HOSPITAL EMPLOYEE HEALTH

THE PRACTICAL GUIDE TO KEEPING HEALTH CARE WORKERS HEALTHY

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INSIDE

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Employee Health Steps Up as Hurricanes Hit Hospitals

Prepare now for the next severe weather event

By Gary Evans, Medical Writer

Employee health professionals hunkered down with their hospital colleagues recently as hurricanes Harvey and Irma hit the contiguous United States and Hurricane Maria subsequently devastated Puerto Rico. While relief efforts were still underway in Puerto Rico as this issue went to press, *Hospital Employee Health* talked to employee health professionals who were on hospital duty in the path of Harvey and Irma.

These storms struck right around the five-year anniversary of Hurricane Sandy in the Northeast, reinforcing the impression that extraordinary weather events may be the new normal in a changing climate. "Hurricane-associated storm intensity and rainfall rates are projected to increase as the climate continues to warm," NASA warned.[1]

> "WE NEED MORE EDUCATION AND ADVANCE TRAINING IN AREAS THAT HAVE NEVER REALLY ANTICIPATED THE SEVERITY OR THE MAGNITUDE OF THESE TYPES OF EVENTS."

Thus, it is critical to learn from each hospital response and continue to accumulate information about how to best protect patients and healthcare workers during these major weather events, says **Victoria Raveis**, PhD, a research professor at New York University in New York City, who recently published an analysis of the hospital response to Hurricane Sandy.[2] *(For more information, see related story, page 125.)*

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"What we are seeing, as more and more climate-related disasters are occurring, is that there is a shared knowledge and experience," she says. "To the extent that we can be prepared, we are seeing those plans do help. But more needs to be done. We need more education and advanced training in areas that have never really anticipated the severity or the magnitude of these types of events."

The old mindset questioned the wisdom of putting in time and resources preparing for an event that was highly unlikely to occur, she notes.

"In the emergency preparedness field now there is really a worry that these are not just random events that happen occasionally," Raveis says. "We are seeing that these are going to be occurring with increasing frequency and the appropriate plans and resources need to be put in place."

Hurricane Harvey slammed into south Texas on Aug. 25, inundating the region with torrential rains for several days thereafter. More than four feet of rain was measured in some areas.

"It was all hands on deck," says **Cathy Floyd**, MS, BSN, RN, DPA, COHN-S, regional manager of occupational health at Memorial Hermann Health System in Houston.

That said, corporate officials had reserve staffing at the ready in case those in the immediate area could not get to work.

"Those who were able to make it in, made it in," Floyd says. "[Others] were dealing with critical family or housing issues at home — flooding, damage, or power outages. Many automobiles were flooded. It was all on a volunteer basis. Those people stayed home and took care of their families and their immediate needs and those that were able to come into the medical centers came in."

As it became clear that the storm was going to hit the region, preparations included setting up a website for employees to post information for colleagues and loved ones, coordinate ridesharing, and help with childcare. As the storm hit, employees also shared knowledge of "safe routes" to get to and from work.

"We drill often and discuss many 'what-if' scenarios in our post-drill debriefings," Floyd says. "For example, before the storm, occupational health clinics were double-checking that their refrigerators were plugged into 'red outlets' to ensure power stayed on. [We wanted] to protect the new flu vaccine we just received, and to make sure other vaccines were stocked up."

As the storm came in, power was down in many locations but the ED and the hospital were able to function on the back-up electrical system. Floyd's hospital was able to stay open, but another Memorial Hermann hospital was evacuated due its proximity to the flooding Brazos River, she says.

"We did evacuate Sugarland Hospital because it is at a curve in the Brazos River," Floyd says. "The river was raging, so when it came through that curve, it overflowed. We relocated patients from Sugarland over to our Southwest Facility, which is a large medical center hub. I believe they were there three or four days. We had to move some patients from some locations and some of our outpatient clinics were closed down. We have over 300 of what we refer to as 'thresholds' — different locations. Some of them

were able to stay open and some were not because of high water."

Can You Hear Me Now?

While the hospital system was able to keep its communications website up, cellphone service was predictably erratic.

