HOSPITAL EMPLOYEE HEALTH

THE PRACTICAL GUIDE TO KEEPING HEALTH CARE WORKERS HEALTHY

MAY 2015 Vol. 34, No. 5; p. 49-60

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Special Report
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Look Back in Anger

AHC Media

Ebola nurse lawsuit alleges inadequate protection 'negligent'

Do legal obligations go beyond OSHA regs and workers' comp?

Is every U.S. hospital prepared to protect its workers from infectious diseases? As the Ebola outbreak in West Africa seems to be finally fading, that is a question that has lingered, causing hospitals to rethink their approach to employee health and infection control.

Now they can add some legal concerns to that equation. Nina Pham, one of two Dallas nurses who became infected but survived Ebola, filed suit against Texas Presbyterian Hospital in March, asserting that the hospital was negligent for failing to provide adequate training and protective gear. She also claimed that the hospital violated her privacy while it sought to improve its public image.

Brent Walker, one of Pham's lawyers, declined to comment to *HEH* on the suit, but legal experts noted that this case seeks to go beyond the limits of workers' compensation, a system designed to resolve injury claims outside of the courts.

"It provides a pretty stark legal issue. Can you bring an action like this despite the worker comp bar?" says **Ken Kleinman**, a partner with Stevens & Lee in Philadelphia and an expert in occupational safety and health law.

Federal regulatory standards and the Occupational Safety and Health Act require employers to keep a workplace free of recognized serious hazards. In the Dallas case, OSHA provided consultation but did not issue citations.

Hospitals need to balance the response to novel infectious diseases with an assessment of the risk and an eye on scarce resources, Kleinman says. "They always need to anticipate potential issues with infectious diseases and they should have processes in place," he says.

Nina Pham presents a compelling story in the preamble to her legal claims. She accuses the hospital system of putting profit ahead of protection.

"Nina brings this case to hold Texas Health Resources accountable for what happened to her and to send a message to corporations like it that the safety of

Financial Disclosure: Editors **Michele Marill** and **Melinda Young**, Executive Editor **Gary Evans**, and Consulting Editors/Nurse Planners **Kay Ball** and **MaryAnn Gruden** report no consultant, stockholder, speaker's bureau, research, or other financial relationships with companies having ties to this field of study.

HOSPITAL EMPLOYEE HEALTH

Hospital Employee Health®,
ISSN 0744-6470, is published monthly by
AHC Media, LLC
One Atlanta Plaza
950 East Paces Ferry Road NE, Suite 2850
Atlanta, GA 30326.
Periodicals Postage Paid at Atlanta, GA 30304 and at additional mailing offices.

POSTMASTER: Send address changes to:
Hospital Employee Health®
P.O. Box 550669
Atlanta, GA 30355.

SUBSCRIBER INFORMATION:
Customer Service: (800) 688-2421.
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Hours of operation: 8:30 a.m.- 6 p.m. Monday-Thursday; 8:30 a.m.-4:30 p.m. Friday, EST.

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ACCREDITATION: AHC Media LLC is accredited as a provider of continuing nursing education by the American Nurses Credentialing Center's Commission on Accreditation.

This activity has been approved for 15 nursing contact hours using a 60-minute contact hour.

Provider approved by the California Board of Registered Nursing, Provider #14749, for 15 Contact Hours. This activity is intended for employee health nurse managers. It is in effect for 36 months from the date of publication.

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EDITOR: Michele Marill, (404) 636-6021, (marill@mindspring.com).
EXECUTIVE EDITOR: Gary Evans, (706) 310-1688 (gary.evans@ahcmedia.com).
CONTINUING EDUCATION AND EDITORIAL DIRECTOR: Lee Landenberger

EDITORIAL QUESTIONS:
For questions or comments call **Michele Marill** at (404) 636-6021.

all patients and health care providers comes first," the suit says. "So when the next viral outbreak occurs—and it will occur—these hospitals will be prepared and those health care providers will be protected."

Guidance was a print out of Google search

When Pham was assigned as the ICU nurse for Ebola patient Thomas Duncan, she asserts that she had virtually no guidance on how to protect herself.

"She had never been trained to handle infectious diseases, never been told anything about Ebola, how to treat Ebola, or how to protect herself as a nurse treating an Ebola patient. The hospital had never given her any in-services, training or guidance about Ebola. All Nina knew about Ebola is what she had heard on the television about the deadly outbreak in West Africa," the suit asserts.

"Nina asked her manager what she should do to protect herself from the deadly disease. Either her manager or her supervisor went to the Internet, searched Google, printed off information regarding what Nina was supposed to do, and handed Nina the printed paper," according to the suit. She wore her own scrubs home that day, the suit says.

At the time, the Centers for Disease Control and Prevention recommended only standard and droplet precautions for Ebola. Pham initially wore an isolation gown, surgical mask, face shield, double gloves and double booties.

