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As H1N1 pandemic flu stockpiles expire, hospitals turn to reusables

'Number of respirators needed during a pandemic would be astronomical'

Five years after the H1N1 flu pandemic, hospitals and public health authorities are dealing with a difficult aftermath: Stockpiles of N95 respirators are expiring. Rebuilding pandemic stockpiles could cost many millions of dollars and still might not provide enough protective devices.

That reality is now reshaping pandemic planning across the country.

Based on estimates from the Centers for Disease Control and Prevention, "the number of [disposable] filtering facepiece [N95] respirators that would be needed during a pandemic would be astronomical, so we're looking at reusable devices," says **Maryann D'Alessandro**, PhD, director of the National Personal Protective Technology Laboratory of CDC's National Institute for Occupational Safety and Health (NIOSH).

Hospitals are purchasing reusable respirators that were previously mostly used in industrial settings, and the federal government is rethinking its stockpile strategy. The Veterans Administration purchased 180,000 elastomeric half-face respirators to protect its health care workers in a pandemic.

While the world is riveted by the Ebola outbreak in West Africa, occupational health experts remain concerned about the risk from respiratory diseases. MERS-CoV (Middle Eastern Respiratory Syndrome) had led to at least 291 deaths among 837 lab-confirmed cases by late July, according to the World Health Organization. An outbreak of H7N9 avian influenza in China caused alarm in 2013. As of June, there had been 450 lab-confirmed cases and 165 deaths.

H1N1 was considered a "mild" pandemic, but researchers estimate that it killed as many as 203,000 people worldwide, most of them under age 65.¹ In the first six weeks of the pandemic in the spring of 2009, CDC identified 35 health care workers who became infected at work. Lack of compliance with infection control guidance as well as an inadequate supply of N95 respirators, were cited as factors.²



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“We knew after H1N1 that we needed to improve preparedness, but the pace [of the efforts] increased in the past two years,” says D’Alessandro.

NIOSH is studying the use of powered air-purifying respirators (PAPRs) and elastomers in hospitals and the cost and logistical issues involved in switching from N95s to reusable respirators for emergency preparedness, she says.

Education needed for PAPR use

Today’s trends are reverberations of the head-

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aches of H1N1. When hospitals ran short of N95s, they were sometimes forced to switch to a different brand or model. That meant new rounds of fit-testing.

PAPRs became appealing because they can be reused and they don’t require fit-testing. They also are often used by health care workers who have a beard or can’t pass a fit-test for other reasons.

In the wake of the H1N1 pandemic, OSF St. Francis Medical Center in Peoria, IL, created a quality improvement project that focused on respiratory protection and pandemic preparedness. The hospital provides PAPRs on every unit that has a negative pressure room, in addition to fit-tested N95s.

As part of quality measures, occupational health reports the percentage of health care workers who completed medical questionnaires and the annual educational modules for N95s and PAPRs. Employees are included in the program based on their potential for contact with infectious patients.

“We wanted to make sure we met our goal that everyone was adequately protected in case there was a pandemic,” says **Jo Garrison**, MSRN, director of business and community health.

The Johns Hopkins Health System in Baltimore began using PAPRs in its respiratory protection program in 2003. The PAPR units are inspected twice monthly while they are in use and every six months in storage, senior epidemiologist **Trish Perl**, MD, MSc, said at an Institute of Medicine workshop on “The Use and Effectiveness of Powered Air-Purifying Respirators in Health Care” in August. Employees using the devices also receive education.

“The health care worker has to know how to don and doff this without contaminating themselves and putting themselves at risk,” she said. “As they walk out of the room, they have to know what to do, how to clean it, and then the unit has to be recharged to make sure it can be used by the next health care worker.”

PAPRs too costly for stockpiling

PAPRs present some challenges that prevent the respirator from being the sole solution for a pandemic stockpile.

First, PAPRs are expensive. A battery costs \$130 and a battery charger costs \$900, said Perl, who noted that Johns Hopkins recently ordered 100 additional batteries.

