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## Health care workers still suffer 320,000 needlesticks a year

*'We need to put zero back on the radar.'*

In the heady days after passage of the Needlestick Safety and Prevention Act in 2000, zero needlesticks was an aim worth striving for and some lofty goals were on the table. HealthyPeople 2010 set a goal of reducing needlesticks by 30% — from a baseline of 384,000 among hospital-based health care workers in 1998 to 269,000 in 2010.

The National Institute for Occupational Safety and Health (NIOSH) predicted by 2016 the use of safety syringes will be universal, with only 2%

### The high hazards of health care

Is health care becoming safer? That might seem like a simple question, answered by a quick look at national injury statistics. The rate of serious injuries — those that lead to days away from work — has dropped steadily for the past 10 years. But beyond that sunny fact lie some other, troubling trends.

Some 168,360 health care and social assistance workers were seriously injured in 2012 — more than in any private industry sector. Musculoskeletal disorders made up 42% of those injuries. More nursing assistants suffered MSD injuries that cost them time from work than any other worker except laborers and freight movers. The highest rates of MSD injuries were among emergency medical technicians and paramedics, orderlies, and nursing assistants, according to the U.S. Bureau of Labor Statistics.

Another health care hazard has been more difficult to quantify. Despite significant progress with safer sharps, needlesticks continue to occur on a frequent basis in the nation's hospitals. A new survey indicates that there are about one-third of a million needlesticks each year.

In this issue of *HEH*, we highlight the occupational health goals for two key health care hazards and recent studies that shed light on the progress and gaps in addressing them. ■



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of needles (e.g. those with no safety alternative) unprotected. Though needlesticks dropped dramatically for a while, eventually the momentum was lost and the goals faded. While the U.S. Occupational Safety and Health Administration continues to cite hospitals for gaps in their sharps safety programs, and new devices have greatly reduced some hazards, the needlestick problem persists.

From the first survey of its scope, the Association of Occupational Health Professionals in Healthcare (AOHP) estimates that health care workers are sustaining 320,000 needlesticks and 119,000 mucocutaneous, or splash, incidents each

year in hospital and non-hospital settings.<sup>1</sup>

AOHP members from 125 hospitals in 29 states responded to the EXPO-S.T.O.P. survey (Exposure Survey of Trends in Occupational Practice), representing every region in the country. At its peak in 2000, the National Surveillance System for Health Care Workers (NaSH) collected data from 64 health care facilities.

“These exposure incidents are still happening and any one of them, if the source patient was positive [for a bloodborne pathogen], was a potential infection,” says co-author **Linda Good, RN, PhD, COHN-S**, director of Employee Occupational Services at Scripps Health in San Diego, CA.

“I’m hoping that this is an alarm call that we aren’t doing as well as we thought we were and we need to do more,” adds co-author **Terry Grimmond, FASM, BAgrSc, GrDpAdEd**, a New Zealand-based microbiologist who works as a sharps safety consultant globally. “We need to find a new vigor.”

## Non-safety syringes still in use

The sharps safety problem is partly a problem of technology, but many conventional needles remain in use despite safer alternatives.

“[They’re] not necessary and it’s not justifiable,” says **David Weissman, MD**, director of the Division of Respiratory Disease Studies and manager of NIOSH’s research agenda for the Healthcare and Social Assistance Sector. “We have safe devices that work well and don’t get in the way of patient care and protect health care workers and patients. They should be used.”

OSHA places the requirement on employers. Manufacturers can continue to produce conventional devices, but the Bloodborne Pathogen Standard states that “engineering and work practice controls shall be used to eliminate or minimize employee exposure.”

The EXPO-S.T.O.P. survey didn’t ask detailed questions about the type of sharp involved in the injuries. In 2011, the greatest number of injuries (37%) occurred from disposable syringes, according to EPINet data from the University of Virginia’s International Healthcare Worker Safety Center collected from 32 hospitals. About half of the sharps injuries involved conventional devices.

Surveillance of Massachusetts hospitals revealed a similar profile. In 2010, hypodermic needles were the greatest source of needlesticks (29%) and more than half (57%) of the sharps injuries occurred with conventional devices. In fact, one-

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quarter of the needlesticks with hypodermic needles involved devices with no safety feature.

