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AHC Media

A troubling shortfall in HCW hepatitis B vaccination rates

HC employers failing to meet 90% goal

While the pressure grows to raise the rate of influenza vaccination of health care workers to 90%, an identical Healthy People 2020 goal for hepatitis B vaccination of health care workers remains quietly unmet.

Only 63% of health care personnel received the hepatitis B vaccine in 2010, according to the National Health Interview Survey, far below the Healthy People 2020 goal of 90%.[1] The U.S. Occupational Safety and Health Administration requires employers to offer the hepatitis B vaccine to employees who have the potential for bloodborne pathogen exposure.

Some of the vaccination gap may be among employees who don't have exposure risks. The Centers for Disease Control and Prevention has no information about vaccination within the subset of health care workers who are at risk. But other studies show that substantial numbers of at-risk workers remain unvaccinated. A study of the medical records of workers at 425 hospitals in 2002 and 2003 found that phlebotomists had an HBV vaccination rate of just 71%, lower than physicians or nurses.[2]

In 2010, the Institute of Medicine found that knowledge of hepatitis B and C among health care providers was "generally poor" and that greater awareness is needed to improve vaccination rates.[3] Yet there has been no highly public campaign to improve hepatitis B vaccination, as there has been for influenza vaccination.

"In general, surveillance and research on occupationally acquired infection has received less attention and resources at the CDC over the last decade compared to issues like patient safety and health care-acquired infection among the patient population," says **Jane Perry**, MA, associate director of the International Healthcare Worker Safety Center at the University of Virginia in Charlottesville.

That followed from the dramatic decline in occupationally acquired

HBV in the 1990s. And with the advent of childhood HBV immunization, the upcoming generation of health care workers will be largely protected. But it is appropriate to reassess the current occupational infection risk for both HBV and hepatitis C, Perry says.

Stunning decline in HBV cases

Hepatitis B vaccination has been an occupational health success story. The first HBV vaccine became available in 1981 and the current version was approved in 1986, but CDC reported 8,700 cases among health care workers in 1987. In its 1991 Bloodborne Pathogen Standard, OSHA required employers to provide the hepatitis B vaccine free of charge, and by 1997, the number of occupationally infected health care workers dropped to 249.

In 2009, there were just 13 known cases of acute hepatitis B caused by occupational exposure, according to CDC surveillance.

All the provisions of the Bloodborne Pathogen Standard, including the selection and use of safety devices and training, contributed to the decline in hepatitis B cases, says **Dionne Williams**, MPH, a senior industrial hygienist with OSHA. "The incidence rate among health care workers is lower than incidence rates among the general population," she says. "It was a complete flip [in the risk profile]."

The occupational risk of acquiring hepatitis B will drop even further with a new generation of health care workers who were vaccinated as infants or young children. Forty-seven states require hepatitis B vaccination of children who enter kindergarten.

CDC officials have just begun to draft recommendations for health care workers who received the hepatitis B vaccine as infants. About 5% of people are non-responders and do not gain immunity from the vaccine. "[Those immunized as children] had no post-vaccination serology so we can't be sure they're protected," says **Mark Sawyer**, MD, professor of clinical pediatrics at the University of California San Diego School of Medicine and chair of the working group on hepatitis for the Advisory Committee on Immunization Practice (ACIP).

ACIP will decide whether to recommend that health care employers test for HBV antibodies in all health care workers who were vaccinated as infants and immunize those without detectable levels. Alternately, they could provide all of them with a single dose of vaccine and perform serology testing. A third option would be to test for an immune response only after an exposure. The same policy would apply to older health care workers who had been vaccinated years ago but lack evidence of post-vaccination serology, Sawyer says.

"It's a balance between practicality, expense and protecting the most people we can," says Sawyer.

Sawyer notes that HBV is endemic in many other countries, so health care workers who care for immigrant populations remain at greater

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risk, despite the widespread vaccination in the United States.

OSHA cites under HBV provision

Meanwhile, 20 years after OSHA issued its requirement to offer hepatitis B vaccination, hospitals still struggle with inadequate coverage of their at-risk workers.

The requirement to offer and document hepatitis B vaccination is one of the most frequently cited provisions of the Bloodborne Pathogen Standard, Williams says. "[Health care employers] should offer it to employees and employees should be trained so they understand the benefit of getting the vaccination," she says.

