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OSHA looks for 'good-faith efforts' in enforcing N95 respirator use with H1N1

Hospitals must document any shortage to avoid citations

Faced with the prospect of a citation by the U.S. Occupational Safety and Health Administration, hospitals are adjusting to the updated federal guidance to use fit-tested N95 respirators when caring for 2009 H1N1 patients.

The Centers for Disease Control and Prevention reaffirmed its guidance calling for respirators rather than masks — acknowledging that influenza may be transmitted by airborne particles over short distances. Yet CDC said the respirator programs should be in the context of other precautions and could be modified if there is a respirator shortage.

OSHA will inspect health care facilities under the Respiratory Protection Standard "to ensure that health care workers are protected and that protection is in line with CDC [guidance]," acting OSHA administrator **Jordan Barab** said in a conference call announcing the CDC position.

In fact, when the updated guidance was released in October, OSHA had already cited at least one hospital for failing to provide fit-tested N95 respirators. Flushing (NY) Hospital Medical Center was cited in August for three "serious" violations based on a May inspection. OSHA asserted that the hospital failed to fit-test and train employees annually, did not address respiratory hazards other than tuberculosis, did not use an OSHA-accepted fit-testing protocol, and didn't train employees required to wear N95 respirators to protect against novel H1N1 influenza. (Officials from Flushing Hospital did not respond to requests for comment from *Hospital Employee Health*.)

Barab made it clear that hospitals will be responsible for limiting employee exposure to H1N1 patients and using other measures, such as partitions or isolation rooms, to protect health care workers. "We will be requiring hospitals to comply with the hierarchy of controls," he said. That includes administrative and engineering controls, which reduce hazards through changes in work practices or the work environment. (See box on p. 136.)

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The CDC guidance to use respirators has been controversial and hotly debated almost since the onset of novel H1N1 last spring. Many infection control practitioners asserted that the novel H1N1 virus was comparable to seasonal influenza in its virulence and transmission routes, and that droplet precautions were sufficient. In fact, some state health departments diverged from CDC and called for surgical masks unless health care workers were performing aerosol-generating procedures. (*Editor's note: The guidance is available at www.cdc.gov/h1n1flu/*)

guidelines_infection_control.htm.)

The Healthcare Infection Control Practices Committee (HICPAC), a CDC advisory panel, endorsed the use of surgical masks rather than respirators. But the influential Institute of Medicine panel charged with reviewing the available science concluded that surgical masks would not protect workers from airborne influenza particles. "[T]here is evidence that work-related exposures to patients infected with H1N1 virus result in health care workers becoming infected," the IOM report stated.

The answer, said CDC director **Thomas Frieden**, is to use respirators but to limit their use through other measures. "Use a scarce resource carefully. Follow a hierarchy of controls and limit the number of people who are potentially exposed and would need a higher level of protection," he said in a telephone briefing on the guidance.

CDC is no longer recommending contact precautions — the use of gowns and gloves — but Frieden noted that influenza is spread through droplet, fomite, and aerosol transmission. "It is an unfortunate fact that we do not have definitive evidence on the portion of transmission that occurs from each of those three routes," said Frieden, noting that "the preponderance of belief" was that droplets were the most common route. "With that lack of knowledge and with the newness of H1N1 . . . we are recommending that N95s . . . would be clearly superior to surgical masks."

Extended use, reuse allowed in shortage

Still, CDC is providing some flexibility to hospitals. If respirators are in short supply, you must ensure that they are available for the highest-risk activities — for aerosol-generating procedures, for health care workers with conditions that put them at high-risk for complications from influenza, and for those caring for tuberculosis patients.

That means in some circumstances, health care workers may reuse respirators, continue to wear them while caring for more than one patient, or may even wear surgical masks as a last-resort option. CDC states that extended use (in which the respirator is not removed while the health care worker cares for more than one patient) is preferred over reuse.

"We recognize that there may be shortage situations," said Frieden. "The need is for us not just to provide respiratory protection now, but the flu season lasts through May. We need to ensure we have a reliable supply."

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Editorial Questions

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The CDC guidance states that “When in prioritized respirator use mode, respirator use may be temporarily discontinued for employees at lower risk of exposure to 2009 H1N1 influenza or lower risk of complicated infection.”

OSHA also will take supply shortages into consideration, Barab said. “Where N95 respirators are not commercially available, we will consider the employer to be in compliance if the employer can show a good-faith effort to obtain the respirators,” he said.

Hospitals will need to be able to show documentation of orders that have been placed or statements from a manufacturer that the respirators are on back order. “We’re looking for some evidence that the employer has attempted to purchase N95 respirators,” he said. “We’re looking for a good-faith effort.”

Hospitals rethink respiratory protection

In the wake of the updated guidance, hospitals began boosting their respirator use. “We’re going to have no choice but to change [from masks to respirators] because of the issue of OSHA,” says **Thomas R. Talbot**, MD, MPH, chief hospital epidemiologist at Vanderbilt University Medical Center in Nashville, TN.

The Tennessee Department of Health had recommended the use of surgical masks except in aerosol-generating procedures, in line with World Health Organization guidelines but not the CDC.

Tennessee now has changed its guidance to match that of CDC. The new guidance, with detailed information on other measures to control transmission and prioritize the use of respirators, is much more useful, says **Marion Kainer**, MD, MPH, director of the hospital infections program.

Kainer says she is urging hospitals to apply the guidance to all cases of febrile respiratory illness. In one case, health care workers who were intubating a patient in the intensive care unit didn’t know tests for H1N1 were being run on the patient. Several health care workers had unprotected exposures during the aerosol-producing procedure and one developed the illness, she says.

Early identification and communication is critical, Kainer says. Vaccinating health care workers also is a state priority, she adds.

“We have had cases of severe disease in previously healthy young adults here in Tennessee. We want to make sure we protect our health care workers,” Kainer says. “The best way they can protect themselves overall is vaccination.”

California previously allowed hospitals to set priorities on respirator use when the supplies were limited. But Gov. Arnold Schwarzenegger ordered the release of up to half the state’s stockpile of 51 million respirators, and Cal/OSHA directed hospitals to provide respirators for contact with “all potentially infectious patients.” The California Department of Public Health defined a suspect H1N1 case as anyone under the age of 60 with a fever above 100°F and a new onset of cough.

“The purpose of distributing these respirators is to ensure that every health care worker who is in direct contact with an H1N1 patient will be able to use an appropriate respirator as required,” Cal/OSHA said in a statement. Respirator use also is required with novel pathogens under the state’s Aerosol Transmissible Disease standard.

Obtaining respirators sometimes has required switching to a new brand — and a massive job of fit-testing employees. “Everybody’s doing the best they can to meet the standard with the supply that is available,” says **Sandra Domeracki Prickett**, RN, FNP, COHN-S, executive president of the Association of Occupational Health Professionals in Healthcare and coordinator of Employee Health Services at Marin General Hospital/Novato Community hospitals in California, where employees had to switch to new respirators as many as three times.

Even hospitals that have been proactive in stockpiling respirators have run into problems with supply in this ongoing epidemic. Yale-New Haven (CT) Hospital spent a million dollars stockpiling respirators in its pandemic preparedness but still ran out of the small size. While waiting months for more 3M 1860 respirators, the hospital purchased the small size of a different brand and repeated the fit-tests on employees who needed them.

Meanwhile, Yale is setting priorities for the respirator use in case of a shortage, in line with CDC recommendations to provide respirators for the highest-risk activities (such as bronchoscopy and intubation) and the health care workers at greatest risk (such as pregnant workers or those with certain chronic conditions).

“One hopes a month or two from now we’ll have a well-vaccinated health care population. In the interim, we want to make sure everyone is protected,” says **Mark Russi**, MD, director of occupational health at the hospital and associate professor of medicine and public health at the Yale University School of Medicine. He also is chair of the Medical Center Occupational Health

CDC and OSHA: Use hierarchy of controls to protect HCWs

In its updated guidance on infection control measures and 2009 H1N1 influenza virus, the Centers for Disease Control and Prevention urges health care facilities to use a hierarchy of controls and provides examples of measures they should take. The U.S. Occupational Safety and Health Administration also stated that inspectors will look for a range of protective measures. Here are examples provided by CDC:

Elimination of sources of infection

- Postponing elective visits and procedures for patients with suspected or confirmed influenza until they are no longer infectious.
- Denying healthcare facility entry to those wishing to visit patients if the visitors have suspected or confirmed influenza.
- Minimizing outpatient and emergency department visits for patients with mild influenza-like illness who do not have risk factors for complications.
- Keeping personnel at home while they are ill to reduce the risk of spreading influenza.