Lewis Radonovich, MD, director of the national Center for Occupational Health and Infection

Is it time to toss your N95 stockpile?

Does your hospital have a stockpile of N95 respirators sitting on a shelf? You might want to take a close look at them — and toss out respirators that have expired.

The disposable respirators have a “use by” date on their packaging. For example, 3M advises that popular health care respirators (models 1805, 1860 and 1870) can be stored for five years if they are kept in the original packaging, the temperature doesn’t exceed 86 degrees and the humidity doesn’t exceed 80%.

“We’ve had several states call and ask us if we could extend the shelf life of some of the products of what they have in their stockpile,” says **Maryann D’Alessandro**, PhD, director of the National Personal Protective Technology Laboratory of the National Institute for Occupational Safety and Health (NIOSH).

The NPPTL is studying the durability of respirators. But D’Alessandro cautions that some components, such as elastic and nose bands, may deteriorate over time, and that manufacturer storage conditions must be maintained.

Respirators aren’t like consumer products, says **Dan Shipp**, president of the International Safety Equipment Association in Arlington, VA. “You can’t necessarily tell by visual inspection that you’re losing the face seal,” he says.

Changes in the product over time could lead to an inadequate face seal, he says. “These are devices that come into immediate and heavy demand if there’s a health emergency,” he says. “It’s extremely important that the health care workers and employers have confidence that they’re going to work when needed.”

Control at the Veterans Health Administration, estimated that it would cost 20 to 30 times more to stockpile PAPRs for a pandemic than any other type of respirator.

PAPRs are not approved for use in surgery, and some health care workers complain that they affect communication with patients.

The University of Maryland Medical Center turned to half facepiece elastomeric respirators during the H1N1 pandemic. They are reusable but must still be fit-tested.

“We couldn’t reliably get all of the disposable N95s that were needed,” says **Melissa McDiarmid**, MD, MPH, director of the University of Maryland Division of Occupational and Environmental Medicine. “Our outpatient clinics made the decision to get the individual fit-testing for the elastomerics and assign a personal respirator to the people in their clinic network.”

VA facilities use PAPRs and N95s on a regular basis, but elastomerics are a key part of pandemic preparedness, Radonovich said at the workshop.

“We anticipate that as soon as we have recognition nationally or globally that there is a [pandemic] outbreak, there will be no N95s to sell, and as soon as we run out we will be on our own,” he said.

The Institute of Medicine will issue a report based on the August workshop, which included feedback from both hospitals and health care workers. Manufacturers are still working on N95s

and PAPRs designed specifically for use in health care.

The device-oriented discussion should be part of a new commitment to worker protection, Radonovich said.

“We need a fundamental shift in the approach to respirator protection in this country,” he said. “If a patient shows up with an unknown disease and they have respiratory symptoms, we should give health care workers protection from getting sick.”

That is the foundation of the “precautionary principle,” to err on the side of protection when scientific evidence is lacking – a major conclusion from a review of the Severe Acute Respiratory Syndrome (SARS) outbreak in Canada. A doctor and two nurses died of SARS in Toronto and 45% of the Canadian cases were among health care workers.³ Respiratory protection needs to be a priority for hospital leadership, says McDiarmid. “The acceptance of workers to any employee health intervention has a lot to do with how the leadership presents it and the professionalism with which a program is carried out,” she says. “If there is a begrudging leadership that is resentful of having to have a respiratory protection program, then that is going to be telegraphed to the workers.

“If the leadership and infection control and employee health community are all of one mind and present it as part of a comprehensive infec-

tion control program that protects patients and workers, the whole thing is much more smoothly executed.” ■

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Ebola cases discharged, units remain ready

CDC issues guidelines for all hospitals

The handful of specialized biocontainment units in U.S. hospitals remain on high alert as the Ebola outbreak continues in West Africa and the first two American health care workers were successfully treated and released from Emory Hospital in Atlanta.

In addition, the Centers for Disease Control and Prevention recently issued infection control precautions for any U.S. hospital admitting a suspected or confirmed case of Ebola. The agency also posted Ebola guidelines for environmental cleaning and protection of housekeeping personnel. (See related story, p. 114.)