"In all honesty, it depended where the cell tower was," she says. "Some people, as you can understand, lost cell access and some of us were still able to communicate. Between the hurricane blowing in the high winds, and numerous tornadoes throughout the southland, that affected our ability to move around and communicate with each other. Most of those passed quickly and we were able to reconnect after a few hours. We experienced everything from soup to nuts."

Once the immediate danger of high winds and street flooding diminished, occupational health clinics — stocked with tetanus and Tdap vaccines — began offering immunizations to those employees who needed updates and were involved in recovery and cleanup, Floyd says.

Many healthcare workers who were not able to get to the hospital went out into the community to assist with rescue and cleanup.

"Some of our nurses were recruited by the Red Cross to work in shelters during the immediate onslaught of clients coming in to shelters with injuries, medication, and health needs, and [needing] emotional support," says Floyd, who returned to her own home relieved to see the sandbags she stacked in front of her garage kept the flood waters at bay. "Memorial Hermann employees were rescuing neighbors and family with boats, helping rip out Sheetrock and insulation, and cleaning up."

Amber Mitchell, DrPH, MPH, CPH, who lives in the Houston area and is the director of the International Safety Center (EPINet), assisted others in the community and helped clean up contaminated structures.

"It's really challenging, I found personally, to wear a respirator in 90-degree heat," she says. "While correct and effective PPE [personal protective equipment]use is second nature in healthcare settings, it may not be in community settings where healthcare workers are volunteering."

"WHEN WE CAME IN, EVERYBODY WAS KIND OF HEIGHTENED AND ANXIOUS, SO I SENT OUT MY WELLNESS MANAGER, A YOGA INSTRUCTOR, MASSAGE THERAPIST, AND A FITNESS INSTRUCTOR."

It is important to follow occupational infection prevention practices and safety measures, and to use respirators, gloves, and coveralls, she noted.

"With mold and other bacterial and viral pathogens like hepatitis A abundant in flooded areas, preventing exposure to infectious microorganisms is crucial," she says.

There have been reports of infections caused by the flood water, including a fatal case of necrotizing fasciitis in a Houston woman who fell in flood water and contaminated a wound. Another person died of sepsis after exposure to flood water, which included a mix of bacteria and various chemical toxins.[3]

Shelter From the Storm

On Saturday, Sept. 10, **JoAnn Shea**, RN, director of employee health and wellness at Tampa (FL) General Hospital, arrived at work at 7 a.m., ready to shelter in place for three days. Though Shea and her "Team A" colleagues ultimately dodged the full fury of Irma as it swept northward, there was no way of knowing that in the first stressful days of preparations.

"At 2 o'clock on Sunday, they thought it was coming right into Tampa Bay," she says. "We were supposed to get either a Category 3 or a 4, so we were really hunkered down. Everybody worked as a team. I think employee health played a good part. We were not sure if we needed to be there initially, but I had agreed to help HR with childcare and then decided I would have a nurse come in for [needlestick] exposures. We had a couple of exposures and we were running a little acute care clinic, to our surprise. I would definitely bring our wellness staff in again because that was really impactful."

Indeed, that decision paid dividends as the storm approached and the stress level increased among hospital employees.

"When we came in, everybody was kind of heightened and anxious, so I sent out my wellness manager, a yoga instructor, massage therapist, and a fitness instructor," Shea says.

Many patients were discharged

prior to the storm, but there was still a large census in addition to some 3,000 employees on site who relieved each other in shifts. Irma hit Tampa Sunday night, but nobody on Team A could leave until 7 p.m. Monday or 7 a.m. Tuesday, depending on the scheduled shift.

"We tried to discharge as many patients as possible, but we still had over 700," she says. "We were busy. We worked 12 hours on and 12 off. We had people sleeping on air mattresses — it was very stressful. We didn't have enough sleeping space. We had people sleeping in our waiting room. The lift team was sleeping in their offices. People just put air mattresses or sleeping bags anywhere they could. That was probably our biggest challenge — finding space to sleep quietly."

Under such conditions, the stress reduction efforts were welcome and encouraged.

"We did aromatherapy with inhalers with oils and massage therapy," Shea says. "The CEO would go around the hospital and call my wellness manager, saying, 'I think they need massages on this unit.' We would send the massage therapist up, and we also did yoga at the end of each shift. So, at different times of the day, they did yoga and they did exercise. After three days, you are all cramped up together."