Engineering controls

- Installing partitions (e.g., transparent panels/windows/desk enclosures) in triage areas as physical barriers to shield staff from respiratory droplets.
- Using local exhaust ventilation (e.g., hoods, tents, or booths) for aerosol-generating procedures.
- Using hoods for the performance of laboratory manipulations that generate infectious aerosols.
- Using ventilation controls in ambulances.
- Installing hands-free soap and water dispensers, and receptacles for garbage and linens to minimize environmental contact.
- Conducting aerosol-generating procedures in an airborne infection isolation room (AIIR) to prevent the spread of aerosols to other parts of the facility.
- Using closed suctioning systems for airways suction in intubated patients.
- Using high-efficiency particulate filters on mechanical and bag ventilators.
- Ensuring effective general ventilation and thorough environmental surface hygiene.

Administrative controls

- Vaccinating as much of the health care work force

as possible (once vaccine is available).

- Identifying and isolating patients with known or suspected influenza infections.
- Implementing respiratory hygiene/cough etiquette programs.
- Setting up triage stations, managing patient flow, and assigning dedicated staff to minimize the number of health care personnel exposed to those with suspected or confirmed influenza.
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- Screening personnel and visitors for signs and symptoms of infection at clinic or hospital entrances or badging stations and responding appropriately if they are present.
- Adhering to appropriate isolation precautions
- Limiting the number of persons present in patient rooms and during aerosol-generating procedures
- Arranging seating to allow 6 feet between chairs or between families when possible.
- Ensuring compliance with hand hygiene, respiratory hygiene, and cough etiquette.
- Making tissues, facemasks, and hand sanitizer available in waiting areas and other locations.
- Establishing protocols for cleaning of frequently touched surfaces throughout the facility (elevator buttons, work surfaces, etc.).
- Locating signage in appropriate language and at the appropriate reading level in areas to alert staff and visitors of the need for specific precautions.
- Placing facemasks on patients, when tolerated, at facility access points (e.g., emergency rooms) or when patients are outside their rooms (e.g., diagnostic testing).
- Placing facemasks on patients during transport, when tolerated; limiting transport to that which is medically necessary; and minimizing delays and waiting times during transport.

Personal protective equipment

- Wearing appropriate gloves, gowns, facemasks, respirators, eye protection, and other PPE. ■

section of the American College of Occupational and Environmental Medicine.

In a shortage scenario, health care personnel at lower risk of exposure or of complications from influenza may wear a nonfit-tested respirator until the fit-testing can be completed, the CDC states.

Meanwhile, the CDC guidance could change

again in the future if much of the population is immune and it is no longer considered a “novel” strain — or if the virus mutates to become more virulent. Influenza is notoriously unpredictable, public health experts say. In fact, CDC notes that the guidance could even be revisited during this influenza season.

Ill HCWs can return 24 hours after fever subsides

The Centers for Disease Control and Prevention offered additional guidance on policies related to exposed or ill health care workers:

Health care personnel who develop a fever and respiratory symptoms should be:

- Instructed not to report to work, or if at work, to promptly notify their supervisor and infection control personnel/occupational health.
- Excluded from work for at least 24 hours after they no longer have a fever, without the use of fever-reducing medicines.
- If returning to work in areas where severely immunocompromised patients are provided care, considered for temporary reassignment or exclusion from work for 7 days from symptom onset or until the resolution of symptoms, whichever is longer. Clinical judgment should be used for personnel with only cough as a symptom, since cough after influenza infection may be prolonged and may not be an indicator of viral shedding. Health care personnel recovering from a respiratory illness may return to work with immunocompromised patients sooner if absence of 2009 H1N1 viral RNA in respiratory secretions is documented by real-time reverse transcriptase-polymerase chain reaction (rRT-PCR). Additional information on diagnostic testing for 2009 H1N1 influenza infection can be found at www.cdc.gov/h1n1flu.
- Reminded of the importance of practicing frequent hand hygiene (especially before and after each patient contact) and respiratory hygiene and cough etiquette after returning to work following an acute respiratory illness.

Health care personnel who develop acute

respiratory symptoms without fever should be:

- Allowed to continue or return to work unless assigned in areas where severely immunocompromised patients are provided care. In this case they should be considered for temporary reassignment or exclusion from work for 7 days from symptom onset or until the resolution of symptoms, whichever is longer. Clinical judgment should be used for personnel with only cough as a symptom, since cough after influenza infection may be prolonged and may not be an indicator of viral shedding. Health care personnel recovering from a respiratory illness may return to work with immunocompromised patients sooner if absence of 2009 H1N1 viral RNA in respiratory secretions is documented by rRT-PCR. Additional information on diagnostic testing for 2009 H1N1 influenza infection can be found at www.cdc.gov/h1n1flu.
- Reminded of the importance of practicing frequent hand hygiene (especially before and after each patient contact) and respiratory hygiene and cough etiquette after returning to work following an acute respiratory illness.

Facilities and organizations providing health-care services should:

- Ensure that sick leave policies for health care personnel (e.g., staff and contract personnel) are flexible and consistent with public health guidance and that employees are aware of the policies. (See www.cdc.gov/h1n1flu/business/guidance/.)
- Ensure that sick employees are able to stay home without fear of losing their jobs.
- Consider offering alternative work environments as an accommodation for employees at higher risk for complications of 2009 H1N1 influenza during periods of increased influenza activity or if influenza severity increases.
- Not require a doctor's note for workers with influenza to validate their illness or return to work. ■

"[The guidance] applies uniquely to the circumstances of the current 2009 H1N1 pandemic," said **Toby Merlin**, MD, senior medical advisor to the CDC director. "We anticipate that we will be acquiring more information about the transmission of H1N1 in the health care setting and steps that can be effectively taken to prevent its transmission. We are actively promoting a research agenda to look at this season in a variety of modalities.

"After this season, after immunity has developed in a substantial portion of the population either through exposure or immunization, this virus will no longer be the threat that it currently is — unless it changes."

(Editor's note: CDC has provided Q&A information

on the guidance and respiratory protection at www.cdc.gov/h1n1flu/guidance/control_measures_qa.htm and www.cdc.gov/h1n1flu/guidelines_infection_control_qa.htm.) ■

NIOSH seeks info on worker deaths from H1N1

Media reports reveal at least four nurse fatalities

The National Institute for Occupational Safety and Health (NIOSH) wants to know about

cases of serious illness or fatality related to novel H1N1 among health care workers.

NIOSH issued a statement asking for information from the public and noting that H1N1 surveillance systems do not provide occupational data. People can e-mail information to nioshh1n1data@cdc.gov; NIOSH is asking for contact information so the agency can follow up.

“Once we get that information, we can make decisions about whether we want to do a more thorough investigation, whether it is a Health Hazard Evaluation or another kind of study,” says Christina Spring, health communications specialist with NIOSH in Washington, DC.

According to media reports, at least four nurses have died of complications related to H1N1:

- Oncology nurse Karen Ann Hays, RN, 51, of Sacramento, a previously healthy triathlete, marathon runner and skydiver, died of pneumonia and a severe respiratory infection related to H1N1. The death certificate also noted methicillin-resistant *Staphylococcus aureus* (MRSA) infection as a contributing factor.

- Michael Bloomfield, RN, 51, an emergency department nurse at St. Mary’s Medical Center in Huntington, WV, had an underlying medical condition that put him at risk of complications.

- Tina Vick, RN, 43, a previously healthy nurse who worked at Select Specialty Hospital at St. Mary’s in Knoxville, TN, developed pneumonia and died 15 days after her first flu symptoms.

- Amy Michelle Scott, 37, worked for a home health agency in Huntington, WV, had diabetes and high blood pressure, underlying medical conditions that could have contributed to her complications.

NIOSH noted that health care personnel are at increased risk of occupational exposure to 2009 H1N1, and that the health care work force includes many people who have risk factors that make them at greater risk of complications from the virus.