The two U.S. Ebola cases involved care workers who very nearly gave their lives to helping patients in Liberia during the worst Ebola outbreak in history. A Texas physician and a North Carolina missionary were flown to Atlanta in August, spending several weeks in Emory University Hospital's biocontainment unit. They received hydration, experimental drug treatment, and other care. By late August, each patient had recovered and was discharged.

The Emory Healthcare team's experience in treating the two Ebola patients showed how well-trained, well-staffed, and well-equipped hospital units can provide high quality care while ensuring staff remains safe.

“Staff involved in the direct care of these patients received extensive training with demon-

strated competency verification,” says Nancy R. Feistritz, DNP, RN, vice president of patient care services at Emory.

But the high profile nature of the rare and dangerous disease has raised concern among the public and health care workers.

“There is anxiety amongst hospital staff in ordinary hospitals about handling Ebola cases,” says Philip W. Smith, MD, professor in the division of infectious diseases at the Nebraska Medical Center in Omaha, NE, which houses the nation's largest biocontainment care unit. The 10-bed Nebraska unit remains prepared to admit Ebola patients should the need arise.

“Before we have a crisis, we have people volunteer to work in the unit and to receive special training,” Smith explains. “They're mentally prepared for something like this, whereas other people are not necessarily ready for Ebola in a hospital ward bed.”

The biocontainment units at Emory and Nebraska have had years to train and prepare staff to handle infectious disease cases that might overwhelm the typical hospital. They were designed according to federal guidelines for handling CDC category A diseases, which include Ebola, plague, anthrax, hemorrhagic fever and smallpox.

Since the units are very rarely needed, they are staffed by hospital professionals who are on call 24/7 to shift from their main job when needed.

“Members of the Emory Healthcare team all volunteered to care for these patients,” Feistritz says. “Even so, care of acutely ill patients at their most vulnerable can be stressful under any circumstances.”

Emory provided staff and physicians caring for the Ebola patients with support through daily team huddles, leader rounding, and hospital chaplains.

“The staff support team was present throughout these challenging and stressful times in order to provide emotional and spiritual support for staff,” she says.

When the Nebraska biocontainment unit sought volunteers from hospital staff before the unit was ready for cases, more than enough health care workers applied.

In fact, even during the ongoing Ebola outbreak, more hospital staff have applied to join the unit, notes Shelly Schwedhelm, MSN, RN, director of emergency department trauma and emergency preparedness.

Emory nurse on Ebola: 'We can fear or we can care'

The two recently discharged Ebola patients treated at Emory Hospital in Atlanta were the source of much misinformation and fear upon admission, with many people questioning the wisdom of bringing the deadly virus into the country. In response, **Susan Mitchell Grant**, RN and chief nurse at Emory wrote a thoughtful op-ed piece for the *Washington Post*.¹

"The purpose of any hospital is to care for the ill and advance knowledge about human health," Grant noted. "At Emory, our education, research, dedication and focus on quality — essentially everything we do — is in preparation to handle these types of cases. Further, Americans stand to benefit from what we learn by treating these patients. ... Ebola won't become a threat to the general public from their presence in our facility, but the insight we gain by caring for them will prepare us to better treat emergent diseases that may confront the United States in the future."

Grant took the ethical high ground, calling out those who would abandon care givers who selflessly came to the aid of others in grave need. "We are caring for these patients because it is the right thing to do," she writes. "These Americans generously went to Africa on a humanitarian mission to help eradicate a disease that is especially deadly in countries without our health-care infrastructure. They deserve the same selflessness from us. To refuse to care for these professionals would raise enormous questions about the ethical foundation of our profession."

Grant closed with the *raison d'être*, the very essence of the personal mission of those who wear the white. It's like asking the mountain climber why, but instead of "Because it's there," the answer is "Because I'm here."

