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## Hospitals must rally to protect health care workers in case of flu pandemic

*HHS: Plan for vaccines, antivirals, HCW support*

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The health care work force is taking center stage in the nation's pandemic influenza planning.

The U.S. Department of Health and Human Services' (HHS) Pandemic Influenza Plan paints a dire scenario of sick patients flooding hospitals — 30% of the U.S. population will become ill with pandemic influenza, half of whom will seek medical care. A severe pandemic, similar to the 1918 flu, would result in 9.9 million hospitalizations and 1.9 million deaths.

Local communities may be largely on their own as outbreaks occur throughout the country. "A vaccine will not yet be available, and the supply of antiviral drugs will be limited. Local outbreaks may last for weeks or months, and widespread illness in a particular community could lead to shortages in the health care sector, as well as in essential services," according to the plan, released by HHS in early November.

In a response to the pandemic, health care workers will be among the most essential resources. The plan acknowledges the importance of occupational health with a section that begins, "The ability to deliver quality health care depends on adequate staffing and optimum health and welfare of staff." (See box on p. 5.)

Health care workers with direct patient contact are in the top tier, or highest priority, for an available vaccine, and are ranked just behind their seriously ill patients for antiviral medications to treat the disease. But beyond that, hospitals must make sure employees have sufficient training on pandemic influenza, access to adequate supplies, and psychosocial support. The plan says hospitals should "consider stockpiling enough con-

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sumable resources, including masks, for the duration of a pandemic wave (six to eight weeks)."

If a vaccine becomes available against H5N1, the avian flu strain now circulating, the American Nurses Association would support pre-pandemic vaccination of health care workers, says **Cheryl Peterson**, RN, MS, senior policy analyst. "We want to preserve the nursing work force so they are able to provide patient care should there be a pandemic influenza," she says.

The continued spread of avian influenza among poultry and wild birds fueled a growing sense of urgency this fall. States will take the pandemic influenza plan and provide even more detail on how to prepare, says **Christian Sandrock**, MD,

MPH, assistant professor of medicine in the division of infectious disease at the University of California at Davis. Sandrock is helping draft the California plan. "Believe it or not, at 400 pages, it's a bit of a skeleton," he says of the national plan.

For example, the California plan will include guidance on whether exposed workers should be furloughed during a pandemic and how to set priorities in the event of a shortage of vaccine and antiviral medications, says Sandrock. Hospitals will need to revise their emergency plans, developing specifics for pandemic influenza. He advises hospitals to gather a team of people to play a key role in a pandemic and to work with the county health department and other hospitals.

"Although we have a plan and we have tested it and drilled it, clearly we're going to have to do more planning," agrees **William Schaffner**, MD, chair of the department of preventive medicine at Vanderbilt University in Nashville, TN.

As these plans take shape, employee health and infection control experts shared some basic areas of focus:

- **Develop a system for mass vaccination.**

At Baystate Health System in Springfield, MA, Director of Occupational Health and Safety **James Garb**, MD, is dusting off the smallpox vaccination plan and revamping it for pandemic influenza. Baystate never vaccinated employees against smallpox because of the concerns about cardiac adverse events. But the three-hospital health system conducted a tabletop drill and worked out the logistics of mass vaccination.

"We have the mechanism set up, which space we would use, [and] which personnel and equipment [we would need]," he says. "We could unroll that mass vaccination plan on short notice, or give out antiviral medications."

The Centers for Disease Control and Prevention (CDC) offers guidance on setting up a mass vaccination clinic and recommends using templates designed for smallpox vaccination ([www.cdc.gov/flu/professionals/vaccination/pdf/vaxclinicplanning0405.pdf](http://www.cdc.gov/flu/professionals/vaccination/pdf/vaxclinicplanning0405.pdf) and [www.bt.cdc.gov/agent/smallpox/response-plan/files/annex-2.pdf](http://www.bt.cdc.gov/agent/smallpox/response-plan/files/annex-2.pdf)).

- **Work closely with local public health authorities.**

Unlike SARS, influenza primarily will be transmitted in the community, not in hospitals. So every hospital will be facing similar challenges — finding adequate staffing, supply, and surge capacity. The planning must be communitywide, stresses **Michael Olesen**, CIC, manager, infection

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control at Abbott Northwestern Hospital in Minneapolis. "This should be a regional discussion," he says.

Some of your staff or physicians may work at more than one facility. Which one would they report to in the case of a pandemic? If your plans call for opening an off-site facility to care for the overflow of patients, how will you staff it?