The EXPO-S.T.O.P. survey needlestick rates were slightly higher than those detected in EPINet and the Massachusetts surveillance.

For non-teaching hospitals, the rate was 17.8 injuries per 100 occupied beds; it was 27.4 per 100 occupied beds for teaching hospitals, and the overall rate was 24.0 per 100 occupied beds.

That rate is a snapshot of the sharps injury risk, not a benchmark, notes Grimmond. “I don’t think people should think ‘I’m doing all right, I’m up with the U.S. benchmark,’” he says. “We need to put zero back on the radar.”

AOHP identified “best practice” hospitals that had lower-than-average needlestick rates. The hospitals provided intense (one-on-one) education with competency testing, involved management in their sharps safety efforts, and monitored and took

action on needlestick trends. (*See related story, below.*)

In successful hospitals, managers and employees took ownership of the sharps safety program. Unit managers were responsible for safe practices, and employees also were expected to use safety devices and follow safety protocols, says Good.

## Prevention impacts bottom line

AOHP plans to repeat the survey in 2014. Gathering information from across the country provides valuable information and brings sharps safety back to the forefront, says Dee Tyler, RN, COHN-S, FAAOHN, director of medical management for Coverys Insurance Services in Lansing, MI, and executive president of AOHP.

“We didn’t feel there was a lot of good information about what was going on in health care facili-

## AOHP highlights best practices’ in sharps safety

*Findings reflect efforts of hospitals with lower rates*

The Association of Occupational Health Professionals in Healthcare (AOHP) survey on needlesticks included the following key tips and strategies to reduce sharps injuries.<sup>1</sup>

### Education: New Hires

- One-to-one interactive with every clinical new hire, discussing exposure vulnerability and strategies to work safely
- Emphasize sharp safety during orientation
- Require new clinicians to practice with and demonstrate competency on all devices—including students and float staff
- “Safety Responsibility” pledge signed by each new hire—to which they are held accountable

### Education: Ongoing

- Building a bloodborne pathogen exposure event into the simulation lab-training scenario
- Mandatory review of sharp safety every two years
- Use of a mandatory on-line program for education
- Use vendor support and clinical educators to “stretch” resources; include weekend and off-shifts
- Mandatory post-injury education—some in the form of on-line module, some face-to-face with the Employee Health nurse or the Workers

### Compensation Nurse Case Manager

- Monthly e-mailed “Sharps Safety Tips”

### Management Involvement

- Hold managers accountable for the safety of their units and publicly praising managers of occupationally safe units
- Ensure that exposure data are “on the record” in committee reports that go up chain of command
- Be transparent with injury trends—good or bad
- Managers and the injured employee must be actively involved in the follow up investigation and root cause analysis
- Make reporting easy and available through an on-line or call-in system

### Employee Health Attitude

- Commitment to “drill down” on every exposure
- Close attention to trends—with timely follow up, not waiting

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1. Grimmond T and Good L. EXPO-S.T.O.P.: A national survey and estimate of sharps injuries and mucocutaneous blood exposures among healthcare workers in USA. *Journal of AOHP in Healthcare* 2013; 33:31-36. ■

ties regarding sharps injuries. That's why we felt it was a vital survey," she says.

Each needlestick represents a potential emotional trauma for an employee and a risk for the health care facility, she notes. "Prevention can save not only the individual the tremendous suffering from the results of a sharps injury, but it also impacts the hospital's bottom line," she says. "It only takes one case. A lot of those [HIV or hepatitis] medications are several thousand dollars a month, should they convert."

OSHA requires hospitals to have an exposure control plan that they update annually, as they consider new technology that may further reduce risk. Hospitals should use that annual review as a way to lower their needlestick rates, says Grimmond.

"If you're still getting injuries in certain procedures, don't be satisfied," he says. "Look at new technology. Get your frontline staff to help you find a better way."

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# Setting the ultimate safety benchmark

*Hospital goal is no more needlesticks*

At the Robert Wood Johnson University Hospital in New Brunswick, NJ, the needlestick benchmark is simple and never-changing: Zero.

Doris L Dicristina, RN, BSN, MS, COHN-S/CM, director of Employee Health and Wellness Services, was proud that her hospital ranked among the top "sharps safe" hospitals in a study by the Association of Occupational Health Professionals in Healthcare (AOHP). (*See related story, p. 15.*) But she's still not satisfied.