"As health-care professionals, this is what we have trained for," she writes. "People often ask why we would choose to care for such high-risk patients. For many of us, that is why we chose this occupation — to care for people in need. Every person involved in the treatment of these two patients volunteered for the assignment. At least two nurses canceled vacations to be a part of this team. ... We can either let our actions be guided by misunderstandings, fear and self-interest, or we can lead by knowledge, science and compassion. We can fear, or we can care." ■

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"People say, 'Sign me up – I want to do this,'" she says. "It's a professional development opportunity and they see it as an opportunity to enhance their skills in other ways."

Schwedhelm doesn't hire every person who applies. First, she speaks with their managers to learn more about their clinical skills, energy, and ability to be self-directed.

"We want rock stars on this unit," Schwedhelm says. "We teach them how to care for highly infectious patients."

Volunteers have to be experts in their disciplines because they'll need to learn special skills involving high level of infection control, notes **Kate Boulter**, RN, lead nurse of the biocontainment unit in Nebraska.

The ideal employee of a biocontainment unit is someone who is very detail oriented and a critical thinker, she says. Employees have to follow rules and instructions precisely, as shortcuts and mis-

takes could lead to exposures and injuries. Teamwork is a top priority.

"Each person has a partner who watches them put on their personal protective equipment and take it off," Schwedhelm says. "They hold each other accountable."

From an employee health perspective, the biocontainment team functions as one unit, and everyone involved agrees on decisions and steps taken, says **Uriel Sandkovsky**, MD, an infectious disease physician and medical director for employee health for Nebraska Medical Center.

Biocontainment team volunteers also have to be eligible to receive the smallpox vaccination in the event of an exposure.

"With smallpox you have a four-day window to get vaccinated after exposure, so if we had a smallpox or monkeypox case we could vaccinate them," Smith adds.

A watchful eye for symptoms

Emory University employee health professionals developed a comprehensive surveillance program consistent with CDC guidelines to monitor physicians and staff caring for Ebola patients, Feistritzer says.

“Inclusion criteria were defined as individuals who were involved in direct patient care or those involved in the handling of contaminated blood or body fluids,” she says.

The surveillance protocol includes taking employees temperature twice daily for 21 days – the outer limits of the incubation period – after their last episode of care for Ebola patients. Also, each employee tracks their symptoms, including headache, joint or muscle aches, weaknesses, diarrhea, vomiting, stomach pain, or lack of appetite. They use a log to document and track results and follow a protocol to report any symptoms.

Informing staff, other patients

Emory also addressed concerns among patients and other employees through hospital-wide education and communication.

“The entire Emory Healthcare community received a series of emails designed to inform and educate throughout the hospitalization,” Feistritzer says.

The hospital also educated staff about infection control practices and the Ebola protocols. They held town hall meetings to provide accurate information and to have clinical experts and hospital leaders answer any questions staff might have, she explains.

“Physician and nurse executive teams rounded on each patient care unit to answer questions staff or patients might have had,” she adds.

The Emory website posted educational material with frequently asked questions and regular updates, available to both staff and patients.

Be aware of HCW travel destinations

Hospital employee health departments across the country could learn strategies for handling epidemics and even more common infectious diseases from the experiences of the Nebraska and Emory biocontainment units, Sandkovsky emphasizes.

Hospitals should ask employees to notify employee health before taking an overseas trip. There might be vaccinations they’ll need. And

when they return, they should be warned to watch for symptoms of illness, he says.

“They could be exposed to malaria or typhoid,” Sandkovsky says.

It is a good idea to have employees regularly trained on the use of isolation and personal protection equipment.