## HHS: Track annual HCW flu vaccine

*ACIP calls for mandatory vaccine*

If there is a deadly pandemic of avian influenza and a vaccine to prevent it, no one would question whether health care workers would be willing to be vaccinated. But what about flu vaccination when there is no pandemic?

The HHS Pandemic Influenza Plan promotes annual flu vaccination of health care workers but sidesteps the issue of whether they should be required to sign declination statements if they don't receive the vaccine. Instead, it suggests hospitals "ensure that a system is in place for documenting influenza vaccination of health care personnel."

Increasingly, pressure is being placed on hospitals to track health care workers who aren't vaccinated by requiring them to sign a declination statement.

In November, the Association of Professionals in Infection Control and Epidemiology (APIC) in Washington, DC, became the latest group to call for mandatory influenza vaccination of health care workers. It did not specifically address the use of declination statements and did not describe what a "mandatory" policy would entail.

"Each organization needs to be able to have the flexibility to enforce mandates in the way that works best for their organization," says APIC President **Sue Sebazco**, RN, CIC, who notes that hospitals have implemented some other mandatory immunizations, such as measles, mumps, and rubella.

But Sebazco stressed that health care worker flu vaccination rates are too low, leaving patients at risk. "We don't want our health care workers spreading the virus prior to the onset

Meanwhile, Olesen cautions, you'll have to consider medical equipment, supplies, and other resources, along with staffing issues. Occupational health can be a part of discussions that would include personal protective equipment and vaccine availability, as well as patient care issues such as potential ventilator shortages. "With the potential volume of patients, there are not going to be enough medical supplies," he says. "There's got to

of their symptoms," she says.

Employee health departments can keep track of influenza vaccinations and improve vaccination rates without using declination statements, asserts **Mark Russi**, MD, MPH, associate professor of medicine and public health at the Yale University School of Medicine and director of occupational health at Yale-New Haven (CT) Hospital.

Russi uses an occupational health database to track influenza vaccinations, just as he tracks tuberculin skin tests. After the first phase of his influenza vaccination campaign, he targets specific departments with interventions.

"You can run a successful flu vaccine campaign without gathering declination statements on every individual," says Russi, who represents the American College of Occupational and Environmental Medicine (ACOEM) before the Healthcare Infection Control Practices Advisory Committee (HICPAC).

HICPAC recently endorsed declination statements as a tool to improve health care worker flu vaccination. ACOEM opposes them, noting that there is no evidence linking declination statements to higher vaccination rates. Yet "a coercive program has the potential to harm the employer-employee relationship," ACOEM said in a position statement.

The debate over health care worker compliance with flu vaccination could emerge in a new area when an H5N1 vaccine is approved. The HHS plan says that health care workers may be asked to receive a vaccine even if the virus hasn't shown sustained human-to-human transmission.

Health care worker unions oppose mandates, declination statements, and other policies that have punitive overtones. Education about influenza and the vaccine will be the best way to ensure health care worker vaccination, says **Bill Borwegen**, MPH, health and safety director of the Service Employees International Union. ■

be some discussion about how we best ration the care.”

### Consider priorities for limited vaccine or antiviral medication.

Vaccine is the foundation of the national response to pandemic influenza, according to HHS Secretary Mike Leavitt. “The good news is we have a vaccine that’s been developed by the National Institutes of Health. The bad news is we lack capacity to manufacture a vaccine in sufficient volumes and in the time frames necessary,” he said in a press conference.

The United States will stockpile 20 million courses of the current strain of H5N1, he said. Vaccine will not be available for a specific strain of pandemic influenza for three to six months after it emerges, and protection will require two

doses, according to the HHS plan. In fact, the doses required to provide immunity may be significantly higher than the doses used for seasonal flu — 90 micrograms compared to 15 micrograms, Anthony S. Fauci, MD, director of the National Institute of Allergy and Infectious Diseases, told reporters.

Adjuvants may boost the immune response and allow the use of lower doses, Fauci said. But since it’s impossible to predict when a pandemic might occur, hospitals need to consider the possibility of severely limited supply.

Likewise, the federal strategy involves boosting domestic production of the antiviral oseltamivir and stockpiling of 20 million courses by the end of 2006 and 81 million courses by the summer of 2007.

## Pandemic checklist for occupational health

This checklist was excerpted from the HHS Pandemic Influenza Plan, health care planning section at [www.hhs.gov/pandemic-flu/plan/pdf/S03.pdf](http://www.hhs.gov/pandemic-flu/plan/pdf/S03.pdf).