At Marshfield (WI) Clinic, **Bruce Cunha**, RN, MS, COHN-S, manager of employee health and safety, would like to require it. He's not sure if the OSHA standard allows that.

"We have a number of employees, including providers — doctors and physician assistants — who have not gotten it," he says. "We have some employees who have not gotten it and don't want to get it. That puts us at a liability. If they develop the disease, we have to cover them under workers compensation and they have the potential for passing it on to patients."

OSHA has not yet responded to Cunha's request for clarification. But in the preamble of the Bloodborne Pathogen Standard, OSHA pointed out its reasoning for not mandating the hepatitis B vaccine. The agency said it sought to "encourage rather than to coerce employee cooperation" and noted that the National Institute for Occupational Safety and Health (NIOSH) strongly opposed mandatory vaccination.

"Our thinking at the time was that you'd get greater cooperation if employees were educated properly about the efficacy of the vaccination," says Williams.

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NVAC softens call for required flu shots

Employers may consider 'other exemptions'

A federal advisory panel endorsed an "employer requirement" for health care facilities that fail to vaccinate 90% of their health care workers against influenza but gave employers a wide berth to interpret what type of requirements they might set.

The move by the National Vaccine Advisory Committee (NVAC) was seen as a partial victory for unions representing health care workers and a step away from strong mandates and sanctions that lead to employee termination. The final recommendations advise that "in addition to medical exemptions, health care employers and facilities may consider other exemptions in their requirement policies."

"We were able to beat back language contained in the first draft report that told employers to adopt a full-blown flu shot mandate, to one that now asks employers to 'strongly consider' a flu shot requirement if they fail to achieve the Healthy People goal, currently at 90%, with voluntary efforts, while also adopting employee exemptions for medical and 'other reasons,'" says **Bill Borwegen**, MPH, occupational health and safety director of the Service Employees International Union (SEIU) in Washington, DC, and a member of the NVAC working group. "Whether this final language remains sufficiently vague to undermine employer efforts to push for more mandatory flu vaccination programs remains to be experienced."

Even while NVAC members debated the wording of recommendations, a growing number of hospitals adopted mandatory policies. The Immunization Action Coalition announced that it now has 157 facilities on its "honor roll" for imposing an influenza vaccine mandate.

Mandate inspires passionate appeals

The public comment to NVAC included emotional testimony for and against a mandate. Medical assistant **Elizabeth Brown** said

she was terminated from the Washington (DC) Hospital Center for failing to get the flu vaccine.

"I just don't want the flu vaccine. That should be my personal choice," said Brown, who said she was devoted to her patients and has never had influenza. "You put me out of a job because of your decision to make the flu vaccine mandatory for people who choose not to have them."

Laura Scott, executive director of Families Fighting Flu, told of her 15-year-old son, Luke, who was in a coma because of complications related to influenza but ultimately survived. "No one can talk about the real consequences of skipping the flu vaccine better than our members," she said. "That's why we believe so strongly that it's completely unacceptable for health care providers ... to not protect themselves and their patients by getting vaccinated."

Borwegen asserted that the panel had not followed federal rules for advisory committees in drafting the final report. An attorney with the U.S. Department of Health and Human Services (HHS) determined that the subgroup was not subject to the Federal Advisory Committee Act.

Tiered approach is endorsed

Yet some wording was altered, even removing the target goal of 90% in acknowledgement that Healthy People 2020 goals could change. The panel endorsed a tiered approach, recommending a "comprehensive influenza infection prevention plan" including "education of health care personnel as a key component."

NVAC also recommends that:

• Health care employers and facilities integrate influenza vaccination programs into their existing infection prevention programs or occupational health programs. NVAC also recommends that the Assistant Secretary of Health assure that this recommendation is implemented in HHS facilities and services (including the Public Health Service, HHS staff and Federally Qualified Health Centers) and strongly urges all health care employers and facilities to do the same.

• The Assistant Secretary for Health encourage CDC and the Centers for Medicare and Medicaid Services (CMS) to continue efforts to standardize

Quiet season: Where is the flu?