Rather than compare needlestick rates with other hospitals, she looks at her own injury trends. "Zero needlesticks is my goal," says Dicristina. "It doesn't matter to me how many employees I have because if you're the employee who gets stuck, it's catastrophic."

She is well aware of the emotional, physical

and financial toll of a single conversion. One occurred in 2009, from a needlestick that happened in 2008, just months before Dicristina began working at the hospital.

The clinical care technician who contracted hepatitis C from the needlestick takes anti-viral medications, needs frequent follow-up with an infectious disease physician, and has had both acute symptoms and chronic illness. His care has cost the hospital more than \$80,000.

"That person is young and he will be under our care for the rest of his life due to that conversion," she says. "Over a lifetime he may ultimately need a liver transplant."

Dicristina is dedicated to keeping that from happening to anyone else.

## Seeking a better device

The sharps injury log is an important tool for guiding needlestick prevention. In 2011, Dicristina saw a concerning trend — 43% of the needlesticks occurred among clinical care techs who were using butterfly-style devices to draw blood on the patient floors.

"The safety feature was activated by sliding the protective cover over the needle by moving their hand towards the needle. We were concerned about that," she says. "We drilled down to find out about the risks associated with the device."

She also discovered that the tubing had a recoil effect, which sometimes caused the needle to flip back and hit the tech's hand before the safety feature was activated.

Dicristina wanted to look for a better device — but she wanted the clinical care techs to make the decision. (That is in keeping with the Bloodborne Pathogen Standard of the U.S. Occupational Safety and Health Administration, which requires annual review of new technology and input from frontline workers.)

At a vendor fair, the techs tried out different devices. They selected a retractable butterfly device. By pressing a button, the employee activates the safety feature, retracting the needle while it's still in the patient's vein. "If it's done correctly, there's no risk," says Dicristina.

There was one other practical concern. The new devices were more expensive. Dicristina partnered with a director in materials management who is also a nurse. She was able to negotiate a lower price from the vendor, and she conducted a cost-benefit analysis to justify the additional expense.

It's important to collaborate with nursing, infec-

tion prevention, purchasing and others, Dicristina says. “I made the safety case, they made the business case,” she says.

With the change, there were fewer than five needlesticks from the butterfly devices in 2012 and 2013.

## Safety requires vigilance

Robert Wood Johnson University Hospital is now going through the same process to reduce needlesticks from insulin syringes. The current device also uses a sliding shield. Nurses tried out alternatives at a vendor fair, and they selected a retractable device to use in a trial.

“I’ll be interested to see if they feel comfortable with it,” says Dicristina. “The end user needs to feel comfortable with it. If the end user doesn’t like it, end of story.”

Meanwhile, she has revised training to improve practice and raise awareness about sharps safety. She also provides quarterly updates to the infection prevention committee and she keeps hospital leadership informed of her progress. “We’re constantly looking at the data,” she says.

Each success feels good, but then Dicristina regroupes and looks ahead. “I still have a lot of work to do, but clearly I’m heading in the right direction, because nationally I’m in the top 5 [for sharps safety] with similar [teaching] hospitals,” she says. Yet she still feels far from her goal. “I’m not there because I’m not at zero. And then I’m not there until I stay at zero.”

“It takes constant vigilance and focus and organizational collaboration to get where you want to be, which is [to ensure] the overall safety of our employees,” she says. ■

## Heavy lifting still brings toll of injuries

*MSD goal: Reduce the rate of injury and illness cases involving days away from work due to overexertion or repetitive motion by 10% by 2020. HealthyPeople 2020. By 2016, reduce by 25% the 2005 baseline Bureau of Labor Statistics (BLS) rates of sprains and strain injuries involving days away from work in hospitals and nursing homes where healthcare patients were listed as the source of injury in the Healthcare and Social Assistance sector. (NIOSH/NORA council.)*

It has been eight years since Texas became the first state to mandate programs for safe patient handling and seven years since the safe limit for manual patient lifting was set at 35 pounds.<sup>1</sup> Yet while many hospitals have bought lift devices, musculoskeletal disorder (MSD) injuries continue to disable health care workers and remain a pervasive problem in the nation’s hospitals.