- An **occupational health plan** has been developed.
- A system for rapidly delivering vaccine or antiviral prophylaxis to health care personnel has been developed.
- The system has been tested during a non-pandemic influenza season.
- A method for prioritizing health care personnel for receipt of vaccine or antiviral prophylaxis based on level of patient contact and personal risk for influenza complications has been established.
- A system for detecting symptomatic personnel before they report for duty has been developed.
- This system has been tested during a non-pandemic influenza period.
- A policy for managing health care personnel with symptoms of or documented pandemic influenza has been established. The policy considers:
  - when personnel may return to work after having pandemic influenza
  - when personnel who are symptomatic but well enough to work will be permitted to continue working

- A method for furloughing or altering the work locations of personnel who are at high risk for influenza complications (e.g., pregnant women, immunocompromised health care workers) has been developed.

- Mental health and faith-based resources, which will provide counseling to personnel during a pandemic, have been identified.

- A strategy for housing health care personnel who may be needed on-site for prolonged periods of time is in place.

- A strategy for accommodating and supporting personnel who have child or elder care responsibilities has been developed.

- A **vaccine and antiviral use** plan has been developed.

- A contact for obtaining influenza vaccine has been identified.

(Name) \_\_\_\_\_

- A contact for obtaining antiviral prophylaxis has been identified.

(Name) \_\_\_\_\_

- A priority list (based on HHS guidance for use of vaccines and antivirals in a pandemic when in short supply) and estimated number of patients and health care personnel who would be targeted for influenza vaccination or antiviral prophylaxis has been developed.

- Number of first-priority personnel \_\_\_\_

- Number of second-priority personnel \_\_\_\_

- Number of remaining personnel \_\_\_\_

- Number of first-priority patients \_\_\_\_

- Number of second-priority patients \_\_\_\_

- A system for rapidly distributing vaccine and antivirals to patients has been developed. ■

# Planning for occupational health in a pandemic

The ability to deliver quality health care depends on adequate staffing and optimum health and welfare of staff. During a pandemic, the health care work force will be stressed physically and psychologically. Like others in the community, many health care workers will become ill. Health care facilities must be prepared to: 1) protect healthy workers from exposures in the health care setting through the use of recommended infection control measures; 2) evaluate and manage symptomatic and ill health care personnel; 3) distribute and administer antiviral drugs and/or vaccines to health care personnel, as recommended by HHS and state health departments; and 4) provide psychosocial services to health care workers and their families to help sustain the work force.

- **Managing ill workers**

- Establish a plan for detecting signs and symptoms of influenza in health care personnel before they report for duty.
  - Develop policies for managing health care workers with respiratory symptoms that take into account HHS recommendations for health care workers with influenza. (See [www.cdc.gov/ncidod/hip/GUIDE/infectcont98.htm](http://www.cdc.gov/ncidod/hip/GUIDE/infectcont98.htm).)
  - Consider assigning staff who are recovering from influenza to care for influenza patients.
  - Develop policies for restricting visitors and mechanisms for enforcing these policies
  - Report to the health department suspected cases of infection caused by new flu strains during the Interpandemic and Pandemic Alert Periods
  - Establish measures to protect family and other close contacts from secondary occupational exposure
  - Establish a schedule for training/education of clinical staff and a mechanism for documenting participation. Consider using annual infection control updates/meetings, medical Grand Rounds, and other educational venues as oppor-

tunities for training on pandemic influenza.

- Cross-train clinical personnel, including outpatient health care providers, who can provide support for essential patient-care areas (e.g., emergency department, ICU, medical units).
- Train intake and triage staff to detect patients with flu symptoms and to implement immediate containment measures to prevent transmission.
- Supply social workers, psychologists, psychiatrists, and nurses with guidance for providing psychological support to patients and hospital personnel during an influenza pandemic. (HHS agencies will identify or develop educational materials on: signs of distress; traumatic grief; stress management and effective coping strategies; building and sustaining personal resilience; and behavioral and psychological support resources.) If feasible, hospitals should also provide psychological support training to appropriate individuals who are not mental health professionals (e.g., primary-care clinicians, leaders of community and faith-based organizations).
- Develop a strategy for “just-in-time” training of non-clinical staff who might be asked to assist clinical personnel (e.g., help with triage, distribute food trays, transport patients), students, retired health professionals, and volunteers who might be asked to provide basic nursing care (e.g., bathing, monitoring of vital signs), and other in-hospital caregivers (e.g., family members of patients).
- **Education of patients, family members, and visitors**

Patients and others should know what they can do to prevent disease transmission in the hospital, as well as at home and in community settings.