Illness, death much reduced

At the end of February, typically the peak of the influenza season, there were only regional and sporadic cases of flu in most of the United States. In fact, the quiet left some infectious disease experts wondering, "Where is the flu?"

"One year ago, a vast majority of states were reporting widespread activity," **Lisa Grohskopf**, MD, MPH, a medical officer with the Influenza Division of the Centers for Disease Control and Prevention, told a federal advisory panel.

Grohskopf and her infectious disease colleagues were reluctant to declare the flu season over before it began. In some years, the flu season has a delayed start, they said.

As of mid-February, only 14% of influenza-like illness tested positive for influenza, and only three pediatric deaths had been attributed to influenza in 2011-2012. By contrast, there were 122 flu-related pediatric deaths reported in 2010-2011 and 282 such deaths in 2009-2010.

"I've just been totally amazed not only in terms of flu surveillance, but in flu morbidity and mortality," said **Jonathan Temte**, MD, PhD, a family medicine physician, professor at the University of Wisconsin School of Medicine and Public Health in Madison and a member of the Advisory Committee on Immunization Practice (ACIP).

This year, Temte said he has seen fewer hospitalized patients with chronic obstructive pulmonary disease and congestive heart failure, which may indicate fewer complications from influenza.

The 2011-2012 vaccine was identical to the one in 2010-2011, as the same strains continued to circulate. Meanwhile, ACIP had recommended universal vaccination of everyone over the age of 6 months, and retail pharmacies heavily marketed the flu vaccine. The resulting high vaccine coverage may have resulted in a very mild flu season, the infectious disease experts suggested. ■

the methodology used to measure HCP influenza vaccination rates across settings

• For those health care employers and facilities that have implemented Recommendations 1, 2 and 3 above and cannot achieve and maintain the Healthy People 2020 goal of influenza vaccination coverage of health care personnel in an efficient and timely manner, the NVAC recommends that health care employers and facilities strongly consider an employer requirement for influenza immunization. In addition to medical exemptions, health care employers and facilities may consider other exemptions in their requirement policies. NVAC also recommends that the Assistant Secretary for Health assure that this recommendation is implemented in HHS facilities and services (including the Public Health Service, HHS staff and Federally Qualified Health Centers) and urge all other health care employers and facilities to do the same.

Finally, NVAC agreed on the need for new and better influenza vaccines and vaccine technologies. On that recommendation for research and development of better vaccines, there was no dissent. The NVAC recommendations are directed to the Assistant Secretary for Health Howard Koh.

Ultimately, other factors may be a more important impetus for hospitals to adopt mandatory vaccination programs. Some states are now requiring public reporting of health care worker influenza immunization rates, notes **William Schaffner**, MD, chairman of the Department of Preventive Medicine at Vanderbilt University in Nashville, TN, and president of the National Foundation for Infectious Diseases. "Public reporting is going to change things," he says. ■

Handling chemo drugs raises miscarriage rate

Study also shows risk for sterilizing agents

Despite workplace protections, pregnant nurses may still be at risk from exposure to chemotherapy and sterilizing agents.

An analysis of information from almost 7,500 pregnant nurses in the Nurses' Health Study found a significantly higher risk of spontaneous abortion in the first trimester among nurses who handled antineoplastic drugs and in the second trimester among nurses who worked with sterilizing agents.[1]

Nurses' study to focus on occ health hazards

One hundred thousand nurses may soon be part of an effort that could lead to a safer health care workplace.

The third phase of the Nurses' Health Study will include extensive questions on occupational risks, says **Janet Rich-Edwards**, ScD, associate professor with the Harvard Medical School and Harvard School of Public Health and an investigator with the study.

In fact, employee health nurses are among those who are being recruited. The study is looking for RNs, LPNs and nursing students between the ages of 20 and 46 (www.nhs3.org). Unlike previous versions of the study, the questionnaires will be available online.

The Nurses' Health Study began in 1976 and was expanded in a second phase in 1989. More than 200,000 nurses have participated. Many of the findings related to diet and lifestyle links to cancer and heart disease risk. For example, the study found current oral contraception use and postmenopausal hormone therapy increased breast cancer risk.