After Pham and a second nurse, Amber Vinson, became infected, the CDC issued more stringent guidelines. They now state that health care workers who care for patients with Ebola "must have received repeated training and have demonstrated competency in performing all Ebola-related infection control practices and procedures, and specifically in donning/doffing proper PPE [personal protective equipment]."

CDC also advises that health care workers should have no exposed skin and should be supervised by a trained observer to make sure they don and doff the equipment correctly.

Regardless of its outcome, the lawsuit highlights that a hospital is a dangerous work environment, says **Lisa Baum,** MA, occupational health and safety representative for the New York State Nurses Association in New York City.

"Nurses tend to put their patients' needs first. They often will not speak up about dangerous conditions because of that," she says. "I think Nina Pham is brave to be doing this. I hope by doing it she sends a message to other nurses that their safety is as important as [that of] patients, and if their safety is not taken into consideration, they will become the patient."

As the lawsuit gained attention from national media, Texas Health Resources issued a statement: "Nina Pham served very bravely during a most difficult time as we all struggled to deal with the first case of Ebola to arrive in a U.S. hospital's emergency room. Texas Health Resources has a strong culture of caring and compassion, and we view all our employees as part of our family. That's why we have continued to support Nina both during and after her illness, and it's why she is still a member of our team. As distressing as the lawsuit is to us, we remain optimistic that we can resolve this matter with Nina."

A few days after the suit was filed, Texas Health Resources was named one of the nation's 100 Best Companies to Work For, which is

based in part on an employee survey about trust in management and job satisfaction.

Hospitals create specialized teams

In the wake of the Ebola infections, public health authorities designated 55 hospitals as Ebola treatment centers, with a higher level of training and preparedness. Other hospitals have created special teams of employees who have ongoing training in handling patients with highly infectious diseases.

Boosting infection control is just one aspect of efforts to promote "high reliability" in health care—an intense focus on safety that is the hallmark of the aviation and nuclear power industries. While that initiative is largely geared toward patient safety, it emphasizes creating an overall culture of safety in the nation's hospitals. (*See related article this page.*)

A Texas Task Force on Infectious Disease Preparedness and Response recommended state-sponsored drills, a triage protocol, and a licensing requirement "for continuing education in identification and initial management of patients with Ebola and other high consequence infectious diseases."

'Do no harm' — with high reliability initiatives Joint Commission seeks better pt, HCW safety

When they take the Hippocratic oath, doctors vow to "first, do no harm," and some hospitals are taking that sentiment seriously. As with the aviation and nuclear power industries, which have zero tolerance for accidents, the hospitals seek to be "high-reliability" organizations that are obsessed with safety.

This quest requires a proactive approach, focused on anticipating and preventing problems and analyzing near-misses and accidents, says **Coleen Smith**, RN, MBA, CPHQ, director of high-reliability initiatives at the Joint Commission Center for Transforming Health Care.

Hospitals striving for high-reliability must commit to leadership engagement, robust process improvement (such as Six Sigma), and a blame-free culture of safety, Smith says. It is not a project, she says. "This is a way of life. This is how they will do business and care going forward," she says.

The largest movement toward high reliability may be occurring in South Carolina, where the South Carolina Hospital Association teamed up with the Joint Commission to create the South Carolina Safe Care Commitment. So far, 26 of 67 acute care hospitals have joined the initiative, which begins with the Joint Commission High Reliability Self-assessment Tool and a safety culture survey.

Many hospitals have adopted daily safety huddles, brief meetings of top hospital administrators and managers that allow them to share information about potential problems or recent incidents. "You're trying to mitigate anything you can think of that could possibly produce harm—before it happens," says **Lorri Gibbons**, RN, BSN, CPHQ, vice president for quality and safety at the South Carolina Hospital Association.

For example, safety huddles may highlight the impediments caused by parking lot repaving or hospital construction, the potential confusion of two patients with the same name on a surgery schedule, and the possible security risk related to an agitated patient or family members.

High reliability at Memorial Hermann Healthcare System in Houston includes a specific focus on employee safety. Each of the 12 hospitals in the system has an employee safety champion, and the departments include employee safety in their daily or weekly huddles. The health system also tracks injury rates, with the goal of continuous improvement.

"If you're working safely, you're reducing patient safety hazards at the same time," says **Cory Worden**, MS, CSHM, CSP, CHSP, REM, CESCO, manager of System Safety. "If we can show every time an employee moves a patient that they're using the right [equipment], then that's one less patient at risk for a fall."

When accidents occur, root-cause analysis seeks ways to reduce existing hazards and prevent a recurrence, says Worden.