While the stress reduction was a home run, Shea picked up on a surprising trend: More workers than usual were reporting with complaints of pain and illness. She realized many workers had not brought the medicines they use at home, such as pain relievers and allergy and cold symptom relief. She set up a clinic and called the pharmacy to stock up on these over-the-counter meds.

"I think when people get anxious, they start feeling bad," she says. "We ended up being there to handle a lot of acute illness. We were surprised because we didn't think that would be an issue, but it was. Saturday we started setting up the clinic, and Sunday we saw 30 people, and Monday, 25. People were sick with colds and flu. We sent a couple [of staff] to the emergency room [who] needed a little more extensive care, but we did triage them for the ED."

Reality Bites

One worker woke up from sleeping on the floor with an outbreak of hives.

"We had to assess her for bug bites, and we also had a dog bite I had to treat," Shea says. "She was bitten at home but came in to be treated. Then there was a lot of respiratory problems, and on the last day [after a hospital cafeteria diet for days] we gave them something for constipation."

Lessons learned include the need for better planning for sleep arrangements, as workers were cramped for space as family members and others from the community came in for shelter, she says. "We had 80 kids of staff [in house]," Shea notes.

This situation was exacerbated as the storm approached and more family members of staff or members of the community sought refuge within the hospital.

"People got a little panicked when it started heading toward us and started bringing in more family members," she says. "They didn't want them to go to a shelter. It wasn't that many, but it did impact the ability to find people places to sleep. We didn't close the doors. We understood it, but that is something we are going to work on in planning. The hospital is a safe place, but we are not a shelter."

In the aftermath of the storms, the planning for the next one begins.

"People get very stressed about their homes and their families," Shea says. "If it had really hit us hard, it would have been very stressful to continue working. They want to be with their families in a crisis. We had our chaplains there if people wanted to talk to someone, but stress relief was a big part of it."

As the waters of Harvey receded in Houston, Floyd and colleagues began breaking down their response and reviewing preparations and possible weaknesses in their plans.

"It's all a matter of 'knowing what you don't know,'" she says. "In our briefings, we always play the what-if scenarios. We try to anticipate every possible scenario. We'll look at a situation that occurred and then we'll say, 'What if this had happened or that had happened? What would we have done and how would we have reacted?' Being in that mindset helps us prepare the best we can. We expect the best and prepare for the worst." ■

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Evacuate: When Hurricane Sandy Forced HCWs to Flee

Hospital employees 'were kind of cut off from the world'

Five years ago Hurricane Sandy battered and inundated the Northeast, forcing the evacuation and shutdown of New York University's Langone Medical Center in New York City.

"The hospital employees knew that they would be unlikely to come back on time with the hurricane coming up the coast, and made plans for their children to be taken care of and made certain that there were sufficient supplies in the house," says **Victoria Raveis**, PhD, a research professor at NYU who recently published an analysis of the hospital's response to Hurricane Sandy. "What they didn't anticipate — which we really didn't expect — was the whole shutdown of communications and a complete lack of power. There was failure of cellphones not being able to be charged, and communication at the critical points in time was not there. That caused a lot of stress."

Raveis and colleagues recently published an analysis of how NYU nurses were affected by the event, suggesting planning strategies for hospitals affected by major storms and disasters. The researchers interviewed 16 nurses who participated in the medical center evacuation, and bolstered those narrative accounts with survey results from 528 registered nurses working at the hospital at the time.

"Accounts described dealing in the immediate recovery period with unexpected job changes and resultant work uncertainty," the authors noted. "The storm's lingering aftermath did not signify restoration of their pre-disaster lifestyle for some, but necessitated coping with this massive storm's long-lasting impact on their personal lives and communal loss."

Indeed, the storm spilled over from work into nurses' personal lives, as 25% reported property damage or loss and 22% actually had to relocate after the hurricane. Psychological problems were reported by some of the nurses, with 4% citing "disturbing thoughts" and 4% difficulty sleeping. Support from co-workers, hospital leadership, and loved ones was an important buffer against this angst.

> "THOSE TYPES OF PLANS WERE IN PLACE, BUT THEY NEVER ANTICIPATED THAT THEY WOULD HAVE TO COMPLETELY SHUT DOWN THE HOSPITAL DUE TO A COMPLETE POWER FAILURE."