“One of our colleagues in the [Nebraska] unit has an innovative educational approach where people get into gowns and take care of mock patients,” Smith says. “It’s recorded, and supervisors go over the video with employees to reinforce compliance.” ■

Ebola guidelines to protect workers, patients

Use N95s if aerosols may be generated

Ebola does not spread by the airborne route, but recently issued infection control recommendations recommend that health care workers don at the least N95 respirators if performing a procedure that may generate aerosols with the patient’s blood or body fluids. (<http://1.usa.gov/1pvUSQz>)

The Centers for Disease Control and Prevention has posted Ebola recommendations to protect health care workers caring for a suspected or confirmed case of Ebola, a highly fatal, hemorrhagic fever virus that is spread via contact with the blood or body substances of an infected, symptomatic patient. The virus does not spread during the incubation phase, which can last up to 21 days. The CDC also recently added Ebola guidelines for cleaning and disinfecting patient rooms while ensuring housekeeping staff can safely perform their jobs. (<http://1.usa.gov/1ljxMOM>)

The CDC recommends an Ebola patient should be placed in a single patient room containing a private bathroom with the door kept closed. Facilities should maintain a log of all persons entering the patient’s room. Consider posting personnel at the patient’s door to ensure appropriate and consistent use of PPE by all persons entering the patient room. All persons entering the patient room should wear at least, gloves, gown (fluid resistant or impermeable), eye protection (goggles or face shield), and a facemask.

Additional PPE might be required in certain situations (e.g., copious amounts of blood, other

body fluids, vomit, or feces present in the environment). These would include but are not limited to: double gloving, disposable shoe covers, leg coverings.

Workers should wear respiratory protection at least to the level of an N95 respirator if they are doing procedures on an Ebola patient or body fluids that could generate aerosols. The CDC recommends avoiding aerosol generating procedures (AGPs) on Ebola patients if possible. If performing AGPs, use a combination of measures to reduce exposures from aerosol-generating procedures when performed on Ebola HF patients.

Conduct the procedures in a private room, ideally in an Airborne Infection Isolation Room (AIIR) when feasible. Room doors should be kept closed during the procedure except when entering or leaving the room, and entry and exit should be minimized during and shortly after the procedure. In addition to a respirator, health care workers performing an AGP on an Ebola patient should wear gloves, a gown, disposable shoe covers, and either a face shield that fully covers the front and sides of the face or goggles. Dedicated medical equipment (preferably disposable) is recommended, with the use of sharps and needles limited as much as possible. All needles and sharps should be handled with extreme care and disposed in puncture-proof, sealed containers, the CDC recommends.

Dearth of data on role of environment

“The role of the environment in transmission has not been established,” the CDC conceded. “Limited laboratory studies under favorable conditions indicate that Ebola virus can remain viable on solid surfaces, with concentrations falling slowly over several days.^{1,2}

“In the only study to assess contamination of the patient care environment during an outbreak, virus was not detected in any of 33 samples collected from sites that were not visibly bloody. However, virus was detected on a blood-stained glove and bloody intravenous insertion site.”³

Still, there is no epidemiologic evidence of Ebola virus transmission through the environment, the CDC stated.

Similarly, no transmission has been documented from fomites that could become contaminated during patient care (e.g., bed rails, door knobs, laundry), the CDC added.

“However, given the apparent low infectious dose, potential of high virus titers in the blood of ill patients, and disease severity, higher levels of precaution are warranted to reduce the potential risk posed by contaminated surfaces in the patient care environment,” the CDC advised.

CDC recommendations for environmental infection control include:

- Be sure environmental services staff wear recommended personal protective equipment including, at a minimum, disposable gloves, gown (fluid resistant/ impermeable), eye protection (goggles or face shield), and facemask to protect against direct skin and mucous membrane exposure of cleaning chemicals, contamination, and splashes or spatters during environmental cleaning and disinfection activities.

- Additional barriers (e.g., leg covers, shoe covers) should be used as needed. If reusable heavy-duty gloves are used for cleaning and disinfecting, they should be disinfected and kept in the room or anteroom.

- Be sure staff are instructed in the proper use of personal protective equipment including safe removal to prevent contaminating themselves or others in the process, and that contaminated equipment is disposed of as regulated medical waste.

- Use a U.S. Environmental Protection Agency (EPA)-registered hospital disinfectant with a label claim for a non-enveloped virus (e.g., norovirus, rotavirus, adenovirus, poliovirus) to disinfect environmental surfaces in rooms of patients with suspected or confirmed Ebola virus infection.