The Ebola outbreak in Dallas illustrated the principles of high reliability because any slip in safety measures could lead to dire consequences, he says. "Everybody realizes that hazard control and diligence to high-reliability procedures is really necessary," he says.

High reliability is an all-encompassing effort. Hospital leadership must provide the necessary training, equipment and protocols, and employees must commit to following safe practices, Worden says. "Ultimately, you have safe behavior in a safe environment," ■

What happened at Texas Presbyterian could have happened at almost any hospital, says **Cindy Zolnierek**, RN, executive director of the Texas Nurses Association in Austin. The case became a learning experience about Ebola preparedness and infection control precautions, she says.

"Best practices evolved out of what was learned in that situation," she says. "I don't know that we could have possibly known those practices prior to that incident and the learning from that incident."

Texas hospitals now are conducting drills, improving infection control training and purchasing PE, she says. "We have seen a lot of voluntary efforts by health care organizations to insure that they have adequate equipment." ■

Nurse occupationally infected with Ebola blasts hospital corporation in lawsuit allegations

'Dark Reality:' Suit alleges nurse assigned Ebola patient despite having no training

A lawsuit by **Nina Pham**, RN, against Texas Health Resources (THR) includes some explosive allegations regarding her occupational Ebola infection after caring for an infected patient at Texas Health Presbyterian Hospital Dallas in early October 2014.

In addition to a general statement about hoping to resolve the matter with Pham, THR has denied at least two specific allegations in the suit. In an email to employees, CEO **Barclay Berdan** disputed that THR had invaded Pham's privacy, saying the nurse gave consent for the public release of details about her case that included a video of her in a hospital bed. THR also strongly denied the "false and irresponsible" allegation that one of its leading doctors was untruthful in Congressional testimony, according to published reports.[1]

The allegations against THR, corporate owner of Texas Health Presbyterian, include the following, according to a March 2, 2015 "Plaintiff's Original Petition" field by the Aldous law firm in Dallas.[2]

• Nurse Pham did not volunteer to treat the country's first Ebola patient.

When Pham arrived for her regular shift in the hospital's intensive care unit, the lawsuit alleges, she was informed that she would be caring for patient Thomas Eric Duncan. She did not volunteer to be his nurse, and the lawsuit claims that the hospital promoted a false story of her heroically volunteering to encourage favorable media coverage. She did not refuse because she felt an obligation to treat the patient assigned to her.

"But the myth perpetuated by THR that this was a 'volunteer' health care team obscures the dark reality: Nina was put in the position to take care of Mr. Duncan without any prior knowledge of the risks, dangers, or any training. As with any patient, a nurse can attempt to refuse an assignment, but Nina was not inclined to do that because she saw critical care nursing as a calling, and she had a job to do," the lawsuit states. "Unfortunately, THR was sending her to do it without the necessary qualifications or protections to do it safely."

• Pham was misled about Duncan's condition and the risk of infection.

"She was told Mr. Duncan was in stable condition and could use the bathroom by himself. She was told that she would not have to go in the patient's room much and could just monitor him remotely, all of which turned out to be untrue," the lawsuit says. (Duncan died in the hospital of Ebola on Oct. 8, 2014.)

• Pham was completely unprepared to treat an Ebola patient.

"She had never been trained to handle infectious diseases, never been told anything about Ebola, how to treat Ebola, or how to protect herself as a nurse treating an Ebola patient," the lawsuit alleges. "The hospital had never given her any in-services, training or guidance about Ebola. All Nina knew about Ebola is what she had heard on the television about the deadly outbreak in West Africa."

• The hospital failed to provide even some of the most basic supplies.

"Nina was not even provided disposable scrubs or a change of clothes. She had to wear the scrubs she wore that first day home, taking out of the hospital clothing that was potentially carrying the virus," the lawsuit claims. Noting that Ebola caregivers in West Africa wear full "moon suits," the lawsuit says, "Here, at THR's hospital, the health care providers were given only basic coverings that left them exposed to the highly contagious disease. Despite the claims about our advanced healthcare system, ultimately none of it was brought to bear to protect the

healthcare providers here. Nina Pham would have been better off treating Mr. Duncan in a Liberian Ebola center than in THR's signature hospital."

• The hospital defied Pham's wishes to remain anonymous and violated her privacy.

On her way to her hospital's emergency department with possible Ebola symptoms, Pham called the hospital and asked to be registered as a "no information" patient, a method used to protect a patient's privacy so the patient's name is not visible to others accessing the electronic health record. The strategy often is used for celebrities or others whose records might be of special interest.