NIOSH also offered recommendations to reduce the risk to health care workers:

- Health care facilities should follow U.S. Centers for Disease Control and Prevention (CDC) interim guidance for 2009 H1N1 influenza infection control for health care personnel. **(See related article on p. 137.)**

- Health care personnel should be encouraged to receive both the seasonal influenza vaccine and the 2009 H1N1 vaccine when available.

- Health care personnel should be informed

about and aware of the types of underlying conditions that may put them at higher risk of complications. In addition to pregnant women, those at higher risk for complications of 2009 H1N1 influenza include the following: those with a variety of chronic medical conditions (examples include asthma, sickle cell disease, and diabetes mellitus); people with immunosuppression caused by medications or disease; those with disorders, such as neuromuscular disease, that compromise respiratory function or handling of respiratory secretions or increase the risk of aspiration; those younger than 19 years of age who are on chronic aspirin therapy; and those 65 years of age or older.

(Editor’s note: The NIOSH statement is available at www.cdc.gov/niosh/topics/H1N1flu/healthcarerisk.html.) ■

OSHA steps up inspections of record keeping

Emphasis on nursing homes with low rates

The new focus on record keeping by the U.S. Occupational Safety and Health Administration will not target hospitals, but hospital employers still should be prepared for greater scrutiny of their OSHA 300 logs, according to an expert in workplace safety compliance.

OSHA’s National Emphasis Program (NEP) on record keeping zeroes in on workplaces with the highest rate of serious injury — those that lead to days away from work, restricted activity or job transfer (DART). That includes nursing homes, which have a DART rate of 6.2 injuries and illnesses per 10,000 full-time workers, but not hospitals, which have a DART rate of 3.0.

OSHA’s new attention on record keeping comes in the wake of a Congressional hearing and an ongoing General Accounting Office investigation into underreporting of occupational injuries and illnesses. The Obama administration allotted \$1 million for a one-year OSHA “record-keeping enforcement initiative.” Researchers have said the current method of tallying occupational injuries leads to a significant undercount. **(See *Hospital Employee Health*, November 2009, p. 128.)**

“This NEP is a pilot test to see if OSHA can effectively identify and target employers that are

underrecording injuries and illnesses on their OSHA logs," an OSHA spokesman said in an e-mailed response to questions from *HEH*. "The NEP will send a message to the regulated community that the agency recognizes the importance and utility of accurate injury and illness records and is willing to expend resources to identify and correct the problem.

OSHA will specifically target worksites that have reported a low-rate of injuries despite being in a high-rate industry. That is appropriate, given OSHA's limited resources, says **Brad Hammock**, Esq., workplace safety compliance practice group leader at Jackson Lewis LLP in the Washington, DC, region office.

"Their overall goal is to prove — or to disprove — that there is underrecording," says Hammock. "Given that, it does make sense to look at those industries with typically high rates and to target within those employers who have very low rates."

That is a paradoxical approach for the agency, which typically goes after employers that report high rates of injury.

Yet employers who aren't on the NEP target list still could feel the heat of OSHA's record-keeping emphasis. The NEP itself says this is just "one component of OSHA's effort to address the issue of inaccurate recording of occupational injuries and illnesses. In addition to this NEP, OSHA will address the issue through comprehensive training of its compliance staff to identify and correct violations of the record-keeping regulation."

"This is an overall agency initiative. Some of the components of the NEP could be factored into other types of inspections that go on," says Hammock. "I think every industry and every employer should sit up and say, 'What would happen if OSHA came on site and did this [inspection] to my establishment? How would I fare?'"

'Intensive' inspections on the way

The NEP lays out a thorough protocol for the program. Based on a sampling of employers, OSHA inspectors will review documents that include medical records, workers' compensation records, insurance records, payroll/absentee records and, if available, company safety incident reports, company first-aid logs, alternate duty rosters, and disciplinary records pertaining to injuries and illnesses. Inspectors then "will verify

that each identified recordable injury or illness is properly entered on the employer's OSHA Form 300 and OSHA Form 301."

OSHA also will interview employees under the NEP, as well as management representatives, medical professionals, and staff who participated in first-aid or medical treatment. Inspectors will even seek out records from off-site occupational health clinics and will conduct limited walk-around inspections.

"They're really drilling down to an issue in a way that I haven't seen them do," says Hammock. "In their view, that's the only way they will be able to determine whether or not injuries are ultimately being underrecorded.

"These inspections are among the most intrusive, intensive inspections that OSHA has probably ever done," he says. "If an employer on this list isn't taking note and preparing then they could be in real trouble when OSHA gets in there."

In particular, the nursing home industry needs to take notice, Hammock says. "It really is an industry that's under the microscope," he says.

OSHA also will pay special attention to injuries that result in musculoskeletal disorders (MSDs). If the records show that a "significant portion" of injuries are ergonomics-related, then the OSHA inspector will calculate a Days Away from Work case rate for MSD cases, and will question employees, management representatives, and health care professionals about MSDS, the NEP says.

"MSDs can be more susceptible to underreporting because of the nature of the injuries themselves," says Hammock. "Employers have a difficult time looking at each MSD that occurs and accurately determining if it was work-related or not."

OSHA also is zeroing in on incentives employers may have that may discourage reporting.

"We are looking to identify any safety incentive programs, employee disciplinary programs, contests or promotions that would have a negative impact on the reporting and recording of occupational injuries and illnesses," an OSHA spokesman said.

Already, the OSHA emphasis on record keeping has had a broad impact. "I have heard anecdotally from employers that in inspections they are seeing from OSHA there is a much greater focus and attention on their record-keeping practices," Hammock says. "There have been at least some employee interviews that have been focused on programs the employer might have to discourage reporting." ■

Two-thirds of hospital workers accept vaccine

Push for mandatory vaccines for HCWs continues

In an intense effort to improve influenza vaccination rates, more hospitals and health systems are moving toward mandatory policies for immunizing health care workers. But a closer look at vaccination rates reveals that hospitals are actually already vaccinating almost two-thirds of their employees (63%), while vaccinations lag at nursing homes and ambulatory care centers.

Only 36% of health care personnel at nursing homes and 40% at ambulatory care centers were vaccinated against influenza in the 2007-2008 season, according to a breakdown of data from the National Health Interview Survey.

"Overall, in hospitals, we've definitely seen an increase [in immunizations]," says **Gary L. Euler**, DrPH, an epidemiologist with the assessment branch of the Immunization Services Division of the National Center for Immunization and Respiratory Diseases at the Centers for Disease Control and Prevention. "Hospitals in total have improved, whereas other places haven't."

Nursing homes and ambulatory care centers had about the same rate of immunization in 2007-2008 as in the 2003-2004 season, the survey data showed.

Influenza vaccination of health care workers has become a high-profile and contentious issue. In October, the Infectious Diseases Society of America (IDSA) issued a new position statement in favor of mandatory vaccination programs "as these programs are likely to be the most effective means to protect patients against the transmission of seasonal and H1N1 influenza by health care workers."

Health care workers who are not vaccinated due to medical contraindications, a religious exemption, or vaccine shortage should be required to wear masks or be reassigned away from direct patient care, the IDSA said.

Voluntary efforts simply weren't effective in ensuring a high level of flu vaccination, the IDSA board concluded. "The people who were most persuasive to the board were all those health care workers who were not getting vaccinated," says **William Schaffner**, MD, an infectious disease expert who is chairman of the Department of Preventive Medicine at Vanderbilt University in

Nashville and secretary of the IDSA board.

Yet there has been some push-back to mandatory programs. A judge temporarily halted enforcement of the New York state regulation requiring flu vaccination of health care workers after three Albany emergency department nurses sued. Then, amid delays in production and delivery of H1N1 vaccine, New York Gov. David Paterson announced that it must be reserved for those at greatest risk of serious illness and death from influenza. The state's health commissioner rescinded the rule.

Some occupational health physicians have opposed mandatory vaccination policies as an unnecessarily punitive approach. Flu shots are not the Holy Grail of preventing transmission of influenza in hospitals, says **Melanie Swift**, MD, medical director of the Vanderbilt Occupational Health Clinic at Vanderbilt University in Nashville, TN.

"The available evidence — in fact the studies that they themselves refer to [in the IDSA statement] — are lukewarm to flu vaccination as a strategy to prevent disease and mortality even in residential patients of long-term care facilities," she says. "There's no evidence that just focusing on employee vaccine is going to make a difference to the patient."