- To reduce exposure among staff to potentially contaminated textiles and cloth products while laundering, discard all linens, non-fluid-impermeable pillows or mattresses, and textile privacy curtains as a regulated medical waste. ■

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Hospitals can track , compare needlesticks

Surveillance also tracks other injuries

A hundred hospitals have joined a new system to track needlesticks and other health care injuries, the first such national surveillance since 2007.

The Occupational Health Safety Network (OHSN) enables hospitals to compare their needlestick rates with other, similar hospitals, using an online reporting system that is updated monthly. The system, launched a year ago by the National Institute for Occupational Safety and Health (NIOSH) of the Centers for Disease Control and Prevention, also tracks slips, trips and falls, patient handling injuries, and workplace violence.

Slips, trips and falls surpass the other injuries in both number and rate, making them the most common hazard for hospital employees. The OHSN reporting enables hospitals to see where the injuries are occurring and to compare their data with other hospitals nationally, regionally, and of a similar size.

For years, hospitals have faced mandates to report hospital-acquired infections and other patient safety measures. OHSN is voluntary but it represents the most significant tracking of employee health and safety to date.

It is important to have that counterbalance, emphasizing overall safety in hospitals, says **Ahmed Gomaa**, MD, ScD, MSPH, project officer for OHSN. “We believe you cannot achieve patient safety without worker safety,” he says.

Demand for sharps surveillance

Previous needlestick tracking systems provided important information about what types of devices led to injuries and which tasks were most hazardous. But most of those systems have been discontinued.

California ceased its surveillance program in 2005, and the CDC’s NaSH system (National Surveillance System for Healthcare Workers) ended in 2007. EPINet, a University of Virginia project that collected information from South Carolina and hospitals in some Eastern and Pacific Northwest states, ended in 2012. By state law, Massachusetts requires its hospitals to reporting sharps injuries each year.

CDC planned to include sharps injuries in its National Healthcare Safety Network (NHSN), but that has focused exclusively on patient safety.

OHSN hopes to fill that gap. The system will collect information on the device used, the task involved, where and when the injury occurred – similar to the previous tracking systems. The denominators will include fulltime employees, bed size and monthly patient admissions. “There is a big need for a surveillance system [in sharps safety],” Gomaa says.

Users of OHSN can download comparison reports at any time and can submit data through existing occupational health software programs.

Reporting helps boost support for worker-safety – both nationally and within hospitals, says **Bobbi Jo Hurst**, MBA, BSN, COHN-S, manager of employee and student health and safety at Lancaster (PA) General Health. Lancaster is a member of the Voluntary Protection Program (VPP), a safety recognition program of the U.S. Occupational Safety and Health Administration, and was one of the first hospitals to report data to OHSN.

“All executives want to know how you’re doing and what your benchmarking is,” she says. “The more information that your leadership sees, the more support you gain.”

Slips, trips and falls are hospital-wide

OHSN is constantly adding hospitals, so the database is growing.

The data come from hospitals of varying size: 48 small (<200 beds), 38 medium (200-499 beds) and 16 large (>500 beds).

They span the country, with 55 in the Midwest, 33 in the South, 6 in the Northeast and 5 in the West.

As of June 2014, the network reported the following preliminary data:

- Injuries from slips, trips and falls (3,401) outnumbered patient handling injuries (3,053). There were 1,577 incidents of workplace violence involving nurses and nursing assistants among the 100 hospitals.

- Slips, trips and falls also had the highest incidence rate as measured per 10,000 worker-months (0.52), per 100 licensed bed-months (0.18), and per 1,000 admissions (3.2).

- Many slips, trips and falls occur outside of patient care areas. Patient handling was the No. 1 injury in patient care areas.

- Patient handling injuries also were the most common OSHA-recordable event.

- Most injuries were among employees between 45 and 64 years of age (7,041), followed by 30- to 44-year-olds (6,069) and 18- to 29-year-olds (3,436). ■

Respirator or mask? Occ health has answer

Webkit boosts competency on resp protection

Most occupational health nurses learn about respiratory protection on the job. They may manage the program, but still have little time to train their hospital's employees about the difference between a mask and a respirator.