Despite her request, severe illness, and the effects of multiple medications, the public relations department of the hospital's parent company called Pham repeatedly, according to the lawsuit. The hospital failed to honor her request for anonymity, and her record was "grossly and inappropriately accessed by

Ebola training makes all the difference for health care workers in terms of stress control

German workers control stress, but feel isolated, shifts too long

The nightmarish experience of treating an Ebola patient described by American nurse Nina Pham, RN, is in sharp contrast to the surprisingly controlled stress levels experienced by a well-trained group of health care workers in Germany. However, even though their stress levels were no worse than colleagues not involved in Ebola care, they reported significantly greater social isolation and the need for shorter shift hours, researchers at the University Medical Center Hamburg-Eppendorf report.[1]

"The responses of participants who experienced social isolation suggested that their spouses, children, and other relatives had infection-related concerns," they concluded. "Additionally, half of the participants who did not have direct patient contact reported feeling a need for psychological preparation. Nevertheless, almost all health care professionals (97% of those with direct patient contact; 93% of those without direct patient contact) believed that the health care facilities of the hospital were safe."

An Ebola patient was admitted to the hospital in August of last year, receiving treatment in an isolation facility for 18 days. There was no special psychological support service for health care workers in the hospital, but staff members had received mandatory biweekly training, which included decontamination procedures, technical aspects of diagnostic procedures, and emergency care.

The researchers hypothesized that staff members working in the isolation unit who had direct contact with the Ebola patient would show more signs of psychological distress than colleagues not involved in care of the patient. They conducted a controlled study that included a questionnaire comparing two different groups of health care workers: 30 who had contact with the Ebola patient wearing pressurized suits, and a control group of 40 workers who cared for non-Ebola terminally ill patients and those with reduced consciousness.

"In contrast to our hypothesis, no significant differences emerged between the two groups with respect to the severity of somatic symptoms, anxiety, depression, and fatigue," they reported. "Moreover, mean total scores for both groups were at a comparable level to mean scores for the general population. Our investigation of the psychological stress of health care professionals in a Western tertiary care center showed that a well-trained and dedicated team can cope well with the stress of caring for a severely ill Ebola patient."

While the patient was in the isolation unit, working shifts lasted up to 12 hours, consisting of 2 periods with 3–4 hours of work while wearing personal protective equipment in addition to time spent disinfecting.

"Most respondents felt that these shifts were too long," the authors note. "We therefore suggest that shift durations should be decreased to 8 hours comprising 2 blocks of 2 hours each for direct patient contact. Shorter shifts should improve staff satisfaction with the working conditions and potentially increase the personal safety of all health care personnel involved in direct patient contact."

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dozens of people throughout the THR system," the lawsuit claims. On the day the lawsuit was filed, THR sent a letter to employees saying it had Pham's consent to share the information about her that was released.

• Was Pham a PR pawn?

The lawsuit alleges that THR invaded Pham's privacy repeatedly and videotaped her without her consent on the day she was to be discharged for continuing treatment at an NIH hospital.

"THR, through its agents, intentionally intruded on Nina's solitude, seclusion and private affairs when Nina was in a life-or-death situation. It would be highly offensive to a reasonable person that a patient, like Nina, would be in isolation with a highly communicable and lethal virus, and yet here THR was disclosing highly personal medical information about her, filming her without her informed consent, and generally attempting to use her for purposes of THR's public relations," the suit alleges.

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Bioethics panel: Ebola quarantines of asymptomatic health workers 'morally wrong'

APIC: 'Quarantine can be traumatic, with serious financial and psychological hardships'

The misguided attempts to quarantine asymptomatic health care workers returning from fighting Ebola in West Africa last year were unethical and counterproductive, a federal bioethics group concluded in a recent report.[1]

"Needlessly restricting the freedom of expert and caring health care workers is both morally wrong and counterproductive -- it will do more to lose than to save lives," says **Amy Gutmann**, PhD, chair of the Presidential Commission for the Study of Bioethical Issues (Bioethics Commission). "The Ebola epidemic in western Africa overwhelmed fragile health systems, killed thousands of people, and highlighted major inadequacies in our ability to respond to global public health emergencies. It demonstrated the dire need to prepare before the next epidemic. A failure to prepare and a failure to follow good science — for example, by not developing vaccines and not supporting health care providers — will lead to needless deaths."

Future epidemics and public health emergencies should be guided by the ethical principle of "least infringement," which means "any restrictive measures should be grounded in the best available scientific evidence and restrict individual and community liberties only so much as is necessary to protect public health," the panel recommended. "These measures should not present unnecessary barriers to movement of health care workers to and from affected areas so that they can contribute their skills to the management of the public health emergency and other health problems."

Widespread panic

After the first U.S. case of Ebola onset in a patient last year, two Dallas nurses were occupationally infected. Ebola fears began to triumph over science, particularly when the Dallas incident was followed by an asymptomatic physician out and about in New York City before developing symptoms related to his care of Ebola patients in West Africa. Though he was monitoring for symptoms and presented for care appropriately, some states enacted or proposed 21-day quarantines for health care workers returning from the epidemic frontlines in West Africa. The three-week duration was to cover the outer limits of the incubation period of the virus, but these restrictions ignored the fact that Ebola is not transmissible in the absence of symptoms. Indeed, they reinforced the incorrect fear-based perception that asymptomatic health care workers who treated Ebola patients could transmit the virus.