- Identify language-specific and reading level-appropriate materials for educating patients, family members, and hospital visitors during an influenza pandemic. If language-specific materials are not available for the population(s) being served, arrange for translations.
- Develop a plan for distributing information to all persons who enter the hospital. Identify staff to answer questions about procedures for preventing influenza transmission. ■

Source: U.S. Department of Health and Human Services Pandemic Influenza Plan, 2005.

There are about 8 to 9 million health care workers involved in direct patient care or who provide essential support services, such as housekeeping, dietary, and laboratory work, the plan states.

Deciding who among your health care work-

ers should be first in line for a vaccine is a difficult task, says Schaffner. “We’re having a very hard time trying to ascertain who does not have direct patient contact in our facility,” he says. “We are inclined, if we have sufficient vaccine, to also make it available to the family of health

care workers to ensure that the health care workers will actually turn up to give health care.”

- **Provide training to employees.**

Now is the time to provide information about pandemic influenza and to reinforce training about infection control and the use of personal protection equipment (PPE), employee health and infection control experts say.

For example, employees should be reminded about the proper way to don and doff PPE to avoid contaminating themselves, says Olesen. (For more information about donning and doffing PPE, see *HEH*, July 2004, p. 86.) They also need to be aware that the virus can survive on contaminated surfaces, he says.

Employees need to understand, too, the basics of federal, state, and hospital-based pandemic plans so they can make their own preparations, says Peterson. For example, the national plan suggests that school closings may be a mechanism for containing an outbreak. But if schools are closed, who will care for the children?

“Individual nurses and others have to be responsible for making a plan with their families — should something happen, this is how we react and respond,” she says.

Here are some other topics for training, according to the plan:

- how to protect family members and other close contacts from secondary occupational exposure;
- how to detect patients with influenza symptoms and to implement containment procedures;
- respiratory hygiene and other infection control measures.

Some staff should be cross-trained to provide support for essential care areas, such as the emergency department or intensive care unit. Social workers, psychologists, psychiatrists, and nurses need to be prepared to provide psychological support to other employees during a pandemic, the plan says.

- **Seek support for your staff.**

In a pandemic, some of your employees will be out due to illness. Others may stay home to care for ill family members. Still others may be afraid to come to work. Just when you need extra staffing to handle the surge of patients, you can expect some absenteeism. “If you look historically [in pandemics], you see anywhere from 30% to 70% absentee rates,” says Olesen.

Health care facilities should be prepared to

help their employees manage stress and cope with family issues, the national plan says. For example, they should consider providing “rest and recuperation sites” with snacks and relaxation materials. They should consider offering elder care and child care and help employees maintain communication with family members while they’re working.

Hospitals need to look at their own institutional resources to put together the programs that address the needs of their staff, says **Mark Russi**, MD, MPH, associate professor of medicine and public health at the Yale University School of Medicine and director of occupational health at Yale-New Haven (CT) Hospital. “If those needs aren’t met, or if people don’t feel safe in their workplace during a pandemic, we will be without adequate staff,” he says.

Providing sufficient personal protective equipment will be critical, says Peterson. “I think nurses will respond,” she says. “They always have in the past.”

*[Editor’s note: A copy of the HHS Pandemic Influenza Plan is available at [www.hhs.gov/pandemicflu/plan/overview.html](http://www.hhs.gov/pandemicflu/plan/overview.html).] ■*

## HCWs caring for infants need pertussis shot

*Further HCW recommendations due in February*

**H**ealth care workers caring for infants should receive the new pertussis vaccine, according to the recommendation of a federal advisory panel.

Amid concern about the risk to young children, the Advisory Committee on Immunization Practices (ACIP) targeted parents, caregivers, and health care workers caring for infants under 12 months old — even while further recommendations are pending that will focus on all health care workers with patient contact. ACIP recommendations shape the guidelines from the Centers for Disease Control and Prevention (CDC) in Atlanta.

Outbreaks of pertussis have caused concern across the country as waning immunity leaves adults and adolescents vulnerable to the disease. A recent serologic study indicates that pertussis is endemic among adults,<sup>1</sup> according to

the CDC.

In adults, the disease causes prolonged and intense coughing that can crack ribs or even lead to loss of consciousness. But the greatest risk is to infants who have not yet been vaccinated or haven't received the full dosing schedule. From 2000 to 2004, 92 infants died of pertussis, almost all them under 6 months of age.

Infants younger than 6 months also accounted for more than half the hospitalizations in a pertussis outbreak in Wisconsin in 2004, according to the CDC.