Respiratory etiquette, masking coughing patients, swift identification and isolation of flu patients, and policies to discourage employees from coming to work while sick are some other methods of preventing the spread of influenza.

Some hospitals require flu vaccination as a condition of employment, which means employees who refuse but do not have medical contraindications may be terminated. Other hospitals require unvaccinated employees to wear masks throughout their shifts during the flu season, which lasts until May.

The mask policy is punitive, says Swift. "It's like a scarlet letter. What I find interesting about it is that right now we have circulating a virus for which none of us are vaccinated, and no one is suggesting that we all must wear a mask constantly," she says.

Meanwhile, the supply and demand equation for flu vaccine has been often unsettling. This fall, as manufacturers struggled to meet demand for both seasonal and novel H1N1 vaccine, some hospitals experienced delays in receiving their entire vaccine order. Delivery of the novel H1N1 vaccine was delayed and required health care facilities to prioritize which health care workers would be the first to receive it.

Supply affects vaccination rates. In 2004, when manufacturing problems led to a significant shortage, hospital vaccinations sunk to 42% of health care workers, according to the National Health Interview Survey. They were just 27% at nursing homes, where elderly residents are at greater risk from pneumonia-related complications. There were only two vaccine manufacturers producing vaccine for the U.S. market.

Expanding recommendations on flu vaccination and a strong push for vaccination of health care workers helped boost the demand for the vaccine. In 2003, flu vaccine supply peaked at 87 million. This year, CDC estimates that 114 million doses of seasonal flu vaccine will be available. There are six flu vaccine manufacturers. ■

Workplace is the target for 'obesity prevention'

Study: Obese workers more likely to be injured

The nation's rising rate of obesity has required hospitals to rethink patient care, including different beds and lift equipment. But obesity also poses issues for hospitals as employers.

Among the occupations with the highest rates of obesity: female nurses' aides, or "health service personnel," who have a rate of obesity of 36.6%. An analysis of body-mass index data from the National Health Interview Survey by researchers at the University of Miami showed that among women, health care technicians and technologists have a rate of 22.9%, and health-assessing/treating occupations (i.e., nurses) have a rate of 18.6%. Housekeepers have a high rate of 27.6%.¹

Overall, the NHIS found that 23.8% of American adults were obese in 2002, the year that was analyzed by occupation. Someone with a body mass index of 30 or greater is considered obese.

"These are alarming [statistics]," says **Alberto J. Cabán-Martínez**, MPH, a research associate and osteopathic medical student/doctoral epidemiology candidate at the University of Miami. "[About] 30% of the sector is obese. It's an issue."

Beyond the personal health impact — such as higher rates of diabetes, cardiovascular disease, and cancer — obesity also reflects on the health message conveyed by the institution, he notes. "A lot of people see their physicians and nurse practitioners as role models when they seek care," he says.

But most importantly for employee health professionals, studies show that obese workers have a greater risk of occupational injury as well. "Obesity is not only a personal issue; it is something that relates very much to the workplace," says **Truls Ostbye**, MD, PhD, professor of community and family medicine at Duke University in Durham, NC.

Beware of weight discrimination

Ostbye and his colleagues at Duke found a relationship between overweight or obesity and injuries to the ankles, hips, back, and shoulder. Heavier workers had significantly more workers' compensation claims, lost workdays, and medical claims.²

"Our conclusion was that obesity is not only a problem for the individuals, but also for their employers," he says. The study provides financial justification for work-based health promotion programs, he says. "We want to have all workplaces as healthy as possible for anybody," he says.

However, Ostbye says he does not want employers to conclude that they shouldn't hire obese workers. "Obese people are discriminated against enough today," he says.

But that is just what worries **Peggy Elam**, PhD, a clinical and consulting psychologist in Nashville, TN, and chair of the Media Relations Committee for the Association for Size Diversity and Health. Heavy people already suffer from stress, shame, and stigmatization regarding their weight, she says.

"Obesity prevention programs are generally based upon an erroneous assumption that's it's actually possible to make fat people thin, permanently and safely," Elam says. "Some diets do work in the short term, but there's actually no indication — for the majority of people — that they work in the long term, and they can actually be harmful."

Ironically, weight-based programs also ignore thin people who could benefit from programs that encourage healthy eating and fitness. "The win-win situation is to focus on healthy behaviors. Just encourage health behaviors. Body size is not a behavior," says Elam, who notes that the "Health at Every Size" program is weight-neutral. **(For more information, see *Hospital Employee Health*, January 2008, p. 6.)**

In fact, studies have found that fitness does not always correlate with weight, and that people who are overweight are more likely to live longer than those who are normal weight, she says.

Yet nationally, reducing obesity is a goal of the

“Healthy People” national health objectives and the workplace is one target. *Healthy People 2010* sought to reduce obesity to no more than 15% of the U.S. adult population. In 2007, 25.6% of the population was obese.

In June, the Centers for Disease Control and Prevention launched a web-based “workplace obesity prevention program” called LEAN Works (www.cdc.gov/LEANWorks/). It includes an “obesity cost calculator” for employers to determine how much obesity is costing them and the potential savings from an obesity prevention program.

The financial information is important to convince employers to invest in health promotion efforts in the workplace, says **Marilyn Batan**, MPH, of the Guidelines Development & Recommendations Team in CDC’s Division of Nutrition, Physical Activity, and Obesity at the Oak Ridge (TN) Institute for Science and Education. “If you were to do an intervention, you can actually put those inputs into the calculator and it will show you how much you could save per employee based on that program,” she says.

LEAN Works focuses on the workplace as a key influence on lifestyle choices, she says. For example, healthy foods in the cafeteria could be offered at lower prices and flex time can allow for time to work out at a gym, Batan says. Many employers also offer discounts on medical insurance premiums for employees who participate in health assessments or wellness programs.

“We are not trying to [stigmatize],” she says. “We’re focusing on how we can make employees healthier and how we can improve their quality of life.”

CDC also shares different interventions that have been validated as effective, of “promising practices.” (See article on p. 142.) Multiple approaches are usually best, Batan says.

“Just having health education sessions at lunch may not prove effective, but adding other components will increase your chance of having an effective health promotion program,” she says.

“[The answer] is going to be different for different worksites.”

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1. Caban AJ, Lee DJ, Fleming LE, et al. Obesity in U.S. workers: The National Health Interview Survey. *Am J Public Health* 2005; 95:1,614-1,622.
2. Ostbye T, Dement JM, Krause KM. Obesity and workers’ compensation: Results from the Duke health and safety surveillance system. *Arch Intern Med* 2007; 167:766-773. ■

CNE questions

21. According to acting OSHA administrator Jordan Barab, what must hospitals do if they have a shortage of N95 respirators for health care workers caring for patients with 2009 H1N1?
A. Purchase powered air-purifying respirators.
B. Obtain respirators from another hospital.
C. Document efforts to obtain respirators.
D. Respirators are not necessary with 2009 H1N1.
22. According to the CDC, how long should health care workers be excluded from work if they have 2009 H1N1?
A. Until at least 24 hours after their fever subsides (without use of fever-reducing medicine).
B. Until at least five days after fever subsides.
C. Ten days from start of symptoms.
D. Until they feel well enough to work, as long as they wear a mask.
23. In its National Emphasis Program on record keeping, OSHA is targeting what types of workplaces?
A. Those with the highest overall injury rates.
B. Those with prior recordkeeping violations.
C. Those receiving inspections for other reasons.
D. Those with low injury rates despite being in industries with high rates of serious injury.
24. According to an analysis of National Health Interview Survey data by researchers at the University of Miami, which health occupation has the highest rate of obesity?
A. Nurses’ aides (health service personnel)
B. Health care technicians and technologists
C. Health-assessing/treating occupations (i.e., nurses)
D. Health-diagnosing professionals

Answer Key: 21. C; 22. A; 23. D; 24. A.

CNE instructions

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

CDC: 'Promising practices' encourage healthy behavior

Employers can have an impact on employee's lifestyle choices through a variety of workplace interventions. Here are some identified by the Centers for Disease Control and Prevention in its LEAN Works program:

- **Environmental and Policy Strategies**

Environmental and policy strategies address the entire work force or populations (not individuals) and targeted physical and organizational structures through developing worksite and public policies that support healthy behaviors. They are likely to be sustained for a longer period of time than individually oriented strategies.