A new report offers the first glimpse into the safe patient handling practices at hospitals. A survey of 88 hospitals by the Massachusetts Department of Public Health found that many hospitals have aspects of a formalized, comprehensive program, but there is great variation in their practices.<sup>2</sup>

One-third of the hospitals (34%) did not have a written program in place or under development, and one-third (35%) did not have a committee that focuses on preventing patient handling injuries. “It’s clear that hospitals have been making an effort to address this, but there’s still room for improvement,” says **Angela Laramie**, MPH, epidemiologist in the MDPH Occupational Health Surveillance Program in Boston.

Written policies and a committee review of injuries are critical aspects of a safe patient handling program, says **Mary Matz**, MSPH, CPE, CSPHP, National Patient Care Ergonomics Program Manager with the Veterans Health Administration. Management involvement, a facility coordinator, annual training, and competency assessment are other key components, she says. “It has to be comprehensive or it’s not going to be successful,” she says.

## Hospitals skimp on training, equipment

Nationally, progress in safe patient handling has been spotty, at best. After some years of decline, injuries due to overexertion began to rise again in 2008, according to the Bureau of Labor Statistics. MSD injury rates among registered nurses also rose from 2009 to 2011.

Yet research has demonstrated that safe patient handling can bring a rapid return on investment. With a sustained focus on safe patient handling in 153 facilities, the Veterans Health Administration reduced its MSD injuries by 40% approximately six years, notes Matz. “The program the Department of Veterans Affairs has instituted is working,” she says. “It is definitely decreasing injuries in these [worker] populations.”

The Massachusetts study reveals barriers to safe patient handling that are common concerns:

the perception that it takes more time to use equipment. Difficulty changing employees' habits. Cost of equipment and availability of storage space.

In fact, finding a lift may be difficult in some units in some hospitals. In the Massachusetts survey, only a third (33%) of acute-care hospitals reported that they had lifts in the intensive care unit and only 44% had lifts in radiology. In contrast, lift equipment was commonly provided in medical/surgical units (90%).

Training also is variable. Only 35% of the Massachusetts hospitals provided safe patient handling training on hire and annually.

It takes time for health care workers to adapt to the new way of lifting and moving patients, and they need support to make that change, Matz says. "If a caregiver isn't comfortable using a piece of equipment, they're not going to use it because they're going to be afraid for the patient and afraid for themselves," she says.

Trying to save money by limiting the scope of a safe patient handling program can actually be counterproductive, Matz notes. Employees need training and support as they adapt to safe patient handling.

"You have got to realize that you are asking people to totally change the way they do their work," she says. "They've been moving patients a certain way and they're in the habit of doing it that way. Respecting the reluctance and understanding that change is difficult is important, and I think one of the best ways to facilitate this change is to continually ask for their input."

Employees can help select equipment, suggest ways to store equipment, and serve on committees that design new spaces, she says.

How you track injuries also matters. Only 61% of the Massachusetts hospitals reported that injury reports were reviewed by the departments in which the injuries occurred.

Matz recalls one hospital that had a problem with injuries on the night shift. The hospital had a safe patient handling coordinator who investigated — and discovered that the battery for the floor lift was being charged at night. Therefore, lifts weren't available for the night shift. Preventing injury was as simple as buying a second battery.

"It's just an example of how important it is to have one person who is overseeing [safe patient handling] and working with occupational health, engineering, and safety and working with them to figure out the problem," Matz says.

## Hospitals seek to improve

Despite the gaps, there are some positive signs of change. The Massachusetts hospital survey had a response rate of 90%. After the survey, some hospitals indicated that they were going to take new action on safe patient handling, says Laramie. Just conducting the survey raised the profile of safe patient handling.

"Hospitals have liked that we've asked them what's going on and they're glad to tell us," she says. "This was a great way to get a baseline of what was going on across the state and how hospitals were addressing this issue."

Massachusetts conducted the survey to help inform a special task force on safe patient handling, which will issue recommendations.

Meanwhile, new voluntary standards from the American Nurses Association also have raised awareness about safe patient handling. Matz has heard from hospitals seeking guidance on complying with the standards. The ANA also has issued an implementation guide. (*For more information on the ANA standards, see HEH, August 2013, p.89.*)

In some parts of the country, safe patient handling is now a mandate. Eleven states have rules or laws regarding safe patient handling, and legislation is pending in other states, including Massachusetts.