"The family members were really concerned about the hospital employees who, in this case, were kind of cut off from the world," Raveis says. "That is a level beyond just the functions of the hospital. I think what we learned from Hurricane Sandy with the hospital closure is that personal lives are really an important aspect. The non-professional aspect of [the worker's] life also needs to be connected to the disaster planning."

Hospital Employee Health asked Raveis to share more details of the disaster in the following interview.

HEH: What happened during Hurricane Sandy to knock out power at Langone Medical Center?

Raveis: The flood waters rose into the sub-basement, which was built with walls to prevent lower waters from coming in, but once those walls were breached there was no way for it to go out. That flooded the source of power, and also the fuel for the generators was kept down in the basement. The patients had to be evacuated because there was absolutely no electricity for anything in the building. They had previously moved patients to areas of the hospital anticipating the hurricane blowing in windows. Those types of plans were in place, but they never anticipated that they would have to completely shut down the hospital due to a complete power failure. There were procedures in place to use "med sleds" to physically slide and carry patients down the staircases, but it was a plan that they had not anticipated they would have to use at that point. They thought that they would be fine, but when it came down to the hospital being able to safely operate and provide the care the patients needed, they had to evacuate. They were using manual ventilators for patients that needed oxygen.

HEH: What kind of training and preparations do you recommend?

Raveis: For people who have a first

responder role, do some pre-disaster planning. This is a recognition that they have personal lives. One example is that people in general have refused to leave their homes because there was no planning about what to do with their pets. What we are seeing now is that these kinds of plans are being put in place so that when someone is called in to be deployed, their lives are put on hold. For them to function effectively, they must not be concerned about what is happening at home. Then they are able to devote themselves to the event. The planning needs to make certain that their affairs are in order. Their workplace should know what they need for some type of care in the home for dependent elders or children. Those types of things are part of their training — making certain that they are prepared to to get up and leave their lives.

This is not something that has been routinely taught as part of professional education of healthcare workers. This recognizes that they have multiple roles and their professional responsibilities can't be in conflict with their personal responsibilities. Advanced recognition and knowledge about these potential conflicts should be part of the planning steps in place.

HEH: Do you recommend developing some kind of alternative communication plan?

Raveis: Yes. We know that in a disaster, one of the first things you try to do with anyone impacted is to help them connect with someone that is meaningful to them. If they are separated from their family, see if there is a way to get a message through to give them information. One of the things that can help build resilience is coming up with effective ways to make sure communication channels are in place. Everybody shared with us that they were really concerned about what was happening back home. When they did find out, they were able to relax and focus on the job at hand. One of the things is having communication available with people who are not in the disaster zone so there is a way to be able to connect or leave messages.

HEH: You mention planning for worst-case scenarios and sharing prior experiences with new workers.

Raveis: Try to prepare for the worst-case scenario and come up with multiple options. Then, if there are failures on one front, you have other options. The best thing is redundancy in systems because that allows for failure. Communication and backup resources are really key. It's very helpful to explain the prior experiences to people who are just coming on board. These are the types of scenarios that could potentially happen, this is what we need to be prepared for, and this is what we have done in the past. In a disaster of any type, it's the unknowns and the feeling like it is out of control and no one has ever faced this before — what do we do? With Sandy, what we found was that if someone was able to kind of pull from some prior experience, that made it a little easier for everybody." ■

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Severe Flu Season in Australia Could Herald U.S. Woes

The annual attempt to match the seasonal influenza vaccine with mutating flu viruses always is a bit of a gamble, and this year is no different.

In particular, the U.S. vaccine may not provide complete immunity to an H3N2 strain that has caused serious infections during the summer season in Australia. That's all the more reason for healthcare workers to be vaccinated, as the protection it provides could be the difference between mild and severe illness.

Australian public health officials recently announced that "2017 has been characterized by high levels of influenza A (H3N2), which disproportionately affects the elderly. We have seen reports of high numbers of deaths in nursing homes this year and also amongst healthy adults. These are tragic events which underscore the message that influenza is a serious disease and that vaccination is absolutely critical for protecting individuals and the community. We do know that the 2017 vaccines have had a relatively good match with circulating strains, which provides the best opportunity for protection. There is, however, evidence that the effectiveness of the vaccines has been less than usual this year, particularly in terms

of protecting the elderly against influenza A (H3N2)."[1]

It is unknown whether that H3N2 strain will circulate widely in the U.S., but the H3N2 strain in the current vaccine should provide some protection, clinical and public health officials said recently at a press conference at the National Foundation for Infectious Diseases (NFID) in Washington, DC.