"Having a baby on my floor with pertussis is the scariest thing in the world. It's a very bad disease," says **Jane Siegel**, MD, a professor of pediatrics and infectious disease specialist at the University of Texas Southwestern Medical Center in Dallas, who says she will begin discussing pertussis vaccination plans with her administration.

The Mayo Clinic in Rochester, MN, began offering the pertussis vaccine to health care workers this year during the annual flu vaccine clinics. With pertussis spreading in the community, the vaccine will help prevent health care workers from becoming a vector of the disease in the hospital, particularly endangering infants, says **William Buchta**, MD, MPH, medical director of Mayo's employee occupational health service.

"The problem is you can't really distinguish it from a regular cold," says Buchta. "By the time people have been identified, they usually have been communicating the bacteria for days or weeks."

Vaccination also benefits health care workers and their family members. While deaths among adults are rare, symptoms can be severe. Surveillance in Massachusetts found that almost half (47%) of adults had post-tussive vomiting and 41% had the classic "whooping cough."<sup>2</sup>

An outbreak investigation in South Carolina uncovered the case of one man who was exposed to pertussis from a co-worker at his office. He then transmitted it to his 3-month-old child. His own illness contributed to a car accident in which he suffered a severe coughing spell while driving and lost consciousness. He was not seriously injured, says **Margaret Cortese**, MD, a medical epidemiologist with the National Immunization Program (NIP) and a lieutenant commander with the U.S. Public Health Service.

"Not everyone has [a case] as distressing as

that, but some adults do," she says.

While the need for an adolescent and adult pertussis vaccine has been well documented, some other issues remain less certain.

What if the health care worker has recently received a tetanus booster? ACIP says that the acellular pertussis vaccine (Tdap), which is combined with tetanus and diphtheria vaccines, can be given two or more years after a tetanus booster. However, some facilities have taken a more conservative approach. At Mayo, for example, employees may receive the pertussis vaccine five or more years after a tetanus booster.

The acellular pertussis vaccine, which is produced by Sanofi Pasteur and GlaxoSmithKline, has been approved only as a single dose. There are as yet no recommendations for future Tdap boosters.

An ACIP working group is also considering how the vaccine could best be incorporated into hospitals and other health care settings, and further recommendations are expected in February. But for now, the CDC still recommends post-exposure prophylaxis for health care workers who have a known exposure to pertussis — even if they have received the vaccine.<sup>3</sup>

"This is an issue that needs to be addressed and clarified," says **Katrina Kretsinger**, MD, MA, an NIP medical epidemiologist and a lieutenant commander with the U.S. Public Health Service.

Meanwhile, CDC epidemiologists are collecting survey information from hospitals around the country to determine how they have been impacted by pertussis. Those data may shape recommendations and could illustrate the need for health care worker vaccinations. "If we can demonstrate what the burden is then we have a much stronger case [with hospital administration]," says Siegel.

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# Early safety focus pays off for South Carolina hospitals

*PHT still monitors sharps safety*

To many health care workers, a needlestick was hardly worth worrying about. It was just a prick. It happened fairly often. And the risk of a seroconversion seemed distant and minimal.

South Carolina hospitals that belonged to Palmetto Hospital Trust, a workers' compensation self-insurance pool, were among the first to change that mindset and take sharps safety seriously. The impetus: hepatitis C.

Even today, hepatitis C remains a more problematic risk from sharps injuries than even HIV. There is no rapid test for identifying source patients with HCV. There is no accepted post-exposure prophylaxis. And lifetime treatment for one occupationally acquired case of hepatitis C could run \$200,000 to \$1 million, if the health care worker needs a liver transplant.

After a couple of HCV seroconversions led to "permanent and total" disability claims, the PHT board of trustees, comprised of hospital CEOs, made its position clear. In 1999, the Sharp Object Injury Prevention Program became an underwriting requirement to receive workers' compensation coverage from the trust.

"When we delved into it from a risk management standpoint, we understood that the hospitals weren't taking advantage of some of the safety devices that were out there," says **Larry Gray**, AIC, senior vice president, property and casualty, PHT Services (PHTS), the risk management services firm that administers Palmetto Hospital Trust.

But within a year, South Carolina hospitals had made significant progress toward converting to safety. "We determined that our members were in compliance about a year before [President] Clinton signed the [Needlestick Safety and Prevention Act]."

The South Carolina experience highlights the benefits of sharps safety. At one time, PHT, which has more than 30 member hospitals, had 15 open claims for possible or confirmed cases of occupationally acquired HCV. Today, there are two.