"The original Nurses' Health Study cohort and Nurses II were funded by the National Cancer Institute. The original aims were to look at lifestyle predictors of breast cancer risk," says Rich-Edwards, who is director of developmental epidemiology at the Connors Center for Women's Health and Gender Biology of Brigham and Women's Hospital in Boston.

With the online version, study investigators will be able to ask more detailed follow-up questions based on nurses' responses, says Rich-Edwards. The study will include more occupational questions. For example, if nurses report that they work with anti-neoplastic agents, they would then answer more detailed questions about the nature of that work and the use of protective equipment.

About 90% of the nurses remain actively engaged in the study, which issues questionnaires every two years. ■

"The women exposed to anti-neoplastic drugs had twice as high of risk as those who did not report that [exposure]," says **Christina Lawson**, PhD, epidemiologist with the National Institute for Occupational Safety and Health (NIOSH) in Cincinnati.

There was a similar two-fold increase related to sterilizing agents, including ethylene oxide, formaldehyde and glutaraldehyde.

"We caution women that if something is termed a carcinogen, it's probably also a reproductive hazard," says Lawson. "Generally, you should stay away from carcinogens during pregnancy."

The study is significant because it didn't ask nurses only about known exposures, such as spills, says **Martha Polovich**, PhD, RN, AOCN, director of clinical practice at the Duke Oncology Network in Durham, NC. "They merely asked the nurses to report the number of hours they worked with these chemicals," she says. "Nurses working with the chemicals had a higher rate of miscarriage."

The Oncology Nursing Society has long been concerned about the potential for reproductive risk for women working with hazardous drugs. ONS recommends employers provide alternative duty for nurses who request it due to pregnancy, breastfeeding or the desire to conceive.

"Those of us who are in the business were not surprised by the findings," Polovich says. "People report those adverse outcomes to us all the time."

Based on the study, the time of greatest vulnerability is the first trimester of pregnancy, says Lawson. "We would like to encourage nurses to protect themselves throughout pregnancy as well as in breastfeeding, but [taking precautions] during the first trimester is really important," she says.

The Nurses' Health Study did not collect information about personal protective equipment. However, other studies of the handling of antineoplastic agents have found surface contamination even with the use of safety precautions. The outside of vials may be contaminated, and dirty gloves can spread residue. A recent NIOSH evaluation of an inpatient oncology unit in Wisconsin found small amounts of chemotherapy agents in the family area. *(See HEH, February 2012, p.17.)*

"We've been trying to promote a universal precautions approach to handling hazardous drugs," says Polovich. "[Nurses should] just assume it's there."

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OSHA maps out a path to prevention

I2P2 white paper ushers in new rule

To usher in one of the most comprehensive rules ever in an anti-regulatory political climate, the U.S. Occupational Safety and Health Administration may need some fire power. The agency lobbed its first volley with a white paper outlining the benefits of an injury and illness prevention program rule.[1]

Known as I2P2, the rule would require employers to assess their worksites, identify hazards and work to reduce the risks. OSHA points out that 34 states already have laws that "require or encourage" employers to have prevention programs.

"We hope that once employers better understand the issues, they will see how our efforts align with actions that many workplaces are already taking," an OSHA spokesman said in an emailed response to HEH.

But even employers that have sophisticated injury prevention programs may worry that an OSHA rule would require them to make changes, says **Brad Hammock**, an attorney with Jackson Lewis in Reston, VA, who specializes in occupational health law and was counsel for safety standards at OSHA from 2005 to 2008.

"Potentially every employer could be affected, which is something you haven't seen since ergonomics," he says. "The potential scope and reach of it, I think, is going to cause it to be quite controversial."

Employers may fear that I2P2 will open the door for OSHA to cite for almost any hazard — because employers would be required to identify the hazard and abate it. For example, hospitals would likely be expected to address patient handling hazards. On the other hand, I2P2 could provide flexibility for employers to address hazards as they see fit, without prescriptive rules.

"There are a lot of people in the safety and health community who say this is the most important thing OSHA has ever done, [that] the best way to protect workers is to require employers to have a program and look for their own hazards and correct their own hazards," says Hammock. "In that sense, it does get to the core of what many safety and health professionals view as the most effective way for OSHA to regulate."

TJC already wants risk assessments

For hospitals, an OSHA rule requiring injury prevention may simply add to the imperative to control hazards. The Joint Commission accrediting body already requires hospitals to conduct risk assessments under the Environment of Care standard.