- **Promising Practice #1: Enhanced access to opportunities for physical activity combined with health education**

Enhanced access to opportunities for physical activity combined with health education are practices that enable or facilitate access to physical activity programs, workshops, classes, and other resources in a worksite setting. Such practices can include developing walking trails, building a fitness center at the worksite, or creating a par course (fitness trail).

- **Informational and Educational Strategies**

Informational and educational strategies focus on the provision of information designed to increase awareness and knowledge as a requisite to motivate behavioral change. These strategies present both general health information, including information about weight loss and maintenance, chronic disease prevention and risk reduction, and specific information about physical activity and nutrition. These strategies do not include any environmental and policy strategies.

- **Promising Practice #2: Exercise prescriptions alone**

Exercise prescription involves a planned or structured physical activity regimen given to an individual or group that includes specific recommendations for the frequency, intensity, and type of exercise. The practices reviewed involved

recruiting participants into voluntary groups at the worksite. After completing physical fitness evaluations, participants are placed in exercise training programs of mild, moderate, or vigorous intensity.

- **Promising Practice #3: Multicomponent educational practices**

Multicomponent educational practices are aimed at providing information, with the curriculum/modules addressing health promotion programs (e.g., healthy lifestyles, physical activity, and nutrition) and risk reduction programs (e.g., weight management, cardiovascular [CVD] risks, and diabetes risks). In addition to health education sessions, these studies incorporated components such as 1) exercise prescription; 2) nutrition prescription; and 3) small media (e.g., brochures, pamphlets, electronic messages).

Based on the program description and what was reported by the author, these multicomponent practices all offered a health education class combined with exercise prescription and nutrition prescription and small media. These practices were evaluated together because it was not possible to separate health education from other components.

- **Behavioral Strategies**

Behavioral strategies for obesity and prevention control focus on teaching behavioral management skills and structuring the social environment to provide support for people trying to initiate or maintain weight change. Strategies often include individual or group behavioral counseling and will often involve co-workers, family members, and other intermediaries who are part of an individual's social environment.

Behavioral methods may involve modeling or demonstration, participatory skill development, individual benchmarking (i.e., goal setting and achievement), providing feedback, providing incentives or disincentives, or providing materials necessary to enhance the desired behavior (e.g., pedometer, food journals).

- **Promising Practice #4: Weight-loss competitions and incentives**

Competitions and incentives consist of rewards for weight loss and behavioral change to increase physical activity or improve nutrition. The rewards can be in-kind, financial, or the honor or pride of

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winning. The incentives can vary in size and by type and can be used for screening, enrollment, compliance (i.e., staying in the program), completing the program, and maintenance of the changes after completing the program. These practices do not include teaching behavioral management skills, modeling or demonstration, or participatory skill development.

• **Promising Practice #5: Behavioral practices with or without incentives**

Behavioral practices teach participatory skill development and build social support for behavioral patterns. Such practices can be complemented by incentives for completing the program. ■

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 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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OSHA enforcing N95 respirators for HCWs treating H1N1 flu patients

OSHA: 'We're looking for a good-faith effort.'

By **Gary Evans** and **Michelle Marill**
Editors

*Hospital Infection Control & Prevention
Hospital Employee Health*

Particulate respirators — a controversial step beyond common surgical masks — are now mandated by the Occupational Safety and Health Administration (OSHA) to protect health care workers from acquiring H1N1 pandemic influenza A from patients. With respirator shortages feared, “good-faith efforts” by health care employers will be recognized by OSHA, which nevertheless is warning that citations and fines may result from inspections that will be primarily prompted by employee complaints.

“Employers should do everything possible to protect their employees,” said **Jordan Barab**, acting assistant secretary of labor. He emphasized, however, that where respirators are not commercially available, an employer will be considered to be in compliance if the employer made every effort to acquire respirators. Health care employers will need to be able to show documentation of orders that have been placed or statements from a manufacturer that the respirators are on back order. N95 respirators — already used by many hospitals for the treatment of tuberculosis patients — are the minimum level acceptable for H1N1.

“We’re looking for some evidence that the employer has attempted to purchase N95 respirators,” Barab said. “We’re looking for a good-faith effort.”

OSHA is issuing a compliance directive to enforce the Centers for Disease Control and Prevention’s recently issued “Interim Guidance on Infection Control Measures for 2009 H1N1 Influenza in Healthcare Settings, Including Protection of Healthcare Personnel.” (Available at http://www.cdc.gov/h1n1flu/guidelines_infection_control.htm.)

The CDC disappointed infection preventionists in the guidance by reaffirming its stance that surgical masks are not sufficient to protect workers from

H1N1 patients. The CDC recommends the use of respiratory protection that is at least as protective as a fit-tested disposable N95 respirator for health care personnel who are in close contact (within 6 feet) with patients with suspected or confirmed 2009 H1N1 influenza. The president-elect of the Society for Healthcare Epidemiology of America said the CDC decision appeared to be made for reasons other than science, which has not shown burdensome, scarce N95s to be more effective in clinical studies.

“They are recommending a respirator that is not readily available, for transmission that has never been shown to be clinically relevant,” said **Neil Fishman**, MD. “It presents a hardship to health care workers and health care providers that is unnecessary and offers nothing in [additional] degree of protection.”

On the other hand, the CDC is under considerable pressure from health care unions and worker safety advocates since at least four nurses nationally have reportedly died of complications related to H1N1. Noting that H1N1 surveillance systems do not provide occupational data, the National Institute for Occupational Safety and Health (NIOSH) is asking for information from the public on health care worker H1N1 illnesses and deaths. (Information can be e-mailed to nioshh1n1data@cdc.gov.) NIOSH is asking for contact information so the agency can follow up on cases that have primarily been reported through the media.

“Once we get that information, we can make decisions about whether we want to do a more thorough investigation, whether it is a Health Hazard Evaluation or another kind of study,” says **Christina Spring**, health communications specialist with NIOSH in Washington, DC.

Meanwhile, OSHA inspectors will ensure that health care employers implement a hierarchy of

Supplement to *AIDS Alert*, *Critical Care Alert*, *Clinical Trials Administrator*, *Contraceptive Technology Update*, *Case Management Advisor*, *Discharge Planning Advisor*, *Drug Formulary Review*, *ED Nursing*, *ED Management*, *ED Legal Letter*, *Emergency Medicine Reports*, *Hospital Case Management*, *Hospital Peer Review*, *Hospital Medicine Alert*, *Hospital Home Health*, *Healthcare Risk Management*, *Infectious Disease Alert*, *IRB Advisor*, *Medical Ethics Advisor*, *Occupational Health Management*, *Patient Education Management*, *Primary Care Reports*, *Pediatric Emergency Medicine Reports*, *Same-Day Surgery*, *State Health Watch*, and *Travel Medicine Advisor*.

controls, including source control, engineering, and administrative measures, and to encourage vaccination and other work practices recommended by the CDC. Where respirators are required to be used, the OSHA Respiratory Protection standard must be followed, including worker training and fit testing. While the ruling clearly applies to hospitals, as this report was filed OSHA had not responded to a written request for clarification regarding other medical settings. Employee complaints from clinics and physician offices could potentially result in an inspection because OSHA's respiratory protection standards also apply to small businesses.

CDC casts wide net

The CDC clarified that the scope of its guidance includes a wide range of medical settings: "This guidance provides general recommendations for health care personnel in all health care facilities," the CDC stated. "For the purposes of this guidance, health care personnel are defined as all persons whose occupational activities involve contact with patients or contaminated material in a health care, home health care, or clinical laboratory setting."

Since a shortage of disposable N95 respirators is possible, employers are advised to monitor their supply, prioritize their use of disposable N95 respirators according to guidance provided by CDC, and to consider the use of reusable elastomeric respirators and facemasks if severe shortages occur, OSHA advised. Health care workers performing high-hazard, aerosol-generating procedures (e.g., bronchoscopy, open suctioning of airways, etc.) on a suspected or confirmed H1N1 patient must always use respirators at least as protective as a fit-tested N95, even where a respirator shortage exists. In addition, an employer must prioritize use of respirators to ensure that sufficient respirators are available for providing close-contact care for patients with aerosol-transmitted diseases such as tuberculosis.