"The proteins on the outside of that H3N2 virus are still quite similar to what's in the current vaccine," said **William Schaffner**, MD, medical director of the NFID and a professor of preventive medicine at Vanderbilt University School of Medicine in Nashville, TN. "We ought to be well prepared. This H3N2 strain is the one that usually causes more illness, more complications in older adults. So, if you needed another reason to be vaccinated, there it is. Best [to] get that protection."

An H3N2 virus which eluded the vaccine strain caused a particularly bad flu season in the U.S. during the 2014-2015 season.

"Clearly, it was a severe season in Australia this summer," said **Daniel Jernigan**, MD, MPH, director of the Influenza Division at the National Center for Immunization and Respiratory Diseases at the CDC. "Does that mean we'll have a bad season this fall? We don't know exactly, but we want to be prepared for that, and it's one reason why it's important to get your vaccine."

The World Health Organization (WHO) has recommended that the next flu vaccine for the Southern Hemisphere include H3N2 A/Singapore/INFIMH-16-0019/2016-like virus. The vaccine that will be used in the U.S. and the other Northern Hemisphere countries will still have the H3N2 A/Hong Kong/4801/2014-like virus.

"There's been a little bit of drift, some change, but there's not been a significant mutation in the H3N2," Jernigan said. "The [WHO] change was really made so that the vaccine that is made in eggs is a better vaccine. Right now, there are two vaccines. The [cell-based vaccine], which is made in cells [and] is made just with proteins — those aren't affected by this change."

According to the CDC, this new cell-based flu vaccine is made by growing viruses in animal cells rather than in the traditional chicken eggs.

> "WE OUGHT TO BE WELL PREPARED. THIS H3N2 STRAIN IS THE ONE THAT USUALLY CAUSES MORE ILLNESS, MORE COMPLICATIONS IN OLDER ADULTS."

With flu season comes the annual task of immunizing healthcare workers to protect themselves and their patients.

"And, just to make clear, it's a patient safety issue," Schaffner said. "We don't want to give flu to the patients for whom we are providing care."

Patsy Stinchfield, RN, senior director of infection prevention and control at Children's Health Network in Minneapolis, said it is gearing up to get healthcare workers immunized.

"This is one of my tasks at Children's: to get our 6,500 employees vaccinated," she said. "I think it's really about understanding the importance of it, making it easy and accessible [and] no charge. Making it such that we'll come to you; where is your staff meeting? We do so many different interventions at Children's. We don't have a mandate as some hospitals do. But even in a unionized nursing environment, without a mandate, our staff are vaccinated at 94% year after year. It's really emphasizing the importance and making it easy and accessible."

Echoing those comments is **Kathleen Neuzil**, MD, MPH, FIDSA, director at the Center for Vaccine Development at University of Maryland School of Medicine.

"We do have a mandatory policy at the University of Maryland Medical Center, and we are also in the high 90 percentages," she says. "It's interesting. The nurses, the physicians, the people in the hospitals who have regular [patient] contact, we're actually doing very well with those vaccination rates. It's some of the other workers. We probably haven't done as good a job at educating the support staff sometimes in hospitals."

The seasonal flu vaccine never is 100% effective, but it is the best way to keep people out of the hospital and the morgue.

"And, as I like to say to some of my patients who say, 'But Dr. Schaffner, you gave me the vaccine and I still got flu,' I say, 'I'm so pleased that you're still here with us to complain, because you didn't die of influenza,'" Schaffner says. ■

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Patient Mobility Forum Founded

Share ideas and ask questions on safe patient handling

A new safe patient handling forum is now online for employee professionals to ask questions or share ideas and policies with colleagues and industry. **Guy Fragala**, PhD, PE, CSP, CSPHP, is the master moderator of the newly minted National Mobility Forum, which can be found at: https://mim.vbulletin.net/.