"Safety is one of the more common RFI's [requirements for improvement] given because of these risk assessments," says **Rick Cotter**, president of RT Cotter and Associates in Kingston, MA, a consulting firm that helps hospitals prepare for Environment of Care surveys.

For example, The Joint Commission expects a hospital Environment of Care Committee to review worker safety incidents, he says. "That's part of the expectation of the surveyors. They're getting a lot more forceful about the quality of the data [they want to see] and questioning what's being done about it," he says.

Recently, The Joint Commission has focused on workplace violence, he says. Surveyors also may ask about back injuries and needlesticks.

Other OSHA standards, such as Bloodborne Pathogens and Hazard Communications, already require health care employers to identify risks and take action, notes **Pamela Dembski Hart**, CHSP, BS, MT (ASCP), principal with Healthcare Accreditation Resources in Boston. The general duty clause of the Occupational Safety and Health Act also requires employers to address hazards that could cause serious injury.

With or without I2P2, health care employers should be conducting hazard assessments, says Hart. "You don't just look at a hazard because there's a rule. If you have a hazard, that's a problem," she says.

Correcting hazards and preventing injury "saves you money in the long run, though you do have to make the commitment to invest in resources and adherence to the standards," she says.

Enforcement is key to injury decline

OSHA is touting the cost-saving potential of I2P2, but recent research suggests that the effectiveness may depend on the enforcement.

In eight states that either require an injury and illness prevention program or provide incentives or requirements through workers' compensation, injuries and illnesses declined by 9% to 60%, OSHA said in its white paper.

OSHA estimates that a national I2P2 rule could reduce injuries by 15% to 35% among employers who don't currently have prevention programs. "At the 15% program effectiveness level, this saves $9 billion per year in workers' compensation costs; at the 35% effectiveness level, the savings are $23 billion per year," OSHA says.

OSHA says that injury and illness prevention programs are "highly flexible – the core elements can be implemented at a basic level suitable for the smallest business, as well as at a more advanced, structured level that may be needed in a larger, more complex organization."

Participation of frontline workers and commitment of senior managers are keys to the success of the programs, OSHA says.

In a report released in January, the RAND Corp. of Santa Monica, CA, found that California's Injury and Illness Prevention Program rule wasn't linked to lower injury rates overall.[2]

Most of the citations under the rule involved the failure of an employer to have a written plan. But when Cal-OSHA inspectors cited an employer for specific violations, injury rates dropped by 26%, RAND said.

"The most consistent finding for the subsections was that a citation for failing to provide appropriate training was linked both to poorer performance prior to the inspection and to improved performance (a 44% reduction) after the inspection," RAND researchers found.

The RAND researchers concluded that OSHA should continue to rely on hazard-specific standards, but that an I2P2 rule would reinforce the need for employers to have safety programs to address the hazards proactively. "Detection of hazards [in an inspection] would lead not only to the removal of hazards but also to the strengthening of safety programs," they said.

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GUEST COLUMN

Make HCW education relevant in real-world

By **Toni C. McKenna**, DNSc, RN, director of the Center for Continuing Nursing Education & Health Careers Institute at the University of Texas Arlington.

When faced with the rapid pace and increasing demands on all healthcare workers during their work time, it is not hard to understand a common reaction to participating in an educational session focused on workplace safety and health: "I don't have time and it won't be new and interesting!"

This is not something that can be turned around with smoke and mirrors, or wishful thinking, or by giving an educational session a funny title just to get people in the room. But with careful planning and execution, it is possible to fully engage healthcare workers and for them to become really involved in this education.

With the support of U.S. Occupational Safety and Health Administration's Susan Harwood grants, we have developed and delivered educational programs to more than 1,400 healthcare workers across our geographic region. In this work over the last three years, we found a few key elements to be helpful:

- Make it relevant. The material, the examples, the discussion must reflect actual practice.
- Provide lots of examples.
- Use a variety of teaching strategies.

The focus of the educational session, whether it is 15 minutes or two hours, needs to be on how the healthcare workers can use the information to help create and sustain a safe and healthy work environment — one that supports great patient care.