Where OSHA inspectors determine that a facility has not violated any OSHA requirements but that additional measures could enhance the protection of employees, OSHA may provide the employer with a Hazard Alert Letter. OSHA will inspect health care facilities under the Respiratory Protection Standard "to ensure that health care workers are protected and that protection is in line with CDC [guidance]," Barab said.

The CDC guidance to use respirators has been controversial and hotly debated almost since the onset of H1N1 last spring. Many infection

preventionists argue that H1N1 is comparable to seasonal influenza in its virulence and transmission routes, and that droplet precautions (e.g., surgical masks) are sufficient. In fact, some state health departments diverged from CDC and called for surgical masks unless health care workers were performing aerosol-generating procedures.

The Healthcare Infection Control Practices Committee, a CDC advisory panel, endorsed the use of surgical masks rather than respirators. But an Institute of Medicine (IOM) panel charged with reviewing the available science concluded that surgical masks would not protect workers from airborne influenza particles. "[T]here is evidence that work-related exposures to patients infected with H1N1 virus result in health care workers becoming infected," the IOM report stated.

The answer, decided CDC director **Thomas Frieden**, MD, is to use respirators but to limit their use through other measures. "Use a scarce resource carefully," he said in a briefing on the guidance. "Follow a hierarchy of controls and limit the number of people who are potentially exposed and would need a higher level of protection."

The CDC is no longer recommending contact precautions — the use of gowns and gloves — but Frieden noted that influenza is spread through droplet, fomite, and aerosol transmission. "It is an unfortunate fact that we do not have definitive evidence on the portion of transmission that occurs from each of those three routes," said Frieden, noting that "the preponderance of belief" was that droplets were the most common route. "With that lack of knowledge and with the newness of H1N1 . . . we are recommending that N95s . . . would be clearly superior to surgical masks."

Still, CDC is providing some flexibility to hospitals. That means in some circumstances, health care workers may reuse respirators, continue to wear them while caring for more than one patient, or may even wear surgical masks as a last resort option. CDC states that extended use (in which the respirator is not removed while the health care worker cares for more than one patient) is preferred over reuse.

"We recognize that there may be shortage situations," said Frieden. "The need is for us not just to provide respiratory protection now, but the flu season lasts through May. We need to ensure we have a reliable supply."

The CDC guidance states that "when in prioritized respirator use mode, respirator use may be temporarily discontinued for employees at lower risk of exposure to 2009 H1N1 influenza or lower risk of complicated infection." ■

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The Joint Commission Update for Infection Control

News you can use to stay in compliance

Transformers: Joint Commission's center debuts with infection prevention project

Collaborative approach could lead to new standards

Infection prevention is a top priority of an ambitious new quality improvement effort that could lead to new accreditation standards for the nation's hospitals, says **Mark R. Chassin, MD, MPP, MPH**, president of The Joint Commission.

Taking on the longstanding hand hygiene problem as its first project, the Joint Commission recently launched the Center for Transforming Healthcare. Eight hospitals and health systems volunteered to address hand washing failures as a critical patient safety problem — one that requires fixes far more complex than just putting up signs urging caregivers to wash their hands. (See related story, p. 2.)

"There are a ton of potential topics in infection prevention and control, but we picked hand hygiene after doing a poll of the participating hospitals," Chassin says. "We wanted them to be working on a project that was of paramount importance for them to solve."

The Joint Commission hopes the Center's work to identify and measure poor quality and unsafe health care will lead to the development and testing of targeted, long-lasting patient safety solutions. The idea is to establish proven and practical strategies based on methods such as Lean Six Sigma long used by other industries.

"Our aim is to transform health care into a high-reliability industry with rates of preventable adverse events that are equal to or better than the best high-reliability industries in the world, just as low as commercial jet travel and nuclear power," Chassin says.

The collaborative drive toward best practices and quality innovations could ultimately translate

the new center's work into new Joint Commission standards in infection prevention and other areas, he adds.

"The problem that got the most high-priority votes was hand hygiene, but there were a lot of other infection prevention projects in that poll," Chassin says. "[Those] include barrier precautions violations, control of multidrug-resistant organisms, prevention of surgical-site infections, prophylactic antibiotic [administration], urinary catheter and central lines. There are many topics; and as we expand the reach of the center, we will certainly include other infection and prevention control problems."

Seeking safety culture in health care

How serious is the Joint Commission about enacting real change? In addition to taking on arguably the most difficult daily problem in infection prevention as its premiere project, Chassin made it clear the center wants to move beyond the longstanding slogans and stock campaigns — including the Joint Commission's own "Speak Up" program. Empowering patients to remind workers to wash hands sounds good in theory, but speaks volumes to the lack of a true safety culture in health care settings, he says.

"It's quite a comment on how far we have left to go if we are relying on patients and their families to solve the hand hygiene problem," he says. "If you don't have the safety culture — in which employees respond by saying, 'Sure, thanks for reminding me' — then it's not going to help much."

(Continued on page 3)

Joint Commission: Patient safety is in your H.A.N.D.S.

Habit, Active feedback, No excuses, Data Systems

A hand hygiene project launched at The Joint Commission's Center for Transforming Healthcare cites the following problems and solutions on hand hygiene:

Causes of failure to clean hands

- Ineffective placement of dispensers or sinks
- Hand hygiene compliance data are not collected or reported accurately or frequently
- Lack of accountability and just-in-time coaching
- Safety culture does not stress hand hygiene at all levels
- Ineffective or insufficient education
- Hands full
- Wearing gloves interferes with process
- Perception that hand hygiene is not needed if wearing gloves
- Health care workers forget
- Distractions

Examples of how to link specific causes to targeted solutions

Cause: Ineffective placement of dispensers or sinks

Solution: Provide easy access to hand hygiene equipment and dispensers

Cause: Hand hygiene compliance data are not collected or reported accurately or frequently

Solutions:

- Data provide a framework for a systematic approach for improvement
- Utilize a sound measurement system to determine the real score in real time
- Scrutinize and question the data
- Measure the specific, high-impact causes of hand hygiene failures in your facility and target solutions to those causes

Cause: Hand Safety culture does not stress hand hygiene at all levels

Solutions:

- Make washing hands a habit — as automatic as looking both ways when you cross the street or fastening your seat belt when you get in your car
- Commitment of leadership to achieve hand hygiene compliance of 90+ percent
- Serve as a role model by practicing proper hand hygiene
- Hold everyone accountable and responsible — doctors, nurses, food service staff, housekeepers, chaplains, technicians, therapists

Cause: Hands full

Solution: Create a place for everything: for example, a health care worker with full hands needs a dedicated space where he or she can place items while washing hands

Solutions: Effective hygiene is in our **HANDS** (Habit, Active Feedback, No One Excused, Data Driven, Systems)

Habit

- Always wash in and wash out upon entering/exiting a patient care area and before and after patient care
- Make washing hands a habit — as automatic as looking both ways when you cross the street or fastening your seat belt when you get in your car

Active Feedback

- Coach and intervene to remind staff to wash hands
- Clearly state expectations about when to sanitize hands to all staff members
- Communicate frequently — provide visible reminders and ongoing coaching to reinforce effective hand hygiene expectations
- Engage staff — real-time performance feedback
- Tailor education in proper hand hygiene for specific disciplines
- Provide just-in-time training
- Use technology-based reminders and real-time feedback
- Celebrate improved hand hygiene

No One Excused

- Protect the patient and the environment — everyone must wash in and wash out
- Make it comfortable to wash hands with soap or use waterless hand sanitizer
- Hold everyone accountable and responsible — doctors, nurses, food service staff, housekeepers, chaplains, technicians, therapists
- Apply progressive discipline from the top — managers must hold everyone accountable for proper hand washing
- Commitment of leadership to achieve hand hygiene compliance of 90+ percent
- Identify proper hand hygiene as an organizational priority
- Serve as a role model by practicing proper hand hygiene

Data Driven

- Data provides a framework for a systematic approach for improvement
- Utilize a sound measurement system to determine the real score in real time
- Use trained, certified independent observers to monitor appropriateness of hand hygiene
- Scrutinize and question the data
- Measure the specific, high-impact causes of hand hygiene failures in your facility and target solutions to those causes

Systems

Focus on the system, not just on people

Make it easy; examine work flow of health care workers to ensure ease of washing hands:

- Provide easy access of hand hygiene equipment and dispensers
- Create a place for everything: for example, a health care worker with full hands needs a dedicated space where he or she can place items while washing hands
- Limit entries and exits from a patient's room — make supplies available in room and eliminate false alarms that require staff to leave room to turn alarm off

Identify new technologies to make it easy for staff to remember to wash hands, i.e., radio frequency identification, automatic reminders, real-time scoring

The project began last December, as the hospitals assessed baseline compliance with hand hygiene. An immediate conclusion was that random observations were an unreliable measure of compliance, which may be much lower than typically assessed. In aggregate, the eight hospitals identified that staff wash their hands less than 50% of the time, which is about the rate found in hand hygiene studies historically.