The CDC recommended self-monitoring policies and "individualized assessment" of health care workers who treated Ebola patients based on their risk of exposures: high risk (i.e., needlestick); some risk (close contact with someone with symptoms); and low, but not zero risk (air travel with a symptomatic patient). Based on the risk assessment, monitoring, travel

restrictions and other control measures are recommended as health care workers report to their state health departments. The CDC ultimately prevailed, but it appeared for a while that health care workers would refuse to volunteer to fight the epidemic if they were going to be quarantined for three weeks upon return. In fact, this actually happened while the quarantines were still in place, according to a nurse who participated in one of the Bioethics Commission hearings. Having previously completed a deployment to Africa, **Kate Hurley**, RN, MBA, MSN, was asked by the World Health Organization if she would return for a brief 10-day stint.

"I've come back from West Africa, I've integrated back into my job," said Hurley, an ICU nurse manager at Providence St. Patrick Hospital in Missoula, MT. "So you look at it economically, okay, can you leave your job for another ten days? Sure. You look at it socially. Can you leave your teenage children at home? Well, maybe. But you decide that probably socially and economically, that you could probably leave for ten days. So you're ready to make the decision, and then you know what flashes in the back of your head? Twenty-one days [in quarantine upon return]. Twenty-one days. I declined — not based on economic or social issues — but based on the lack of clarity in what happens to someone when they come back [from West Africa].

Another factor in the Draconian quarantine laws was the buildup to Nov. 4, 2014 midterm elections, with Ebola inevitably seized upon in all the hype and rhetoric. Future outbreaks are going to be difficult to contain if CDC recommendations are ignored, which is essentially what the proposed and enacted quarantine laws did.

"We are in a period where we don't have a lot of trust in government because the government hasn't been functioning well," says **Eddie Hedrick**, MT(ASCP), CIC, project coordinator in the state Bureau of Communicable Disease Control & Prevention in Columbia, MO. "The political aspects of the quarantine they put on that young nurse from Maine polarized people. A lot of people looked at her as being some kind of pariah and others on the other side recognized what was happening — that these guys were using this for political gain. It just further divided people."

Political tactic: Fear

That nurse was **Kaci Hickox**, RN, who was detained at Newark (NJ) Liberty Airport for three days in a tent with a portable toilet. "I was quarantined against my will by overzealous politicians after I volunteered to go and treat people affected by Ebola in West Africa," she wrote in an op-ed piece for the *Guardian* newspaper in London.[2] "My liberty, my interests and consequently my civil rights were ignored because some ambitious governors saw an opportunity to use an age-old political tactic: fear. [NJ Gov. Chris] Christie and my governor in Maine, Paul LePage, decided to disregard medical science and the constitution in hopes of advancing their careers. They bet that, by multiplying the existing fear and misinformation about Ebola – a disease most Americans know little about – they could ultimately manipulate everyone and proclaim themselves the protectors of the people by "protecting" the public from a disease that hasn't killed a single American."

Employee health, nursing and infection control groups came out against the harsh measures initially adopted in New York and New Jersey. The American Nurses Association opposed the mandatory quarantine of health care professionals urging "authorities to refrain from imposing more restrictive conditions than indicated in the CDC guidelines, which will only raise the level of fear and misinformation that currently exists."

The Association for Professionals in Infection Control and Epidemiology (APIC) noted in comments submitted to the Bioethics Commission that "there is no scientific basis to justify placing a person who had contact with an infectious patient, but is currently asymptomatic into quarantine. … The experience of isolation during quarantine can be a traumatic experience for individuals, with serious financial and psychological hardships reported. In the absence of scientific evidence of a public health benefit to quarantine, we believe the ethical consideration of curtailment of personal liberty must be the primary deciding factor. Fear and anxiety increase when the general public lacks understanding of the science behind movement restrictions or quarantine recommendations."

APIC recommended that quarantine and travel restrictions be consistent with CDC recommendations, discouraging autonomous actions by individual municipalities or states which can create confusion and anxiety. ■

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Ebola fear and stigma of health care workers echoes early days of AIDS in the 1980s

'A toxic mix of scientific ignorance and paranoia'

After the index case of Ebola in the U.S. died and two nurses who treated him in a Dallas hospital became infected, there was an outbreak of irrationality that spread as rapidly as any epidemic.

People that had merely visited Dallas, miles from the hospital involved, were told not to return to work. Incinerated waste, burned beyond viral recognition, was not allowed to cross state lines to a landfill. People wore hazmat suits at airports and every passenger on a plane with even symptomless Ebola on board was perceived to be in grave danger. Yet no person on any plane acquired Ebola from a fellow passenger.