Making content relevant is actually the easy part. Every topic in safety and health can be related to health care settings. For example, "hazardous substances" encompass the cleaning materials that the housekeeping/environmental staff use every day, the paint and paint thinner that the Maintenance staff use and store in their supply area — and the material safety data sheets (MSDS) that very few workers have ever read. Talking about the "real" materials (and their associated hazards) that workers use routinely can help to hold their attention.

It's important to be creative with teaching strategies. The long lecture just does not work with adults. We have found that high-energy, short sessions work best.

Discussing lots of examples of a safety and health hazard also can be a key factor in the interest and retention of the information. These examples can be shared verbally, with examples from both the facilitator and the participants, or they can be highlighted with pictures.

Use pertinent photos — perhaps of a blocked aisle, a spill in a corridor that is not marked, a fire extinguisher that is not easy to get to, a person attempting to lift a large object alone. Health care workers can relate to these and oftentimes can offer their own examples of what they have seen or experienced. It is important to always have a specific safety and health message when using a photo — such as the right way to do the activity — for discussion points.

Focus on a hypothetical hospital that has some safety and health issues. This can be a great opportunity for small groups to discuss what is happening and decide together what they would do to further assess and then minimize or eliminate the hazard. We have used this approach in teaching short sessions on ergonomics and the discussions in the small groups can be very energizing! Facilitators can ask for feedback or sharing by each group so that all can benefit.

Demonstrating techniques is helpful, particularly if return demonstration [by participants] is included in the session. This can be easily done with topics such as handwashing, personal protective equipment, bloodborne pathogens, and ergonomics. These activities get participants actually involved in the content and relate to their daily work.

Worksite Hazard Mapping is a learning activity that can be used with groups to help them identify potential/real safety and health hazards in their worksite. Small groups draw a simple diagram of one of their work areas (a corridor in a patient care unit, the kitchen/dining area, etc.) and then with directions from the facilitator, they place colored dots in any area that may have a specific hazard. For example, the red dot might stand for bloodborne hazards and the green for ergonomic hazards. The groups then are guided

in a discussion of what could be done to minimize or eliminate the hazards in the areas they marked. This technique was developed by England's Trade Union Congress in the 1970's and further developed by the New Jersey Environmental Council in 1986, based on a grant from the Occupational Safety and Health Administration.

All workers want a safe and healthy work environment. In health care settings, staff want to provide high quality safe patient care and be safe in their worksites. Engaging healthcare workers in education related to all of the possible safety and health topics can be high energy — even fun — and have a positive impact.

[McKenna will be speaking on this topic at the upcoming annual conference of the American Association of Occupational Health Nurses (AAOHN), April 22-25, in Nashville, TN. More information about the conference is available at www.aaohn.org.]

The University of Texas Arlington is a Region VI OSHA Education Center and offers a wide variety of safety and health educational programs for many different industries, including healthcare. *[For more information on current programs: www.uta.edu/ded/osha and www.uta.edu/ded/nursing.]* ■

Do you have what it takes to be a Star?

Few hospitals join OSHA's VPP program

To be a "star" in the eyes of the U.S. Occupational Safety and Health Administration, employers must invite inspectors to take a close look at their employee health and safety program. In the 30 years of the program, not many hospitals have been willing to do that.

In fact, only 13 of the 2,404 Voluntary Protection Program sites are hospitals, even though there are about 5,700 hospitals in the United States and they have a rate of injury that is twice as high as the average for private industry.

"We think VPP would be a great program for hospitals and nursing homes willing to make the commitment to prevent injuries and illnesses through implementing process and equipment changes that reduce serious injuries and illnesses," an OSHA official said in an emailed response to *HEH* questions. "VPP is all about implementing effective injury and illness prevention programs that prevent work-related injuries. Not only is it the right thing to do — it also saves money and helps the bottom line."

VPP hospitals say the program helps build a culture of safety and recruit and retain employees. It is essentially an employee safety version of the magnet status that rewards hospitals for continuous quality improvement, says **Bobbi Jo Hurst**, RN, BSN, COHN-S, manager of employee and student health and safety at Lancaster (PA) General Hospital.

"There really isn't a downside to it, except it takes some work," says Hurst. "But injury prevention should be there anyway if you're really concerned about your employees."