Needlesticks actually rose initially, due to greater awareness and better reporting. But from 2002 to 2004, PHT hospitals reported a 38% decrease in sharps injuries.

PHT wasn't satisfied with that improvement

and realized that injuries were continuing unabated in the operating room. In 2003, PHT implemented an additional requirement for hospitals to develop prevention programs in the OR.

To put weight behind that, PHTS executives visited the hospitals, spoke to surgeons, and even observed in the OR. They brought in Mark Davis, MD, FACOG, a sharps safety expert and former surgeon, to talk to physicians.

"We had to tailor [the program] to the hospital so the implementation would occur smoothly and be accepted by the staff and physicians," explains **Edward B. Hall, Jr.**, MS, CSP, vice president, risk management at PHTS.

Some hospitals have a physician-dominated culture. Sharps safety efforts may be stalled if physicians refuse to use a device they are unaccustomed to or that proved unacceptable in an earlier version, says Gray. Other hospitals have a more staff-driven culture, in which OR staff are able to demand some changes, such as a neutral zone or hands-free passing.

PHT allows hospitals to move at their own pace. The trust provides data to help the hospitals make the sharps safety case to surgeons. For example, to encourage double gloving, PHT educated surgeons about a study that showed that 30% of single gloves fail, while only 5% of double gloves fail.

PHT facilities also participate in EPINet, a bloodborne pathogen exposure database of the International Health Care Worker Safety Center at the University of Virginia in Charlottesville. Hospitals receive quarterly data reports and can see whether their prevention efforts are effective, says Hall. "It arms them with great data, and that's what physicians want to hear."

So what's left to do once you've made a big push for sharps safety?

PHT hospitals have been among the first to face that challenge. They have developed a system for maintaining their progress. "We're constantly monitoring to make sure we don't backtrack," says Hall.

All PHT facilities received an on-site audit immediately after the initial implementation of the Sharp Object Injury Prevention Program. Now, some hospitals receive an annual data audit, although about two-thirds still receive an on-site audit.

A spike in bloodborne pathogen exposures at a member hospital is likely to result in an on-site audit, says Hall. The audits also include hospi-

tal-affiliated physician offices and clinics, he says.

PHTS also covers sharps safety in one of its in-house electronic newsletters, or e-zines, and continues to provide educational programs related to sharps safety.

PHT also lauds improvements in safety device design. All hospitals are required to review their device selections and consider new technologies. That is particularly important in the OR, says Hall.

"As the devices continue to improve, you'll see better compliance," he predicts. ■

## Follow the numbers for ergo success

*Hospital tallies risk, cost, return*

Ergonomics involves an equation: Too much force on the body equals pain and injury.

So when **Jessie King**, RN, COHN-S, director of staff health services at Exeter (NH) Hospital, wanted to reduce musculoskeletal injuries, she took a step-by-step approach that relied on the numbers.

With the help of an ergonomist and the support of her administration, she analyzed about 200 jobs over a two-year period. For example, the ergonomist determined how many pounds of force it takes to reposition a 150-pound patient, or how much force it takes to move a 150-pound patient from the bed to a stretcher. The analyses were job- and unit-specific.

"When I first got hired, one of the things I discovered was that we were hiring people who were physically not capable of doing the job," she says.

The job function tests became a part of pre-placement exams. "We came up with testing stations that replicated the essential functions of the job and were able to measure the ability of the person to do those," she says.

But analyzing the force involved in job tasks was just one part of the equation. King also took a close look at the hospital's musculoskeletal disorder-related injuries. Patient transfers, such as from bed to chair, and repositioning were causing most of the injuries. The 100-bed hospital did not have friction-reducing devices and had inadequate lift equipment, says King.

"The bottom line is that you cannot do these tasks safely without an assistive lifting device. You're at risk no matter what you do," she says.

King again took a methodical approach. She wanted to identify the risks, assess the equipment, and measure the improvement. She gave employees a questionnaire to find out what they considered to be their most risky activities.

Getting staff involved from the beginning, with the risk assessment, is key to a successful ergonomics program, says **Guy Fragala**, PhD, PE, CSP, director of compliance programs for Environmental Health and Engineering in Newton, MA, who consulted with Exeter Hospital using the HELP program.

Fragala sets up interactive sessions with front-line staff to give them an opportunity to identify their greatest concerns. He also walks through the high-risk units with staff to find out what they consider to be the highest priorities. He compares their top five list with activities identified as causing the most costly injuries in workers' compensation claims.