Some of the same themes seen with Ebola characterized the early days of AIDS — stigmatization of certain groups, mistrust of public health officials, rumors of airborne spread and a litany of other falsehoods and fears that undermined the response to the epidemic.

Two AIDS activists said the reaction to Ebola — a "toxic mix of scientific ignorance and paranoia" — was very much reminiscent of AIDS in the 1980s.[1] They reminded where such fears can lead, as at one point the *New York Times* actually published an op-ed piece wherein the late William F. Buckley Jr. proposed in apparent seriousness that everyone detected with AIDS should be tattooed in the upper forearm."[2]

In terms of the threat to health care workers, there were occupational HIV infections due to needlesticks and blood exposures that were tantamount to a death sentence before the first treatments and post-exposure prophylaxis regimens were available.

"Those of us who are HIV-positive and have survived all these years owe a deep debt of gratitude to health care workers," the AIDS activists wrote. "None of us would be alive today if it were not for their generosity and passion for their work and their willingness and even eagerness at the start of this plague to treat some of our country's most marginalized populations, including gay men, drug users, and sex workers."

Yet these providers — some of whom acquired HIV trying to treat the first AIDS patients – were subjected to threats and witch hunts that could mean a loss of livelihood if their infection was discovered.

This era reached a fever pitch in 1990 when the Centers for Disease Control and Prevention reported provider transmission of HIV to six patients in a Florida dental practice.[3] At one point during the heated debate, Sen. Jesse Helms (R-NC) introduced an amendment — which the Senate approved by a vote of 81-18 — calling for a minimum 10-year prison term for HIV-infected health care workers who perform invasive procedures without informing patients. A compromise was eventually reached involving expert review panels for infected providers, but fear triumphed over reason for much of this unfortunate chapter in American medicine.

An infection preventionist for decades before he transitioned into public health, **Eddie Hedrick**, MT(ASCP), CIC, has seen these recurrent themes emerge in outbreaks and pandemics.

"Every outbreak that I've been involved in — going back to 1976 with Legionnaires, swine flu, all these major epidemics — we do three predictable things," says Hedrick, project coordinator in the state Bureau of Communicable Disease Control & Prevention in Columbia, MO. "First, we want to quarantine people because we always feel [safer] if they are over there and we are over here. Most of the time that is a false sense of security because the majority of diseases are contagious before you show signs and symptoms. With Ebola, that doesn't appear to be the case, however people continue to believe that."

The second common response is a tendency toward overkill in donning personal protective equipment (PPE), which paradoxically may increase risk because it increases the likelihood of contamination when the equipment is removed. This is particularly true if there has been only a cursory review of donning and doffing the PPE, which was no doubt the case in many hospitals before the first case of Ebola was admitted for treatment.

"Training is everything," Hedrick says "I worked with some emergency response people recently who I thought were highly skilled. They put on hazard suits and much to my dismay they really weren't [prepared]. All of them contaminated themselves taking the PPE off. If people don't do this a lot they don't get very comfortable with it."

And the third recurrent response to a pandemic or an outbreak in Hedrick's trifecta? The assignation of blame. "That depends on the scenario, but if you go back to plague, the rich blamed the poor. Go back to HIV we blamed the gay community and the drug abuse

community," he says. "With H1N1 we blamed Mexico. It even happens in hospitals — the hospital blames the nursing home for MRSA [infections] and the nursing home blames the hospital." ■

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As measles cases head for record case count, employee health must ensure HCW immunity

'[Misinformed parents] are putting their children and others in harm's way'

Amid what could well be another annual record for measles in the post-vaccination era by the end of 2015, employee health professionals must ensure that staff are immunized to avoid the chaos that can ensue when a single undiagnosed case enters a hospital.

"It has become clear that we are in the midst of a larger, very disturbing trend," the Pediatric Infectious Diseases Society said in a recent statement on the situation. "Despite the fact that measles was eradicated from the United States 15 years ago, this country had 644 measles cases in 2014, more than in any year since 1994. 2015 is now on pace to well exceed that number."

There is little doubt that some of the infections and outbreaks can be traced to the influence of a high profile anti-vaccine movement that cites discredited research in falsely linking the MMR (measles-mumps-rubella) vaccine to autism. "It is a tragedy that some parents, often because of misinformation they may have received from friends, colleagues, or the Internet, are putting their children and others in harm's way by refusing to vaccinate," the Pediatric ID group said.

From January 1 to March 20, 2015, 178 people from 17 states and the District of Columbia were reported to have measles, the Centers for Disease Control and Prevention reports. Most of these cases -- 131 (74%) -- are part of a large, ongoing multi-state outbreak linked to Disney Land in Anaheim, CA.