But thanks to the work of professional organizations, new, free resources are available to help guide them.

The American Association of Occupational Health Nurses (AAOHN) released a webkit with 10 modules and 1.5 units of continuing education credit for nurses. Its content was shaped by a survey of occupational health nurses conducted with the Association of Occupational Health Professionals in Healthcare (AOHP), the American Board of Occupational Health Nurses (ABOHN) and the American Nurses Association (ANA).

"There was a gap in the education," says **Annette Byrd, RN, MPH**, educational consultant to AAOHN, who noted that many occupational health nurses said they felt uncomfortable with their ability to create policies related to respiratory protection.

The new resources could become a foundation for education of nurses in selecting and using respiratory protection and managing PPE programs, says **Debra Novak, RN, DSN**, senior service fellow with the National Personal Protective Technology Laboratory (NPPTL) of the National Institute for Occupational Safety and Health (NIOSH).

"We want this to be available for schools of nursing to include in their curriculum for the next generation of health care providers," she says.

Confusion about N95 use

Frontline nurses are often confused about what type of protective equipment they need and how to wear it, according to a study involving 98 hospitals in six states. In REACH II (Respirator Use Evaluation in Acute Care Hospitals), about 1,500 health care workers and managers were surveyed about respirator use. They were "least knowledgeable" about scenarios involving seasonal influenza and aerosol-generating procedures and a suspected or confirmed infectious disease that required air-

borne precautions.¹

In other words, health care workers were most uncertain about when to use N95s. Observations also showed that many health care workers don't know how to properly don or doff respirators.

Occupational health nurses need to help fill the gap in training and education, an Institute of Medicine panel said in 2011. The panel called on occ health nurses to "take responsibility for achieving and maintaining knowledge and skills in respiratory protection that are appropriate to their scope of practice. They should provide instruction and demonstrate leadership in motivating others to use respirators appropriately."²

The panel specifically named AAOHN, and the association responded. "They challenged us to do a survey and to find out what the real situation was," says Byrd, "and then to develop materials, disseminate those materials widely and work with organizations and institutions to get information and training into educational curriculum."

A survey of about 2,300 occupational health nurses found that most (83%) felt they were competent, proficient or expert in respiratory protection. But that overall comfort level dropped off when occupational health nurses were asked about explaining the difference between a surgical mask and an N95 respirator. Some 28.5% of the respondents said they had little or no comfort with that task.³

Eight aspects of competency

The webkit is based on the OSHA Respiratory Protection standard and incorporates information from NIOSH and California. It is free, but requires users to register. (www.aaohn.org)

There are three levels of competency (competent, proficient and expert) and the following eight categories:

- clinical practice
- workplace surveillance
- regulation and litigation
- management/ business/leadership
- health promotion and disease prevention
- health and safety education/training
- research
- professionalism

HCWs protect themselves, patients

The required elements for a respiratory protection program include: Procedures for selecting

respirators; medical evaluation of employees; fit-testing for tight-fitting respirators; procedures for use of respirators in routine and emergency situations; procedures to ensure adequate air quality, quantity, and flow; training employees about potential respiratory hazards in routine and emergency situations; training employees in the proper use of respirators; and program evaluation.

“The educational module we developed will help you become more proficient,” says Byrd, who notes that there is valuable information even for occupational health nurses who are knowledgeable about respiratory protection. For example, the webkit provides resources to draft respiratory protection policies.

Eventually, Byrd says she would like to see the materials incorporated into nursing curricula “so every nurse realizes how to use a respirator to protect themselves and to protect their patients.” ■

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Understand, reduce HCW absenteeism

Why do most workers call in sick?

The answer should restore a little of your faith in humanity. For the most part, health care workers call in with legitimate illness.