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## CDC: Document measles immunity of HCWs

*50th anniversary highlights progress, gaps*

Despite widespread vaccination against measles, some health care workers remain susceptible — and they have a much greater chance of contracting the disease than the general public, according to a recent report.

About 2% to 5% of U.S. health care workers

may lack immunity, with greater susceptibility among younger workers, according to a review of research. Health care workers are two to 19 times more likely to acquire measles than other adults, the study found.<sup>1</sup>

As the Centers for Disease Control and Prevention celebrated the 50th anniversary of the measles vaccine — which led to the elimination of endemic measles in North America — public health experts urged continued vigilance. In 2013, there were 175 measles cases in the United States. The second-highest number since measles was eliminated in 2000. Twenty of those measles patients were hospitalized.

The largest outbreaks were in New York, North Carolina and Texas, and the U.S. cases came from 52 known importations of the disease, about half of them from Europe, the CDC said. Most of the U.S. cases occur among people who refused the vaccine for religious or philosophical reasons or infants too young to be vaccinated.

“Just as any virus anywhere is only a plane ride away, measles anywhere is really potentially the cause of an outbreak here,” CDC director **Thomas Frieden**, MD, MPH, said at a press conference.

A systematic review of measles research revealed the need for continued concern about measles vaccination both in the United States and globally.

Even in the 1980s, measles outbreaks occurred in U.S. hospitals and emergency rooms and health care workers contracted measles from patients. From 1980 to 1984, about one-quarter of hospital-associated cases were among health care workers. Nosocomial transmission continues to occur in other countries, the reviewers found.

Although U.S. health care workers have very high rates of measles vaccination (90% to 98%), most states (80%) do not require it.

“Adult vaccines in general have not been funded from the public sector, so it’s left up to the hospitals [to develop policies],” says **Jane Seward**, MBBS, MPH, deputy director of the Division of Viral Diseases in CDC’s National Center for Immunization and Respiratory Diseases, an author of the review.

In European countries, vaccination practices differ widely, and the World Health Organization does not have a specific policy on measles vaccination or evidence of immunity among health care personnel. Vaccination rates are lower in European hospitals, Seward says.

In U.S. hospitals, concern arises when a mea-

sles outbreak occurs and the employee health professionals must quickly determine the immune status of health care workers.

Older health care workers may not have been vaccinated because CDC counts birth before 1957 as evidence of immunity — except in the case of an outbreak. CDC now says health care facilities “should consider” vaccinating health care workers born before 1957 if they don’t have laboratory confirmation of immunity, past laboratory confirmation of disease or documentation of two doses of vaccine.<sup>2</sup>

“If even one case occurs in a health care setting, they’re going to have to test them then,” says Seward, “and that is very difficult when an outbreak goes on.”

History of disease is no longer considered evidence of immunity, she notes.

CDC also says, “Health-care facilities should use secure, preferably computerized, systems to manage vaccination records for health-care personnel so records can be retrieved easily.” Electronic records make it much easier to respond, says Seward. “Checking through hundreds of [paper] records when you have a case in the hospital is very time-consuming,” she says.

If health care workers have received two doses of MMR, no serologic testing is necessary, she says. “Having two doses is highly effective,” she says.

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## Supervisors are key to creating safety climate

*Safety leaders: Perception becomes reality*

“Safety culture” has been an important buzzword in occupational health for many years. But recent research shows that the broad goal has one key component: The attitude of supervisors.<sup>1</sup> “The positive work environment is strongly

related to positive employee outcomes — and patient outcomes,” says **Deirdre McCaughey**, PhD, MBA, assistant professor of health policy and administration at The Pennsylvania State University in University Park, PA.

McCaughey and colleagues studied the work environment among a group of hospital employees who are often overlooked — food service and environmental services workers. They probed workplace perceptions among 1,272 support workers at 11 acute care hospitals. The study used well-established patient safety questionnaires as a basis, altering the wording to reflect employee safety.

For example, workers assessed whether it was true that “the actions of hospital management show that worker safety is a top priority” or whether worker safety is ever sacrificed to get more work done. Workers also gave their units an overall safety grade — from failing to excellent.

“We found that there’s a positive relationship between supervisor safety leadership and [employee] safety perceptions,” McCaughey says. “When employees see that their unit supervisor engages in and takes safety seriously, the employees are going to have higher safety perceptions and they’re going to rate their unit as a safer place to work in.”