Safety at every level

About 18 years ago, Samaritan Hospital in Ashland, OH, became the first hospital to join the VPP. Today, safety is imbedded in every level of the hospital hierarchy.

Each unit has a "safety corner" where employees can find the safety manual and safety policies. Department meetings feature safety topics. The Safety Circle, comprised of only hourly or non-managerial employees, meets each month and reviews safety suggestions submitted by employees. The employee with the winning suggestion gets a small reward, such as a free parking spot for a month.

"Everybody is just looking out for everybody else's safety," says safety coordinator **Kathie Overy**.

Meanwhile, a higher-level Environmental Round team includes the directors of engineering and housekeeping, the safety coordinator, and the vice presidents of construction and support services. They walk around the hospital's facilities and survey the hospital floor by floor. They conduct walk arounds once a week.

Self-assessment is a key part of the VPP. OSHA requires a self-evaluation once a year, in which VPP sites identify potential hazards or areas that need improvement and outline how they will be addressed, says Overy.

"The biggest benefit [of the program] is for employees to know you care about their safety," she says.

Follow best practices

Hurst is a believer in the VPP. In fact, she has promoted the program among hospitals and has

worked as a surveyor for OSHA with VPP worksites in other industries. "Every time you go out, you learn about best practices that you can take back and make your place safer," she says.

To apply for the VPP, the employer first must submit three years of injury data and complete a lengthy application. You should have injury rates below the average for your industry, based on data from the U.S. Bureau of Labor Statistics. Then you should prepare for a thorough OSHA inspection. OSHA will look for management commitment and employee involvement in your injury and illness prevention program.

"You start improving even before they come out," says Hurst.

Lancaster's safety team reviewed OSHA standards, such as Bloodborne Pathogens, to make sure they were in compliance. They evaluated their monitoring for chemical exposures, such as glutaraldehyde and Cidex. To reduce patient handling injuries, nurses conduct mobility assessments of patients every 24 hours and every unit has safe patient handling "champions." Several units have ceiling lifts in every patient room, including some rooms with a capacity up to 1,000 pounds.

During the Star evaluations, in which inspections can last up to four days, OSHA officials may give some safety suggestions. It's up to the employer to decide what's feasible, says Hurst. For example, an OSHA inspector suggested that the hospital provide slip-resistant shoes to all employees to prevent slips and falls. That was prohibitively expensive, but instead, Lancaster was able to negotiate a discount on the shoes that was then offered to employees.

"OSHA is there to protect your employees' safety. They're really not bad guys," says Hurst. "We are all interested in the same thing. We want our employees to be safe because our employees are our most valuable resource."

[Editor's note: More information about the Voluntary Protection Program is available at www.osha.gov/dcsp/vpp/.] ■

Nurses at risk for carpal tunnel

Studies focus on possible risks

In a typical shift, nurses perform dozens of small actions that could put them at risk for carpal tunnel syndrome: pushing the plunger of syringes, pressing blood pressure bulbs, tapping into keyboards. Nurses are among the workers with the highest levels of overexertion injuries, and occupational health researchers are seeking interventions that could reduce that risk.

"If the symptoms are caught early and we can identify and correct the risk factors, there's pretty good evidence that we can prevent carpal tunnel from occurring in the first place or preventing it from becoming so severe that the person requires surgery," says **Robert Harrison,** MD, MPH, chief of the Occupational Health Surveillance and Evaluation Program at the California Department of Public Health in Oakland.

California tracks work-related incidents of carpal tunnel syndrome through doctors' reports, workers' compensation claims, hospital discharges and other data sources. Harrison is taking a closer look at the injury among nurses.

"We have identified nurses as one group where there are relatively large numbers of cases that are being reported of carpal tunnel syndrome," he says.

Meanwhile, a study of the force involved in activating retractable syringes sheds some light on one potential risk factor. Three syringes tested by researchers at the University of South Florida in Tampa required very different amounts of force to activate the retraction mechanism, which moves the needle back into the barrel of the syringe.[1]

"This is an area that needs to be studied further to determine if repetitive use with this type of device results in injury," says **Donna Haiduven,** PhD, RN, CIC, assistant professor in the College of Public Health and a researcher with the VA Research Center of Excellence in Tampa.

