONS

Nurses participate in this continuing nursing education program by reading the issue, using the provided references for further research, and studying the questions at the end of the issue. Participants should select what they believe to be the correct answers, then refer to the list of correct answers to test their knowledge. To clarify confusion surrounding any questions answered incorrectly, please consult the source material. After completing this semester’s activity with the September issue, you must complete the evaluation form provided in that issue and return it in the reply envelope provided to receive a credit letter.

CNE QUESTIONS

9. In the 2009-2010 influenza season, what portion of hospital-based health care workers received an influenza vaccine (seasonal or H1N1)?
 A. 40%
 B. 62%
 C. 74%
 D. 97%
10. In its proposed new guidance for preventing the hospital-based spread of influenza, what does the Centers for Disease Control and Prevention recommend related to mask use?
 A. Respiratory etiquette – masks for visitors and employees who are coughing.
 B. Mask use – employees wear masks during routine care of patients with influenza.
 C. N95s – employees wear N95s while caring for patients with influenza.
 D. Gowns and gloves – only contact precautions are necessary with influenza.
11. According to **Peter Pronovost**, MD, PhD, an anesthesiologist and critical care physician who has become a leading voice for checklists as a tool in health care, what is the key to their success?
 A. Culture change.
 B. Frontline input.
 C. Promotion by leadership.
 D. Endorsement by professional organizations.
12. When hospitals are inspected by the U.S. Occupational Safety and Health Administration, what is the most frequently cited standard?
 A. Bloodborne Pathogens
 B. Respiratory Protection
 C. Hazard Communication
 D. General Duty Clause

Answer Key: 9. (c); 10. (b); 11. (a); 12. (a)

COMING IN FUTURE MONTHS

- Case study: An injury prevention program that boosts morale
- OSHA steps up new regulatory activity
- Are HCWs at risk from chemo agents?
- Group seeks a fund to help back-injured nurses
- Hospital cited for failing to protect against workplace violence

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Hospital Employee Health

Confidential Salary Survey

This confidential salary survey is being conducted to gather information for a special report later in the year. Watch in coming months for your issue detailing the results of this survey and the overall state of employment in your field.

Instructions: Select your answers by filling in the appropriate bubbles **completely**. Please answer each question as accurately as possible. If you are unsure of how to answer any question, use your best judgment. Your responses will be strictly confidential. Do not put your name or any other identifying information on this survey form.

1. What is your current title?

- A. employee health nurse
- B. employee health manager
- C. employee health director
- D. infection control practitioner
- E. occupational health director
- F. other _____

2. What is your highest degree?

- A. LPN
- B. ADN (2-year)
- C. diploma (3-year)
- D. bachelor's
- E. master's
- F. PhD
- G. MD
- H. other _____

3. What is your sex?

- A. male
- B. female

4. What is your age?

- A. 20-25
- B. 26-30
- C. 31-35
- D. 36-40
- E. 41-45
- F. 46-50
- G. 51-55
- H. 56-60
- I. 61-65
- J. 66+

5. What is your annual gross income from your primary health care position?

- A. Less than \$30,000
- B. \$30,000 to \$39,999
- C. \$40,000 to \$49,999
- D. \$50,000 to \$59,999
- E. \$60,000 to \$69,999
- F. \$70,000 to \$79,999
- G. \$80,000 to \$89,999
- H. \$90,000 to \$99,999
- I. \$100,000 to \$129,999
- J. \$130,000 or more

6. In which area is your facility located?

- A. urban
- B. suburban
- C. medium-sized city
- D. rural

7. In the last year, how has your salary changed?

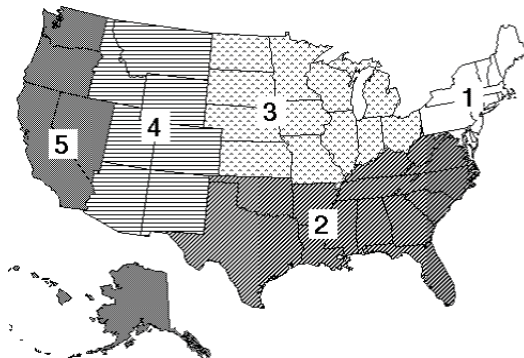
- A. salary decreased
- B. no change
- C. 1% to 3% increase
- D. 4% to 6% increase
- E. 7% to 10% increase
- F. 11% to 15% increase
- G. 16% to 20% increase
- H. 21% increase or more

8. What is the work environment of your employer?

- A. academic
- B. agency
- C. health department
- D. clinic
- E. college health service
- F. consulting
- G. hospital
- H. private practice

9. Please indicate where your employer is located.

- A. region 1
- B. region 2
- C. region 3
- D. region 4
- E. region 5
- F. Canada
- G. other



10. Which best describes the ownership or control of your employer?

- A. college or university
- B. federal government
- C. state, county, or city government
- D. nonprofit
- E. for-profit



11. How long have you worked in employee health?

- A. less than 1 year
- B. 1-3 years
- C. 4-6 years
- D. 7-9 years
- E. 10-12 years
- F. 13-15 years
- G. 16-18 years
- H. 19-21 years
- I. 22-24 years
- J. 25+ years

13. Which certification best represents your position?

- A. RN
- B. COHN-S
- C. NP
- D. CIC
- E. FACOEM
- F. LVN
- G. CCM
- H. Other _____

12. How long have you worked in health care?

- A. less than 1 year
- B. 1-3 years
- C. 4-6 years
- D. 7-9 years
- E. 10-12 years
- F. 13-15 years
- G. 16-18 years
- H. 19-21 years
- I. 22-24 years
- J. 25+ years

14. How many hours a week do you work?

- A. less than 20
- B. 20-30
- C. 31-40
- D. 41-45
- E. 46-50
- F. 51-55
- G. 56-60
- H. 61-65
- I. 65+

15. If you work in a hospital, what is its size?

- A. <100 beds
- B. 100 to 200 beds
- C. 201 to 300 beds
- D. 301 to 400 beds
- E. 401 to 500 beds
- F. 501 to 600 beds
- G. 601 to 800 beds
- H. 801 to 1,000 beds
- I. >1,000 beds
- J. I don't work in a hospital

Deadline for Responses: Oct. 15, 2010

Thank you very much for your time. The results of the survey will be reported in an upcoming issue of the newsletter, along with an analysis of the economic state of your field. Please return this form in the enclosed, postage-paid envelope as soon as possible. If the envelope is not available, mail the form to: Salary Survey, AHC Media LLC, P.O. Box 740058, Atlanta, GA 30374.