The current situation is characterized by the volatile combination of pockets of non-immunized populations and travelers coming into the country from areas where measles is much more common. Given measles legendary transmission ability, a measles case reaching these non-vaccinated groups is like throwing a lit match on gasoline.

As a result health care facilities must be vigilant for measles introductions, with employee health ensuring that all workers have presumptive evidence of immunity, the CDC recommends.[1] This information should be documented and readily available at the facility. Recently vaccinated health care workers do not require any restriction in their work activities. According to the CDC, presumptive evidence of immunity to measles for persons who work in health-care facilities includes any of the following:

- written documentation of vaccination with 2 doses of live measles or MMR vaccine administered at least 28 days apart
- laboratory evidence of immunity
- laboratory confirmation of disease
- birth before 1957.

If this information is not readily available, a measles case can set off a laborious and expensive follow-up of exposed patients and health care workers. For example, a single imported case of measles once cost two Arizona hospitals some $800,000, with much of the expense related to ensuring the immunity of employees and furloughing workers.[2]

Because of the greater opportunity for exposure, health care workers are at much higher risk than the general population for becoming infected with measles. During 2001–2008, in the 23 health-care settings in which measles transmission was reported, eight cases occurred among health care workers, six of whom were unvaccinated or had unknown vaccination status, the CDC reports. One health-care provider was hospitalized in an intensive care unit for 6 days from severe measles complications.

One of the first steps clinical leaders at the University of Chicago Medicine Comer Children's Hospital in Chicago, IL, took upon being notified of a measles outbreak in the region was to check to make sure all frontline personnel and ED staff were protected from the virus.

"Our occupational medicine folks went back and double checked all of the records of everyone who works in our adult and pediatric EDs and all of the rest of our pediatric providers, to verify that we did have documentation [showing that all staff were immune to the virus]," explains **Allison Bartlett**,

MD, MS, an assistant professor of pediatrics and the associate medical director for the Infection Control Program at Comer Children's Hospital. "That is a reassuring thing from a staff standpoint."

In addition to these steps, measles has been added to the telephone screening procedures for patients calling into the health system's outpatient clinic. "Our appointment schedulers, who routinely ask Ebola travel-related questions, have added a couple of questions about fever, cough, runny nose, rash, and red eyes," says Bartlett. "If they get some positive answers to those questions, we are referring the call to a clinic nurse to do an additional round of screening."

If the clinic nurse suspects that any of these patients have measles, she will guide them toward the ED rather than a clinic appointment. "The [outpatient clinic] is less equipped to handle [measles cases]," she says. "So unless we become overwhelmed, our plan is to have these patients seen in the ED where we have a negative pressure room, and we can have better control over the situation for evaluating them."

A history of international travel should raise a red flag in a patient presenting with the common measles symptoms of fever and rash, says **Carl Schultz**, MD, FACEP, a professor of clinical emergency medicine at the University of California at Irvine Medical Center.

"The spark that usually starts these [measles outbreaks] rolling is somebody from outside the country because measles is much less controlled outside [the United States]," he says. "So if a U.S. citizen goes abroad and then returns to the U.S. with an infection, a fever, and a rash, or someone from another country comes to the U.S. with a fever and rash, that would be the time to consider measles."

The hospital is at the epicenter of the current measles outbreak, and has taken several steps to detect and prevent transmission to staff and patients, says **Kristi Koenig**, MD, FACEP, FIFEM, a professor of emergency medicine at the UC Irvine Medical Center in Orange, CA.

The emergency department has put up signs directing patients who have a rash and other common symptoms to use an alternate entryway rather that coming in through the main triage area where everybody else enters. "We have tried to get people to self-isolate if they are ill with concerning symptoms until somebody is able to evaluate them," says Koenig. "Then the person on the front lines doing the evaluation needs to have that awareness as well."

Indeed, many health care workers may not recognize the classic childhood infection. "Measles can mimic other childhood rashes or rashes of any sort --so it is not necessarily something we would think of unless there is awareness," says Koenig. "Measles starts on the head and the face and moves downward, as opposed to some other rashes that might start on the torso or the lower extremities and move upward."

Further complicating prevention efforts is the fact that patients with measles can be symptomatic before the rash appears. Measles is an airborne virus infamous for its ability to spread.

"It is probably the most contagious disease we know," says Koenig. "Nine out of 10 people [exposed to the virus] would get it if they are susceptible, and [the virus] can live on surfaces [or in the air] for up to two hours after a [measles] patient has left the room." ■

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MMR and autism: Myth and misinformation

'There's every reason to believe that you could see diseases like polio come back'

An anti-vaccine movement that has been amplified by the Internet and endorsed by vocal celebrities has created a persistent public fear that the measles-mumps-rubella (MMR) vaccine causes autism in children.