An editorial board member of *Hospital Employee Health*, Fragala has decades of experience in occupational safety and health. He is the Senior Advisor for Ergonomics at the Patient Safety Center of Inquiry in Tampa, FL. *HEH* recently asked him to describe this new venture, which is in conjunction with industry and other safe lifting professionals.

HEH: Can you tell us a little about what drew you to this new endeavor?

Fragala: The whole issue of musculoskeletal injuries among healthcare workers has been a longstanding, ongoing problem. We've made some progress, but it still remains a problem. Currently in the the practice of medicine, the whole concept of [patient] mobility is becoming more important. If we look at early mobilization in the ICU, the literature is showing us that if we get these patients up early and often, the outcomes that we achieve are so much better. We're reducing adverse events, and there have been studies documenting that we are reducing the number of days in the ICU. As we move forward with this mobilization, patient handling is going to become even more critical because we are going to be asked to move these patients, reposition them in bed, get them out of bed, and get them ambulating. They are sicker, more dependent patients and these are going to be very difficult patient handling tasks. As this demand grows, we really need to think about how we are going to effectively do safe patient handling.

HEH: Tying the health benefits of patient mobility to safe handling seems to be a way to finally empower programs to get resources and equipment.

Fragala: Yes, for a number of years we have been talking about how we relate safe patient handling to wound care and falls management. The evidence is there, also, that if we put sick patients in beds and we don't move them, they are going to develop pressure ulcers. Pressure ulcers have become a never event that we don't want to ever see occur in a hospital. We need to move people while they are in the bed, and again, that is placing more demands on the caregivers. If we look at the patient handling tasks involved, repositioning is probably the task that presents the most risk to the caregiver. If we are going to be effective at minimizing and reducing these hospital-acquired pressure ulcers, we need to figure out good solutions to move patients.

HEH: Why the forum model? This seems like kind of a "wiki" approach to share ideas.

Fragala: I've been doing this for a long time. I've probably been involved with safe patient handling as long as anyone in the country now, and as we progress I'm meeting a lot of young, energetic people — the millennials. Someone came to me with this concept of a forum. He introduced me to the internet forum and the way it works. I said this would be a great idea because patient handling is a complex, multidimensional area where you need input from a lot of different people. We are trying to figure out best practices and the best way to approach solutions. I thought that a forum would be a very effective tool for us to share ideas and learn about successes, to really move forward in this area of making information available through open access. I'm seeing a trend toward open-access journals, making it easier for people to receive information.

I have a lot of content material and if I can make it open access on the forum, hopefully it can help some people with the development and implementation of programs. It can also give them ideas [on] how to continuously improve their programs. This forum concept is really something that made a lot of sense to me. These young people are very tech savvy and have the skills and the technology to do this. It allows me to take the knowledge that I have gained and share it.

HEH: Employee health professionals can just visit the site and join?

Fragala: I would encourage them to. There is no cost involved. I just recently uploaded three reference articles, and one is something on a five-step process to structure a safe patient handling program. That is available on the forum right now for them to download and use. If they have a question, there is a specific area to post that under one of the

topics. We can get a dialogue going to help people out and really connect them to people all over the world.

HEH: We have reported successful safe patient handling programs, but it wasn't that long ago when NPR produced a series on the devastating, career-ending injuries nurses have suffered trying to move patients. Is the glass half-full or half-empty?

Fragala: It's not full yet — we are still seeing nurses injured. [Many] nurses still do these tasks manually. That's kind of amazing when we know that these tasks are beyond the physical capabilities of a person; it's beyond what we can expect them to do. I have been doing some work now in ambulatory care, which is a growing area. Just think of the person that comes into the clinic and needs to get up on an examination table. It is 32 inches high — a fixed-height table. If they have limited mobility and they need help, how is a healthcare worker in that clinic going to get them up on that table? There are still a lot of risks out there, but there are a variety of different groups who may have different approaches and are trying to have some impact. ■

Flu Immunization Rates Level Off in Healthcare Workers

Only 68% of long-term care workers vaccinated

While hospital rates remain high, flu immunization rates of healthcare workers overall have leveled off and remain particularly low in long-term care, the CDC reports.[1]

A CDC internet survey found that during the 2016–17 influenza season, 79% of healthcare workers overall were vaccinated. That is similar to coverage during the 2015–16 season, and the last few seasons before that. Vaccination coverage remained high among hospital workers (92%), and considerably lower among workers in ambulatory care (76%) and long-term care (68%).