CTS is common surgery

Carpal tunnel syndrome involves the compression of the median nerve and leads to pain, numbness or weakness of the wrist and hand. Women are three times more likely than men to have the condition. In 2010, about 8 out of every 100,000 fulltime hospital workers had work-related carpal tunnel syndrome that was severe enough to require days away from work, according to the U.S. Bureau of Labor Statistics.

In fact, surgery to relieve pressure on the median nerve is one of the most common surgeries performed. "We also know that carpal tunnel has some of the highest number of days of disability for any work-related injury," says Harrison.

That influenced his interest in taking a closer

look at the occupations at risk for carpal tunnel syndrome. "We have identified nurses as an occupation of interest to us because we think there might be some interesting or feasible interventions in the workplace, particularly hospitals or outpatient settings," he says.

The risk factors for carpal tunnel syndrome are repetition, awkward posture, flexion, excessive force and vibration. "You eventually cause inflammation and irritation and you start getting scar tissue on that nerve," he says. "Carpal tunnel s occurs slowly over months to years."

"If the symptoms are caught early and we can identify and correct the risk factors, there's pretty good evidence that we can prevent carpal tunnel from occurring in the first place or prevent it from becoming so severe that the person requires surgery," Harrison says.

Force may vary by user

Needle safety devices are effective at reducing needlesticks. But researchers also wanted to know how much force was required to activate a retractable device.

Haiduven and her colleagues evaluated the VantagePoint syringe by Retractable Technologies Inc. of Little Elm, TX, the BD Integra by Becton, Dickinson and Company of Franklin Lakes, NJ, and the Safe-1 Safety Syringe by Safety First Medical, Inc. of Santa Ana, CA.

During testing and in published results, Haiduven identified the devices simply as A, B and C. The forces ranged from 4.72 newtons to 83.36 newtons. (There are 4.45 newtons in a pound.) Safe-1 required the least force and BD Integra the most.

"It doesn't necessarily mean one is better than the other," cautions Haiduven. "It's up to the user to decide which feels best. Force is only one of the criteria in evaluating these devices."

Other selection factors include whether the device is intuitive and easy to use, clarity of the markings on the barrel, and reliability, she notes.

In fact, the amount of force needed to activate the device may vary by user. "In two of the devices, it appeared that human factors played a role in the amount of force," Haiduven says. That raises the possibility that users could be trained to reduce their force, she says.

REFERENCE

1. Haiduven DJ, Applegarth SP, McGuire-Wolfe C, et al.Automated and manual measurement of the forces required to use retractable intramuscular syringes. *Jrl Mus Res* 2010; 13:65-74. ■

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

CNE 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

- ■ ACOEM guidelines on fatigue management
- ■ Better ways to train for safe patient handling
- ■ NIOSH seeks safety in home health
- ■ Safe patient handling to prevent patient falls
- ■ Decoding the WC claims of HCWs

CNE QUESTIONS

1. According to the Centers for Disease Control and Prevention, how should employers handle new employees who received the hepatitis B vaccine as infants but were never tested for immune response?
   A. Test for HBV antibodies in all health care workers who were vaccinated as infants and immunize those without detectable levels.
   B. Provide all of them with a single dose of vaccine and perform serology testing.
   C. Test for immunity only after an exposure.
   D. CDC has not yet issued a recommendation on that issue.

2. In the final recommendations of the National Vaccine Advisory Committee related to influenza immunization of health care workers, what did the panel advise about exemptions?
   A. No exemptions should be allowed.
   B. Only medical exemptions should be allowed.
   C. Employers may consider other exemptions
   D. The panel didn't address exemptions.

3. According to a RAND Corp. evaluation of the California Injury and Illness Prevention Program standard, what led to a reduction in injuries?
   A. Having a written plan.
   B. Enforcement of specific requirements in the standard.
   C. Union complaints related to the standard.
   D. Hiring of a safety coordinator.

4. To become a "Star" site as part of the Voluntary Protection Program of the U.S. Occupational Safety and Health Administration, an employer must:
   A. Submit three years of injury data and have an inspection.
   B. Submit results of a self-assessment.
   C. Be endorsed by a current VPP site.
   D. Volunteer for annual OSHA inspections.