"It seems like, what could be simpler? Just wash your hands," Chassin says. "Everybody expects it to happen and can't understand why it doesn't. But even a seemingly simple problem turns out to be complicated. In some places, soap and alcohol gel dispensers were not placed in convenient locations for caregivers; some caregivers were approaching patients' rooms with their hands full, didn't have any place to put down what they were carrying so that they could wash their hands before entering the room; some places found a lack of individual accountability."

'The center of the strike zone'

After establishing the humbling baseline, the hospital-specific underlying causes of hand hygiene failure were identified and analyzed. The targeted solutions from the Center now being tested include holding everyone accountable and responsible — doctors, nurses, food service staff, housekeepers, chaplains, technicians, therapists; using reliable methods to measure performance; communicating frequently and using real time performance feedback; and tailoring education on proper hand hygiene for specific disciplines. By January 2010, The Joint Commission hopes to have the data to demonstrate whether the solutions can achieve and sustain a 90%-plus compliance rate.

"As the solutions are proven, The Joint Commission will spread the use of these tools and interventions to improve the safety and quality of the care provided at the more than 16,000 health care organizations that we accredit in the United States," Chassin says. "That's what's different about this Center — the systematic approach to solving a problem is coupled with the reach of The Joint Commission."

Indeed, Chassin sees the Center for Transforming Healthcare as The Joint Commission's key foray into national health care reform, which must include a quality component — including preventing health care-associated infections (HAIs) — if it is to become an effective and

affordable reality, he notes.

"We have been very vocal about the need for health care reform to amplify efforts like this that will save money and improve quality at the same time," he says. "Without the sort of 'wishing and hoping' aspect of investing in prevention and health care information technology, and chronic disease management [in which] maybe someday down the road some savings will occur. We know that for every HAI that is prevented, we will save money and we save the patient that suffering. This is absolutely part of the appeal of the center's work. It's right in the center of the strike zone for health care reform."

Institutions collaborating in the center's hand hygiene project include Cedars-Sinai Health System, Los Angeles; Exempla Lutheran Medical Center, Wheat Ridge, CO; Froedtert Hospital, Milwaukee; Johns Hopkins Hospital and Health System, Baltimore; Memorial Hermann Health Care System, Houston; Trinity Health, Novi, MI; Virtua, Marlton, NJ; Wake Forest University Baptist Medical Center, Winston-Salem, NC. For more information about The Joint Commission Center for Transforming Healthcare, visit www.centerfortransforminghealthcare.org. ■

***Sentinel Event Alert* pairs leadership and safety**

Data show leadership involvement makes difference

The fact that The Joint Commission had to recently issue a *Sentinel Event Alert* underscoring leadership's critical role in patient safety and quality care is "somewhat sad," notes **Ronald B. Goodspeed**, MD, MPH, FACP, FACPE, an instructor on health care management in the department of health policy and management, Harvard School of Public Health and former president of the Massachusetts Coalition for the Prevention of Medical Errors.

"This idea that leadership is responsible in the form of the board, in the form of the CEO and senior leadership, in the form of the medical staff is not a new concept," he says. "But I think what's relatively new in the last two years has been a real full-court press by various parties in the country to sort of remind everybody of that."

Paul Schyve, MD, senior vice president of The Joint Commission, says the impetus for the *Alert*

came from its patient safety advisory group. "They said, 'Look, when you look at a health care organization that's really safe vs. one in which they don't emphasize safety, it almost always turns out that there's a significant difference in how the leaders take responsibility for safety and for a safe culture,'" he says.

In fact, the *Alert* reads, "inadequate leadership was a contributing factor in 50% of the sentinel events reported to The Joint Commission in 2006." Schyve points out that the alert identifies leadership as the governing board, the CEO, other senior managers, and clinical staff leadership. One of the themes of the *Alert* is that these groups work collaboratively and are accountable for the organization's safety.

He acknowledges the theme is far from new and is "embedded" in the new leadership chapter that became effective Jan. 1, 2009, but The Joint Commission wanted to draw special attention to it.

"It's interesting in the alert to make the point that you have to make it clear that finances do not trump safety and quality. I find that part sort of amusing," Goodspeed says, "because in the overwhelming number of instances, high quality is actually lower cost."

He does praise the *Alert* for its suggested actions, which mirror a lot of what the Massachusetts coalition has been pushing for years.

Among the suggestions are:

- building a code of conduct and holding staff accountable to that;
- constructing an organizationwide policy of transparency in which discussion is open and there is no fear of recriminations;
- making safety a measurable part of leadership's evaluation;
- continuously monitoring and analyzing adverse events and close calls;
- communicating to staff when their work improves the safety of the organization.

Schyve says defining the code of conduct "requires actually defining the characteristics that they want to particularly have in their safety culture, including how they are going to do that, what kind of actions they will take, and specifically will the leaders take time to build the kind of trust that encourages reporting?"

Quality improvement leaders, he says, are integral in measuring the "culture's safety" and being involved in monitoring and analyzing adverse events and close calls to cultivate the continuation of safety. Are hospital leaders more

aware of quality and that they are ultimately responsible for it these days?

"I think there's a full spectrum," Goodspeed says. "More and more, thankfully, hospital leaders or the board or the CEOs do understand." He says that is becoming more and more the way leadership functions. But, he admits, "there's a lot of leadership people in hospitals who don't seem to get it or have gotten at least to the point where they feel they need to give it lip service but not necessarily turn it into action. So this *Alert* I'm taking as really being directed at those folks who aren't on board yet." ■

Hand hygiene: Time to report individual rates?

'The most awful shortcoming in patient safety'

Looking at the historically low compliance numbers surrounding hand hygiene, **Stephen Weber**, MD, Joint Commission consultant and chief health care epidemiologist at the University of Chicago Medical Center, can only shake his head.

"I think it's the most awful shortcoming in patient safety and hospital quality, at least for the last half century and I guess going back before that," he says. "To go to national meetings that I have with infection control folks and have a leading authority in the field get up and say, 'Wake up folks; we'll never get to 100% [compliance on hand hygiene].' It seems preposterous to me that we're giving up on this."

At the University of Chicago, Weber and colleagues are looking at strategies to automatically detect hand hygiene adherence, one of which is radiofrequency identifier tags.

"It's remarkable how we've shied away from the idea of giving individual and direct feedback," he says. "Our viewpoint is to provide individual feedback. It's remarkable that some of the groups that are doing similar work are saying, 'Well, we would never detect down to the individual health care worker level. We'd never want to get involved in that privacy issue.' I think that's just silly. When I orient the medical students, I say, 'If you came into a patient room and you saw the dean of students punching the patient in the face, would you say anything about it?' And I think everybody would," Weber says. ■

Hospital Employee Health

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Please take a moment to answer the following questions to let us know your thoughts on the CNE program. Fill in the appropriate space and return this page in the envelope provided. **You must return this evaluation to receive your certificate.** Thank you.

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1. If you are claiming nursing contact hours, please indicate your highest credential: ○ RN ○ NP ○ Other _____

	Strongly Disagree	Disagree	Slightly Disagree	Slightly Agree	Agree	Strongly Agree
After participating in this program, I am able to:						
2. Identify particular clinical, administrative, or regulatory issues related to the care of hospital employees.	○	○	○	○	○	○
3. Describe how those issues affect health care workers, hospitals, or the health care industry in general.	○	○	○	○	○	○
4. 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.	○	○	○	○	○	○
5. The test questions were clear and appropriate.	○	○	○	○	○	○
6. I am satisfied with customer service for the CNE program.	○	○	○	○	○	○
7. I detected no commercial bias in this activity.	○	○	○	○	○	○
8. This activity reaffirmed my clinical practice.	○	○	○	○	○	○
9. This activity has changed my clinical practice.	○	○	○	○	○	○

If so, how? _____

10. How many minutes do you estimate it took you to complete this entire semester (6 issues) activity? Please include time for reading, reviewing, answering the questions, and comparing your answers to the correct ones listed. _____ minutes.