"We're redesigning high-risk activities. We need the team to buy in to the improvements," he explains.

At Exeter, King discovered issues that contributed to the risk, such as twisting while lifting, unexpected changes in load during a lift, and reaching high or low. Some changes could be made by moving furniture or adjusting



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equipment. But the hospital still needed lift equipment.

King focused on the medical-surgical unit and intensive care. She issued invitations to RNs, LPNs, and LNAs on every shift to come to a vendor fair. In return for filling out an evaluation form on equipment, they received raffle tickets for prizes.

Fragala helps hospitals estimate their savings from reducing injuries — their return on investment. “We consider a conservative reduction of 50% of patient handling injuries. We think that’s conservative,” he says.

King took an even more conservative approach. “We want to decrease the rate of injuries by 20%, and we want to decrease the costs by 10%,” she says. The hospital is still purchasing equipment and implementing the program, so outcome figures are not yet available.

But she anticipates benefits that go beyond dollars. “We want to increase the morale of our staff,” she says.

Injuries have a ripple effect on the work force. “People were disgruntled because of lost wages when they had an injury. It created a lot of stress and low morale,” she says. “Peers became angry and frustrated because they felt forced to work shorthanded. Managers were scrambling to find the manpower needed to care for patients.

“When an employee is injured at work, everybody loses. That was the bottom line.”

Meanwhile, King continues to analyze injuries. She has discovered some perplexing patterns.

“You would suspect it was the older employee who’s getting injured, but it really isn’t,” she says. “In our analysis of our information, the average person who is getting injured is someone between 21 and 35. Our highest rate is between 21 to 25, second highest rate 26 to 35.”

Young people who have worked for the hospital for less than five years are the most likely to sustain an injury, she says.

“We’re going to be following this a little closer and come up with a theory as to why this is happening. We’re not sure,” she says.

She also shares information with employees and middle managers. The managers need to understand the costliness of injuries — even if the cost doesn’t come directly out of their departmental budgets, says King.

“We invited them to be part of this whole process,” she says. “It took a little convincing, but they did come on board in full force.” ■

## CE questions

1. In an influenza pandemic, what proportion of the U.S. population will become sick, according to the HHS Pandemic Influenza Plan?  
A. 20%  
B. 30%  
C. 40%  
D. 50%
2. What is the recommendation of the HHS Pandemic Influenza Plan on annual flu vaccination of HCWs?  
A. Hospitals should collect declination statements of HCWs who don’t receive the vaccine.  
B. Hospitals should adopt a policy of mandatory influenza vaccination.  
C. Hospitals should have a system in place for documenting influenza vaccination of HCWs.  
D. The HHS Pandemic Influenza Plan doesn’t address annual flu vaccination.
3. What did the Advisory Committee on Immunization Practices recommend regarding pertussis vaccination of health care workers?  
A. All HCWs should be vaccinated against pertussis.  
B. HCWs caring for infants should be vaccinated against pertussis.  
C. Only HCWs with known exposures should be vaccinated against pertussis.  
D. Pertussis vaccine is not recommended for HCWs.
4. At Exeter (NH) Hospital, how were frontline workers involved in developing an ergonomics program?  
A. They asked administration to hire an ergonomist.  
B. They received training on OSHA guidelines.  
C. They identified their highest priorities and evaluated ergonomic equipment.  
D. They reported near-miss events.

Answer Key: 1. B; 2. C; 3. B; 4. C.

## CE instructions

Nurses participate in this continuing 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 **June** issue, you must complete the evaluation form provided in that issue and return it in the reply envelope provided to receive a certificate of completion. ■

# Aching HCWs: Do you feel their pain?

*Pain proves hard to eradicate*

Every day, nurses are going home with back pain. Some of them may even have back injuries they never tell you about.

Ideally, ergonomic intervention would eliminate both back pain and injury. But using pain as a way to predict future injury, or reducing pain as a goal of an ergonomic program, has proved problematic.

In fact, back pain is pervasive among nurses, says **Audrey Nelson**, PhD, RN, FAAN, director of the Patient Safety Research Center at the James A. Haley Veterans Hospital in Tampa, FL. "In the first studies [on back pain], we found almost every nurse reports very high levels of pain on an ongoing basis," says Nelson.

Nelson and colleagues compared back pain in units that required heavy lifting, such as the intensive care unit, and those with minimal patient handling, such as psychiatry. "There were no significant differences," she says. "They all reported high levels of pain."

Pain may be a long-term marker that reflects a career-long experience rather than a short-term effect, she says.