The same association exists between the safety leadership of senior management and worker perceptions, she says.

In this case, perception is also reality. Employees with lower perceptions of safety were more likely to report having been injured. “The odds of being injured are substantially reduced when employees have these [positive] safety perceptions,” McCaughey says. “When they have poor perceptions, they’re twice as likely to report having been injured.”

Co-worker support also plays an important role, she found. Workers who reported higher levels of coworker support also had a higher perception of safety and fewer reports of injuries.

The research demonstrates the importance of setting priorities and expectations for safety, McCaughey says.

It goes beyond establishing policies or providing safety training, she says. Strong leaders build cohesive teams and emphasize collaboration and they demonstrate that employee safety is a priority, she says.

The findings show that safety leadership and coworker support are important components of safety climate. That holds true for both patient safety and worker safety, McCaughey says.

“The cognitive mechanisms that create a safe environment for a worker are the same mechanisms that create a safe environment for patients,” she says. “Greater emphasis on safety promotes employee safety compliance, resulting in safer outcomes for everyone.”

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## CDC: Influenza shots prevent hospitalizations

*Hospitals post high rates, LTC lags*

Here’s another reason to emphasize influenza vaccination in long-term care: Last year, vaccination prevented an estimated 44,000 flu-related hospitalizations among older people, according to the Centers for Disease Control and Prevention.

CDC regularly stresses that “the best way you can protect yourself against the flu is to get a flu vaccine,” as director **Thomas Frieden**, MD, MPH, said in a press conference. But now the public health agency has some numbers to illustrate that.

The 2012-2013 season was a relatively severe flu season, with about 381,000 flu-related hospitalizations, Frieden said. Based on that, and data on flu vaccine coverage and effectiveness, researchers estimated that a total of 6.6 million cases and 79,000 hospitalizations were averted.

Flu-related hospitalizations occur most frequently among the elderly and children four and younger. “Much of the illness and hospitalizations that we prevented was in the most vulnerable people, the youngest and the oldest,” says **Ann Schuchat**, MD, director of CDC’s National Center for Immunization and Respiratory Diseases.

CDC has no data on the impact of increasing vaccination rates among hospital employees, Schuchat said. “The best data about the impact of health care worker vaccination is older data that suggests a real benefit for patients in long term care facilities when high proportions of the health care workers there are vaccinated,” she said. “Sadly, that is the population of health care workers where we’ve really been lagging behind.”

## Hospital rates soar

Influenza activity typically peaks between January and March, so by the end of 2013, there were only early reports of outbreaks.

“Seasonal influenza activity is now beginning to increase in parts of the U.S. and we know that it will increase in the coming weeks and months, but we cannot predict where and when and how severe this year’s flu season will be,” Frieden said.

Influenza vaccination seemed to be on track to mirror the coverage from the prior season among health care workers, according to a CDC survey.

“By mid-November, we were pretty much where we were the year before,” said Schuchat, adding that “63% of health care providers had gotten flu vaccine by that point this year, just about the same as last year.”

Coverage was higher in hospitals, with a vaccination rate of 79%. The rate was 60.5% in ambulatory care and just 52.6% in long-term care, CDC reported.

About half of hospital workers in the Internet-based survey reported that their employer required the flu vaccine. Not surprisingly, those with an employer requirement had the highest vaccination rate — of 90%. Only 10% of health care workers in long-term care reported that their employers have a flu vaccine requirement.

Pharmacists were the most likely to get the vaccine, with a rate of 90%. Physicians and nurses also had high rates, of 84% and 79%. Aides or assistants were the least likely to be vaccinated, with a rate of 49%.

The survey also revealed some attitudes about influenza vaccination:

- About one-quarter of health care workers who did not plan to be vaccinated said the reason was “I just don’t want the vaccine.” Another 25% feared getting influenza from the vaccine or having side effects.

- Health care workers said their main reason for getting the flu vaccine was “to protect myself from flu” (42%). Only 5.6% said protecting patients was the main reason they received the vaccine.

- Workers who were 65 or older were slightly more likely to receive the vaccine than younger workers.