11. Do you have any general comments about the effectiveness of this CNE program?

I have completed the requirements for this activity.
 Name (printed) _____ Signature _____
 Nursing license number (required for nurses licensed by the state of California) _____

OSHA enforcing N95 respirators for HCWs treating H1N1 flu patients

OSHA: 'We're looking for a good-faith effort.'

By **Gary Evans** and **Michelle Marill**
Editors

*Hospital Infection Control & Prevention
Hospital Employee Health*

Particulate respirators — a controversial step beyond common surgical masks — are now mandated by the Occupational Safety and Health Administration (OSHA) to protect health care workers from acquiring H1N1 pandemic influenza A from patients. With respirator shortages feared, “good-faith efforts” by health care employers will be recognized by OSHA, which nevertheless is warning that citations and fines may result from inspections that will be primarily prompted by employee complaints.

“Employers should do everything possible to protect their employees,” said **Jordan Barab**, acting assistant secretary of labor. He emphasized, however, that where respirators are not commercially available, an employer will be considered to be in compliance if the employer made every effort to acquire respirators. Health care employers will need to be able to show documentation of orders that have been placed or statements from a manufacturer that the respirators are on back order. N95 respirators — already used by many hospitals for the treatment of tuberculosis patients — are the minimum level acceptable for H1N1.

“We’re looking for some evidence that the employer has attempted to purchase N95 respirators,” Barab said. “We’re looking for a good-faith effort.”

OSHA is issuing a compliance directive to enforce the Centers for Disease Control and Prevention’s recently issued “Interim Guidance on Infection Control Measures for 2009 H1N1 Influenza in Healthcare Settings, Including Protection of Healthcare Personnel.” (Available at http://www.cdc.gov/h1n1flu/guidelines_infection_control.htm.)

The CDC disappointed infection preventionists in the guidance by reaffirming its stance that surgical masks are not sufficient to protect workers from

H1N1 patients. The CDC recommends the use of respiratory protection that is at least as protective as a fit-tested disposable N95 respirator for health care personnel who are in close contact (within 6 feet) with patients with suspected or confirmed 2009 H1N1 influenza. The president-elect of the Society for Healthcare Epidemiology of America said the CDC decision appeared to be made for reasons other than science, which has not shown burdensome, scarce N95s to be more effective in clinical studies.

“They are recommending a respirator that is not readily available, for transmission that has never been shown to be clinically relevant,” said **Neil Fishman**, MD. “It presents a hardship to health care workers and health care providers that is unnecessary and offers nothing in [additional] degree of protection.”

On the other hand, the CDC is under considerable pressure from health care unions and worker safety advocates since at least four nurses nationally have reportedly died of complications related to H1N1. Noting that H1N1 surveillance systems do not provide occupational data, the National Institute for Occupational Safety and Health (NIOSH) is asking for information from the public on health care worker H1N1 illnesses and deaths. (Information can be e-mailed to nioshh1n1data@cdc.gov.) NIOSH is asking for contact information so the agency can follow up on cases that have primarily been reported through the media.

“Once we get that information, we can make decisions about whether we want to do a more thorough investigation, whether it is a Health Hazard Evaluation or another kind of study,” says **Christina Spring**, health communications specialist with NIOSH in Washington, DC.

Meanwhile, OSHA inspectors will ensure that health care employers implement a hierarchy of

Supplement to AIDS Alert, Critical Care Alert, Clinical Trials Administrator, Contraceptive Technology Update, Case Management Advisor, Discharge Planning Advisor, Drug Formulary Review, ED Nursing, ED Management, ED Legal Letter, Emergency Medicine Reports, Hospital Case Management, Hospital Peer Review, Hospital Medicine Alert, Hospital Home Health, Healthcare Risk Management, Infectious Disease Alert, IRB Advisor, Medical Ethics Advisor, Occupational Health Management, Patient Education Management, Primary Care Reports, Pediatric Emergency Medicine Reports, Same-Day Surgery, State Health Watch, and Travel Medicine Advisor.

controls, including source control, engineering, and administrative measures, and to encourage vaccination and other work practices recommended by the CDC. Where respirators are required to be used, the OSHA Respiratory Protection standard must be followed, including worker training and fit testing. While the ruling clearly applies to hospitals, as this report was filed OSHA had not responded to a written request for clarification regarding other medical settings. Employee complaints from clinics and physician offices could potentially result in an inspection because OSHA's respiratory protection standards also apply to small businesses.

CDC casts wide net

The CDC clarified that the scope of its guidance includes a wide range of medical settings: "This guidance provides general recommendations for health care personnel in all health care facilities," the CDC stated. "For the purposes of this guidance, health care personnel are defined as all persons whose occupational activities involve contact with patients or contaminated material in a health care, home health care, or clinical laboratory setting."

Since a shortage of disposable N95 respirators is possible, employers are advised to monitor their supply, prioritize their use of disposable N95 respirators according to guidance provided by CDC, and to consider the use of reusable elastomeric respirators and facemasks if severe shortages occur, OSHA advised. Health care workers performing high-hazard, aerosol-generating procedures (e.g., bronchoscopy, open suctioning of airways, etc.) on a suspected or confirmed H1N1 patient must always use respirators at least as protective as a fit-tested N95, even where a respirator shortage exists. In addition, an employer must prioritize use of respirators to ensure that sufficient respirators are available for providing close-contact care for patients with aerosol-transmitted diseases such as tuberculosis.

Where OSHA inspectors determine that a facility has not violated any OSHA requirements but that additional measures could enhance the protection of employees, OSHA may provide the employer with a Hazard Alert Letter. OSHA will inspect health care facilities under the Respiratory Protection Standard "to ensure that health care workers are protected and that protection is in line with CDC [guidance]," Barab said.

The CDC guidance to use respirators has been controversial and hotly debated almost since the onset of H1N1 last spring. Many infection

preventionists argue that H1N1 is comparable to seasonal influenza in its virulence and transmission routes, and that droplet precautions (e.g., surgical masks) are sufficient. In fact, some state health departments diverged from CDC and called for surgical masks unless health care workers were performing aerosol-generating procedures.

The Healthcare Infection Control Practices Committee, a CDC advisory panel, endorsed the use of surgical masks rather than respirators. But an Institute of Medicine (IOM) panel charged with reviewing the available science concluded that surgical masks would not protect workers from airborne influenza particles. "[T]here is evidence that work-related exposures to patients infected with H1N1 virus result in health care workers becoming infected," the IOM report stated.

The answer, decided CDC director **Thomas Frieden**, MD, is to use respirators but to limit their use through other measures. "Use a scarce resource carefully," he said in a briefing on the guidance. "Follow a hierarchy of controls and limit the number of people who are potentially exposed and would need a higher level of protection."

The CDC is no longer recommending contact precautions — the use of gowns and gloves — but Frieden noted that influenza is spread through droplet, fomite, and aerosol transmission. "It is an unfortunate fact that we do not have definitive evidence on the portion of transmission that occurs from each of those three routes," said Frieden, noting that "the preponderance of belief" was that droplets were the most common route. "With that lack of knowledge and with the newness of H1N1 . . . we are recommending that N95s . . . would be clearly superior to surgical masks."

Still, CDC is providing some flexibility to hospitals. That means in some circumstances, health care workers may reuse respirators, continue to wear them while caring for more than one patient, or may even wear surgical masks as a last resort option. CDC states that extended use (in which the respirator is not removed while the health care worker cares for more than one patient) is preferred over reuse.

"We recognize that there may be shortage situations," said Frieden. "The need is for us not just to provide respiratory protection now, but the flu season lasts through May. We need to ensure we have a reliable supply."

The CDC guidance states that "when in prioritized respirator use mode, respirator use may be temporarily discontinued for employees at lower risk of exposure to 2009 H1N1 influenza or lower risk of complicated infection." ■