"As in previous seasons, coverage was highest among healthcare personnel (HCP) who were required by their employer to be vaccinated (97%) and lowest among HCP working in settings where vaccination was not required, promoted, or offered onsite (46%)," the CDC reported.

The overall trend is a plateau effect, as immunization rates remain stalled at the same level over several seasons.

"While we don't know for sure why vaccination coverage among healthcare workers has plateaued over the past four influenza seasons, we do know that workplace efforts to promote vaccination — which are associated with [higher] vaccination coverage — have also plateaued," says **Carla Black**, MD, lead author of the CDC paper. "By the 2016-17 season, almost all healthcare workers working in hospital settings reported either being required to be vaccinated or being offered flu vaccine at their workplace free of charge. However, healthcare settings other than hospitals have not followed suit in increasing their efforts to promote vaccination in the workplace."

The CDC's Healthy People 2020 goal is to achieve 90% flu vaccination coverage among healthcare workers. Specific occupational groups must be targeted if this goal is to be met.

"Fewer than 70% of assistants and aides were vaccinated, while coverage was over 90% for physicians, PAs [physician assistants], nurses, nurse practitioners, and pharmacists," she says.

When employers held onsite vaccination clinics for more than one day, four out of five healthcare personnel took advantage, even in the absence of a vaccination requirement, she adds. There have been some court decisions favoring workers who took religious exemptions to getting the seasonal flu shot. However, the CDC cites findings in the literature showing that immunizing healthcare workers against flu protects patients.[2,3]

Given the number of influenza outbreaks in long-term care facilities, it is clear that nonimmunized workers may pose a risk to residents as well.

"We do not have [national] facility-level data on how many long-term facilities mandate vaccination, but we know from our survey that 26.2% of respondents who worked in long-term care reported that their employer required them to be vaccinated," Black says. "We know that comprehensive work site intervention strategies that include education, promotion, and easy access to vaccination at no cost for multiple days can increase healthcare

worker vaccination coverage."

There also are lingering issues with workers declining flu shots due to myths and misconceptions about vaccine safety.

"Approximately 30% of unvaccinated respondents in this year's survey reported that fear of side effects or some other safety concern was the main reason that they were not vaccinated," Black says. "Flu vaccines are among the safest medical products in use. Hundreds of millions of Americans have safely received flu vaccines over the past 50 years, and there has been extensive research supporting the safety of flu vaccines." ■

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1. CDC. Black CL, Yue X, Ball SW, et al. Influenza Vaccination Coverage Among Health Care Personnel — United States, 2016–17 Influenza Season. *MMWR* 2017;66:1009–1015.
2. Ahmed F, Lindley M, Allred N, et al. Effect of Influenza Vaccination of Health Care Personnel on Morbidity and Mortality Among Patients: Systematic Review and Grading of Evidence. *Clin Infect Dis* 2014;58:(1):50-57.
3. Griffin MR. Influenza Vaccination of Health Care Workers: Making the Grade for Action. *Clin Infect Dis* 2014;58:(1):58-60.

If You Have a Needle Safety Device, Activate It

Protect yourself and workers downstream

In 56% of needlesticks involving safety devices, the protective mechanism was not activated, the International Safety Center and the Exposure Prevention Information Network (EPINet) reports.

It also is important to activate the safety device to protect downstream handlers of medical waste, emphasizes **Amber Mitchell**, DrPH, MPH, CPH, director of the International Safety Center and EPINet.

Nurses continue to be at the sharp end of the needle, comprising 39% of reported needlesticks and injuries in recently released EPINet surveillance data. The analysis of 2015 data also revealed that for the first time, suture injuries exceeded disposable syringe needle injuries, underscoring the importance of blood exposures in the OR and ED, she notes.

For non-sharps injuries, eye splashes were the most prevalent exposure type, at 70%. Since reported eye protection is at 7%, these mucocutaneous exposures remain a transmission risk.

The Safety Center is actively recruiting new healthcare systems and hospitals into the EPINet network both in the U.S. and internationally. In addition to the approximately 2,000 facilities that use EPINet in the U.S. today, there are nearly 40 foreign-language versions of EPINet forms available, she says.