Schuchat emphasized that the vaccination numbers were just a “halftime” report, and that CDC encourages vaccination throughout the flu season. “It’s really where we are at the end of the season that matters,” she said. ■

## Free health appraisal boosts RN wellness

*ANA offers tool, list serve to promote health*

It has become easier than ever for the nation’s nurses to monitor their health — both personal and occupational. And this new knowledge may put a sharper spotlight on hazards nurses face every day at work.

The American Nurses Association launched a Healthy Nurse website, with a list serve and resources, and a free health risk appraisal. It integrates occupational health and wellness, and it is open to all nurses and nursing students.

“The main message is self-care,” says **Holly Carpenter**, BSN, RN, senior staff specialist with the ANA in Silver Spring, MD. “Nurses are so busy taking care of everyone else, they often neglect themselves.”

The health risk appraisal also provides a valuable snapshot of the health status of the nation’s nurses. Initial results from 663 participants indicate that nurses have better health habits than the average American, but they have significant concerns about workplace hazards. Here are some highlights:

- Stress is the No. 1 workplace concern for nurses. When asked, “In my current work environment, I believe I am at significant risk for the following health and safety hazards,” 81% of respondents cited workplace stress. More than one-third (36%) cited lifting or repositioning heavy objects, including patients.

- One in four nurses has endured physical violence at work. Some 23% of respondents said they have been physically assaulted by a patient or the family member of a patient while at work.

- Back pain is a fact of life for nurses. More than 50% said they experience musculoskeletal pain at work.

- Overall, almost all nurses report they are in good to excellent health. However, one-third have hypertension and 18% have asthma. Only about 8% of U.S. adults have asthma, according to the National Health Interview Survey.

- Nurses are more likely than the general public to have healthy habits. For example, 61% said they eat three or more servings per day of nuts and vegetables. The average American consumes vegetables about 1.6 times a day, according to the Centers for Disease Control and Prevention.

The ANA’s Health Risk Appraisal asks about

other workplace hazards, such as sharps safety, bullying, shiftwork and fatigue, and wellness issues such as immunizations, tobacco and alcohol use, and distracted driving.

After answering the questions, nurses receive a personal report highlighting their risks — green for low or no risk, yellow for medium risk and red for high risk.

“The HRA does not provide health care medical treatment or diagnosis and it does not address all nurses’ health safety and wellness issues,” Carpenter notes.

However, it can be a tool for nurses to improve their health — and become role models for their patients and community, she says. “One out of 100 Americans is a nurse,” she says. “If we can improve the health of that one percent, hopefully it will spread out to the entire population.”

[Editor’s note: More information is available at [www.anahealthynurse.org](http://www.anahealthynurse.org). Nurses can take the health risk appraisal at [www.anahra.org](http://www.anahra.org).] ■

## Do your isolation rooms have proper ventilation?

*Hazard evaluation points up air flow issues*

When employee health professionals work to reduce the occupational risk of tuberculosis, respiratory protection is a major part of their efforts. But as a health hazard evaluation shows, improving ventilation is another important consideration.

In 2010, managers at a Texas hospital became concerned when 35 employees on a single medical-surgical unit tested positive for exposure to *Mycobacterium tuberculosis*. Local health department officers discovered that a patient with undiagnosed active TB had been treated on the unit for a month and was not placed in isolation.

Still, the hospital wanted to check its ventilation system. The Centers for Disease Control and Prevention recommends any airborne infection isolation rooms constructed or renovated before 2001 to have at least six air changes per hour. For optimum air flow, the recommended level for newer construction is 12 air changes per hour, the agency says. Newer anterooms should have 10 air changes per hour.<sup>1</sup>

Two industrial hygienists from the National Institute for Occupational Safety and Health (NIOSH) investigated the ventilation. They found

that all the airborne infection isolation rooms had the appropriate negative pressure, except that the flow in one room was affected by a television located below the exhaust air return. (The hospital immediately moved the television.)

Two of the seven measured rooms had fewer than six air changes per hour, and three had more than 12 air changes per hour. None of the ante rooms were at the recommended level.