As a result, some parents are avoiding MMR immunization of their children, joining other groups that reject the vaccine out of religious or personal beliefs. Unvaccinated travelers to areas of measles outbreaks (e.g., the Philippines) can bring the highly contagious disease home, where transmission may explode in one of these groups that has rejected immunization.

The Immunization Action Coalition (IAC) in Saint Paul, MI, a group that is funded by and affiliated with the Centers for Disease Control and Prevention, states the following: "There is no scientific evidence that measles, MMR, or any other vaccine causes autism. The question about a possible link between MMR vaccine

and autism has been extensively reviewed by independent groups of experts in the U.S. including the National Academy of Sciences' Institute of Medicine. These reviews have concluded that there is no association between MMR vaccine and autism."[1]

Recent estimates from the CDC's Autism Developmental Disabilities Monitoring network found that about 1 in 68 children born in 2002 have autism spectrum disorders. This estimate is higher than estimates from the early 1990s, the CDC reports.[2]

"Over the years, some people have had concerns that autism might be linked to the vaccines children receive," the CDC states. "One vaccine ingredient that has been studied specifically is thimerosal, previously used as a preservative in many recommended childhood vaccines. However, in 2001 thimerosal was removed or reduced to trace amounts in all childhood vaccines except for one type of influenza vaccine, and thimerosal-free alternatives are available for influenza vaccine. Evidence from several studies examining trends in vaccine use and changes in autism frequency does not support such an association between thimerosal and autism."

Indeed, the fact that autism has increased after thimerosal was largely removed from vaccines has led one study to conclude that the "increased prevalence of autism may be attributable to improved diagnostic criteria and increased awareness of autism."[3]

Though there have been concerns about various vaccines since the era of immunizations began, the current controversy linking autism to MMR vaccine can be traced to a 1998 paper in the British journal *The Lancet* that was subsequently retracted.[4] In retracting the article in 2010, the journal stated that "claims in the original paper that children were consecutively referred' and that investigations were approved' by the local ethics committee have been proven to be false. Therefore we fully retract this paper from the published record."[5]

Nevertheless, the damage done continues to echo on the Internet, where concerned parents may find a wealth of misinformation circulated by anti-vaccine groups.

Paul Offit, MD, a vaccine researcher and chief of the infectious disease department at Children's Hospital of Philadelphia, has led the fight against the growing anti-vaccine movement. He says the retracted Lancet paper "gave birth to the general idea that vaccines could cause autism. I think that will not go away until we know what the real cause or causes of autism are."

In the interim, Offit warns that childhood diseases could become reestablished and even polio could return through imported cases.

"We've seen outbreaks of pertussis," he says. "I think there's every reason to believe that you could see diseases like polio come back in the United States. It is certainly in the world, and international travel is common."

In his book, "Deadly Choices: How the Anti-Vaccine Movement Threatens us All," Offit offers a sobering reminder of the pre-vaccine era:

"In the early 1900s children routinely suffered and died from diseases now easily prevented by vaccines. Americans could expect that every year diphtheria would kill 12,000 people, mostly young children; rubella, (German measles) would cause as many as 20,000 babies to be born blind, deaf or mentally disabled. Polio would permanently paralyze 15,000 children and kill 1,000, and mumps would be a common cause of deafness. Because of vaccines all of these disease have been completely or virtually eliminated. But now because more and more parents are choosing not to vaccinate their children some of these diseases are coming back."[6]

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COMING IN FUTURE MONTHS

- Live from Nashville: Hospital employee health issues discussed at the annual APIC conference
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HOSPITAL EMPLOYEE HEALTH

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CNE QUESTIONS

1. **A lawsuit by Nina Pham, RN, against Texas Health Resources (THR) includes which of the following allegations?**

   A. She did not volunteer to treat an admitted Ebola patient
   B. She was misled about the patient's condition and the risk of infection
   C. She was completely unprepared to treat an Ebola patient.
   D. All of the above

2. **In a German study, health care workers who cared for an Ebola patient had stress levels three times higher than colleagues not involved in Ebola care.**

   A. True
   B. False

3. **According to the CDC, presumptive evidence of immunity to measles for health care workers includes birth before which year?**

   A. 1970
   B. 1962
   C. 1957
   D. 1953

4. **A single imported case of measles cost two Arizona hospitals some $800,000, with much of the expense related to:**

   A. placing all suspect patients in negative pressure isolation rooms
   B. vaccinating hundreds of health care workers and patients
   C. ensuring the immunity of employees and furloughing workers
   D. legal settlement with the family of a bone marrow patient who died after contracting measles

CNE OBJECTIVES

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

1. Identify particular clinical, administrative, or regulatory issues related to the care of hospital employees;
2. 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;
3. 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.