"We do this so that other nations can build programs similar to the ones in use in the U.S.," Mitchell says. "Collecting and reporting data is a critical way to illustrate where injuries and exposures are occurring so that healthcare [facilities] can create policies as well as [use] safer devices and PPE to prevent them."

For more information about EPINet, visit: https://internationalsafetycenter.org/. ■

Emerging Fungus Can Colonize Skin for Months

Healthcare workers need not be tested unless linked to transmission

Employee health professionals should be aware of an emerging new multidrug-resistant fungal "superbug," *Candida auris*. This pathogen spreads more like bacteria than fungi and can colonize the skin for prolonged periods, the CDC reports.

"We have [patients] who have had it on their skin for nine months, so it seems to be very [capable of] surviving on skin," says **Tom Chiller**, MD, MPH, chief of the CDC Mycotic Diseases Branch. "We also know that it survives really well on surfaces, plastic, floors, windowsills, beds, desks. It can clearly survive in the environment and it is also more challenging to kill."

The CDC is recommending that environmental cleaning workers use powerful sporicidals — similar to what is used for *Clostridium difficile* — to eradicate *C. auris* on surfaces.

As employee health professionals are well aware, some workers experience adverse reactions to these powerful cleaners, which should be used according to the manufacturer's instruction in the appropriate dilutions, with adequate personal protective equipment worn by the worker.

Healthcare workers' hands certainly could be transiently colonized long enough to risk cross-transmission to patients, but they do not need to be tested for *C. auris* unless they are identified as a possible source of transmission to patients. Likewise, family members of healthcare personnel do not need to be tested for *C. auris*.

"The risk of *C. auris* infection to otherwise healthy people, including healthcare personnel, is very low," according to the CDC.[1] "In the United States, *C. auris* infection has primarily been identified in people with serious underlying medical conditions who have received multiple antibiotics, and who have had prolonged admissions to healthcare settings or reside in healthcare settings. Otherwise healthy people do not seem to be at risk for *C. auris* infections, but can be colonized on their skin."

In one CDC investigation of a *C. auris* outbreak, colonization was detected on the skin of less than 1% of healthcare workers. Colonization was transient on the hands and in the nostrils.

The emerging fungus was first reported as the etiologic agent of an ear infection — hence, the *auris* name — in 2009 in Japan. *C. auris* now has been identified in other parts of Asia, Africa, South America, and the United Kingdom. In the U.S., as of Aug. 31, 2017, 153 clinical cases of *C. auris* infection have been reported to the CDC from 10 states, with most occurring in New York and New Jersey. In addition to the infected patients, another 143 were found to be colonized with *C. auris* based on targeted screening.

The CDC emphasizes that recommended infection control measures are the same for both infection and colonization with *C. auris*, meaning asymptomatic carriers would also be placed in contact precautions. As with other multidrug-resistant pathogens, patients may be colonized for months. Presently, there is little guidance on decolonization or removing isolation protocols. ■

REFERENCE

1. Centers for Disease Control and Prevention. *Candida auris* Questions and Answers for Healthcare Personnel. Available at: http://bit.ly/2qHjA5x. Accessed Oct. 2, 2017.

CE INSTRUCTIONS

To earn credit for this activity, please follow these instructions:

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CE QUESTIONS

1. **JoAnn Shea, RN, said she was surprised at the need to set up an acute care clinic to treat ill healthcare workers during Hurricane Irma.**

   a. True
   b. False

2. **Victoria Raveis, PhD, reported what percentage of healthcare workers at NYU's Langone Medical Center had to relocate to a new residence due to Hurricane Sandy?**

   a. 5%
   b. 9%
   c. 16%
   d. 22%

3. **The protective ability for which influenza strain in the current egg-produced U.S. flu vaccine was called into question by severe infections in Australia?**

   a. H1N1
   b. H5N1
   c. H3N2
   d. Influenza virus B

4. **Guy Fragala, PhD, PE, CSP, CSPHP, said which of the following is a reason to safely lift patients?**

   a. Patient mobility linked to favorable outcomes
   b. Aids wound care and falls management
   c. Prevents pressure ulcers
   d. All of the above

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