In an era when the media image of nurses and other health care workers is tainted by cynicism, that conclusion may be somewhat surprising, but a recent study found that almost three-quarters of workers who call in sick are indeed suffering an illness.¹

“I worked in occupational health in a hospital

for 13 years and have been working in occupational health in manufacturing for 12 years, so I’ve seen a number of employees who have missed time from work,” says **Candace Sandal**, DNP, MBA, an occupational health nurse practitioner who was principle author of the study about workers using sick time.

“It turns out that workers really are sick when they say they’re sick,” Sandal says. “I found in the study that workers do feel guilty when they miss work and they consider the impact it will have on their coworkers.”

Investigators surveyed students of a large university who held jobs in various industries.

“We chose a university so the study wouldn’t be linked to a particular workplace survey,” she notes. “Of the people who responded, 73% said they call in sick because they are sick.”

Of the 27% who called in sick when they were well, the non-sick reasons were varied, but included the need to take care of a sick child, disliking their job, and needing a mental health day, Sandal says.

The study’s findings suggest that hospital employee health programs could help reduce worker absenteeism through strategies that prevent and mitigate common worker illnesses, Sandal says.

“If they were in contact at the start of an illness then we can intervene and treat, so they don’t need to miss work,” she says. Instead, what typically happens is people hang in there with a burgeoning cold or sinus infection or other illness until they get sicker and sicker and have to miss work, she says.

Sandal offers these suggestions for hospital employee health programs:

Educate staff about common symptoms and need for early treatment. Pamphlets could be placed in hospital work stations, listing common symptoms of early upper respiratory infections, gastrointestinal illness, eye diseases, and rashes, which could indicate chicken pox or shingles. It’s particularly important for hospital employees to report their symptoms early because of the potential of being contagious when working with or around patients, Sandal says.

Promote an on-site employee health clinic. When new employees are hired, it’s a good practice to give them a tour of the employee health clinic.

Meet with employees who have high rates of calling in sick. “It’s not always what it seems, and this is an occupational health nurse’s role – not

a manager's role because managers shouldn't get involved in health issues," she says.

Reducing stress in a stressful profession

Provide stress reduction education and programs: Every unit in a hospital has its own unique stressors, Sandal says. "I worked in ICU for a long time," she notes. "I understand that critical care stress, but I haven't seen any research trend showing that one hospital unit is more vulnerable to stress than another."

Employee health can address hospital-wide employee stress by offering staff a stress reduction program. This could include providing a limited number of free visits with a provider who is skilled in stress reduction, on or off-site, she suggests.

Change health care worker's "me-last" culture. Nurses and other health care workers often operate within a culture in which they care about everyone else's health and welfare before thinking of their own, Sandal says.

Having an easily accessible onsite clinic for workers can help encourage them to seek help when they're beginning to feel unwell.

"Employee health programs should advertise what they're doing for workers and show the effect they're having on that population," Sandal says. "It's time and money well spent." ■

REFERENCE

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CNE OBJECTIVES

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

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

CNE INSTRUCTIONS

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

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



COMING IN FUTURE MONTHS

- The rising cost of needlesticks
- TJC position on respirators
- How protective are hospital gowns?
- New e-Resources on aging

CNE QUESTIONS

1. Powered air-purifying respirators (PAPRs) are not feasible for stockpiling because:
 - A. they are too expensive
 - B. they are too bulky
 - C. they deteriorate in storage
 - D. they have too many different parts
2. According to data from the Occupational Health Safety Network, as of June 2014 what was the most common cause of injury in hospital employees?
 - A. Needlesticks
 - B. Slips, trips and falls
 - C. Patient handling
 - D. Workplace violence
3. Personal protective equipment and extensive training are necessary to protect health care workers when treating Ebola patients for which of the following reasons?
 - A. Ebola is a highly contagious, airborne disease
 - B. The virus can spread from asymptomatic patients during an incubation period that can last six weeks
 - C. Ebola is spread through blood and other body fluids and is a very dangerous hemorrhagic fever illness
 - D. all of the above
4. A new study found that what percentage of workers who call in sick are really ill?
 - A. 29%
 - B. 42%
 - C. 65%
 - D. 73%

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