Nurses also may be suffering in silence. Preliminary results from a study of 2,065 nurses in 13 hospitals indicate that many nurses have had a recent injury.

When asked whether they had had an injury in the past four months, 14% said they had suffered a back injury. More than one in five (22%) reported having strained their shoulder or neck and 11% had strained their hip or leg.

The research, which has not yet been published, indicates that reports on the U.S. Occupational Safety and Health Administration's 300 log underestimate the true burden of injury, says lead author **Patricia W. Stone**, PhD, MPH, RN, assistant professor at the Columbia

University School of Nursing.

Some health care facilities have begun to address pain, as well as injury, and to encourage reporting of pain as a "near miss" event.

At Aurora-Bay Care Medical Center in Green Bay, WI, occupational health physician **Pierce Sherrill**, DO, FAOASM, asks managers to respond to complaints of pain.

"I think we need to emphasize that it's OK to tell your manager when you're hurt," he says. "We need to make sure the managers understand that by the time the employee comes to them and says, 'I'm hurting and it's probably due to work,' this employee probably has been hurting for about a month and needs to be taken seriously right off the bat."

Sonography, in which technicians must hold a steady, awkward position, is a common area of concern. At Marshfield (WI) Clinic, **Bruce E. Cunha**, RN, MS, COHN-S, manager of employee health and safety, sent a symptom survey to about 40 sonographers after one developed disabling myofascitis, or muscle pain. He asked if they had any current problems, or if they had any problems with pain in the past six months. If they answered yes, they circled the body part on a figure.

"A majority said they were having problems with the neck and shoulder," says Cunha.

With help from an ergonomics consultant from the workers' compensation insurer, Cunha modified the work space. For example, monitors were moved so that the sonographers wouldn't have to twist their necks while scanning.

Sherrill and his colleagues at Aurora-Bay Care also analyzed the sonography work environment in which hand and arm injuries were prevalent. When sonographers hold an awkward, static position for five to 20 minutes, they risk muscle fatigue, he says.

Sherrill changed some equipment, adjusted the height of chairs, and modified keyboards to improve the positions. The hospital also mounted a pulley system to assist in the lifting of heavy sonography equipment. But Sherrill also told employees that it may take time for the muscle

## COMING IN FUTURE MONTHS

■ CDC issues guidelines on QuantiFERON-TB Gold

■ Finding a model pandemic influenza plan

■ Why respiratory therapists are at risk from occupational asthma

■ Should physicians with HIV, HCV, or HBV limit their practice?

■ A case study of successful ergonomic interventions

pain to go away.

In fact, studies have shown that while ergonomic interventions reduce injuries, they do not necessarily impact pain. "It may take so long for that chronic pain to go away that we're not measuring the outcomes long term enough to see differences," says Nelson.

In one study, "we collected musculoskeletal pain before and after a very large intervention," says Nelson. "We provided huge amounts of

## Go on-line for this month's *Bioterrorism Watch*

The **January/February** issue of *Bioterrorism Watch* is available on-line at [www.hospitalemployeehealth.com](http://www.hospitalemployeehealth.com), exclusively for subscribers of *Hospital Employee Health*.

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## CE 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 those issues affect health care workers, hospitals, or the health care industry in general;
- cite practical solutions to problems associated with the issue, based on overall expert guidelines from the Centers for Disease Control and Prevention, the National Institute for Occupational Safety and Health, the U.S. Occupational Safety and Health Administration, or other authorities, or based on independent recommendations from clinicians at individual institutions. ■

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equipment, better staffing, and training. There were huge differences in other variables, but the pain remained high no matter what we did."

Injuries lead to direct costs from medical claims, workers' compensation, and lost time. But pain also takes its toll in other ways.

"The pain affects [employees'] non-work life, too. They actually cut back on recreational activities and rest up before the next shift," she says. "It affects their quality of life." ■

## Correction

A sentence in the cover story of the December 2005 issue of *HEH* should have read "With no evidence that avian influenza would spread among people any differently than seasonal influenza, the panel approved guidelines that call for standard and droplet precautions — the use of gloves and surgical masks." ■

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Dear *Hospital Employee Health* Subscriber:

This issue of your newsletter marks the start of a new continuing education (CE) semester and provides us with an opportunity to review the procedures.

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On behalf of Thomson American Health Consultants, we thank you for your trust and look forward to a continuing education partnership.

Sincerely,

A handwritten signature in black ink that reads "Brenda 2. Mooney". The signature is written in a cursive style with a large, sweeping flourish at the end.

Brenda Mooney  
Vice-President/Group Publisher  
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