### Check the air flow

Nurses or maintenance workers should check airborne isolation rooms every day while there is a patient in them, says **Todd Niemeier**, MS, CIH, an industrial hygienist with NIOSH in Cincinnati. That can be done simply by gently squeezing a smoke tube outside the room, two inches from the bottom of the closed door, and watching the trail. With negative pressure, the smoke should flow from outside the room under the door. Or a thin strip of tissue can be held parallel to the door to determine the direction of the flow of air.<sup>2</sup>

When isolation rooms were full, the hospital used a portable air cleaner with a HEPA filter and ultraviolet germicidal irradiation (UVGI). However, Niemeier cautioned that the air cleaner would not create negative pressure unless it exhausted air outdoors.

“If your return air is not exhausted directly outside, you could still be spreading infectious aerosols to other spaces in the hospital,” he says. Niemeier suggests consulting an engineer or industrial hygienist if a portable air cleaner is to be used to create an airborne infection isolation room.

In the health hazard evaluation report, he states, “Though these recirculating units have been demonstrated to be effective in removing bioaerosols from room air, their effectiveness can vary, and they are considered supplemental ventilation units. They should not be relied on in place of maintaining a sufficient number of AII rooms that meet the CDC guidelines.”

“The best solution is to have the appropriate number of airborne infection rooms to meet the needs of your patient population,” he says.

Meanwhile, Niemeier stresses that proper ventilation is just one preventive measure to prevent the spread of tuberculosis.

“It’s important to understand that even meeting this guidance doesn’t preclude the fact that if a nurse walks into the room, they still need to wear respiratory protection,” he says. “They’re not protected from exposure to TB if they don’t have respi-

ratory protection.”

Employees who could be exposed to infectious aerosols should be fit-tested annually, if they use N95s, and should receive training in the proper use of the respirator, he says. “That’s your last line of defense, wearing that respirator correctly,” he says.

[Editor’s note: *The Health Hazard Evaluation on “Evaluation of Ventilation Controls for*

*Tuberculosis Prevention at a Hospital” is available at [www.cdc.gov/niosh/hhe/reports/pdfs/2010-0092-3188.pdf](http://www.cdc.gov/niosh/hhe/reports/pdfs/2010-0092-3188.pdf).]*

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## Update: Joint statement on vaccine mandates

As reported in the January *HEH*, three leading infection prevention organizations issued a joint statement urging mandates for all federally recommended health care worker vaccinations. Those groups are: The Infectious Diseases Society of America (IDSA), the Society for Healthcare Epidemiology of America (SHEA), and the Pediatric Infectious Diseases Society (PIDS).

The organizations urge hospitals that have not reached at least 90% vaccination coverage to make the recommended vaccines “a condition of employment, unpaid [volunteer] service, or receipt of professional privileges.”

The statement continues, “For HCP who cannot be vaccinated due to medical contraindications or because of vaccine supply shortages, health care employers should consider, on a case-by-case basis, the need for administrative and/or infection control measures to minimize risk of disease transmission (e.g., wearing masks during influenza season or reassignment away from direct patient care).

“The societies also support requiring comprehensive educational efforts to inform HCP about the benefits of immunization and risks of not maintaining immunization.”

The complete statement is available at [www.shea-online.org](http://www.shea-online.org). ■

## CNE INSTRUCTIONS

Nurses participate in this CNE/ CME program and earn credit for this activity by following these instructions.

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



## 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 healthcare 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.

## COMING IN FUTURE MONTHS

- Do you need a better sharps container?
- Best practices in safe patient handling
- Preventing slips, trips and falls
- Spotlight on HC workplace violence reaches Congress
- Building a roadmap to better health

## CNE QUESTIONS

1. Based on the EXPO-S.T.O.P. survey by the the Association of Occupational Health Professionals in Healthcare, about how many needlesticks occur in the United States each year?  
A. 215,000  
B. 384,000  
C. 320,000  
D. 150,000
2. According to **Mary Matz**, MSPH, CPE, CSPHP, the best way to support a change in employee practice related to patient handling is:  
A. to solicit employee input in equipment, storage and facility design  
B. to share injury data with hospital leadership  
C. to provide training to all new hires  
D. to enforce policy with disciplinary action.
3. By mid-November, a survey from the Centers for Disease Control and Prevention showed that which health care professionals had the highest influenza vaccination rates?  
A. Physicians  
B. Nurses  
C. Pharmacists  
D. Nursing assistants
4. According to a new, online health risk appraisal by the American Nurses Association, what is the top workplace concern of nurses?  
A. Back injury  
B. Assaults  
C. Needlesticks  
D. Stress

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