



Hospital Employee Health®

THE PRACTICAL GUIDE TO KEEPING HEALTH CARE WORKERS HEALTHY

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Underreporting puts HCWs at risk of the unknown

Occ illnesses are poorly understood, tough to track

Hospital workers are far more likely than employees in any other industry to develop an occupational illness. In 2010, the U.S. Bureau of Labor Statistics logged about 17,000 such illnesses in hospitals. Yet safety experts say it’s still just the tip of the iceberg. No one knows just how big that iceberg is.

“Occupational illness” is a catch-all category of events that develop over time. It includes work-related dermatitis that requires medical treatment, asthma triggered at work, and even carpal tunnel syndrome.

But here are a few things that often aren’t captured in the data as work-related illnesses in hospitals: Seroconversions that are detected months after an exposure, respiratory ailments such as pertussis or influenza, latent tuberculosis infections that aren’t treated.

Even when the link between an exposure and an illness is clear-cut, a lack of urgency in reporting puts employees at risk for serious illness. In a 2009 incident in Oakland, CA, first responders and emergency department personnel didn’t receive prophylaxis because they didn’t know they were exposed to a patient with meningitis. The hospital, Alta Bates Summit Medical Center, waited three days to report a suspected case and seven days to conduct an exposure analysis and contact potentially exposed employees, according to the California Department of Industrial Relations

Special report: Risk of Infections

Health care workers face an occupational risk of infections but because of underreporting, this risk is often underestimated. In this special issue of HEH, we examine the problem of occupational illness, including the challenges of health care worker vaccinations and TB screening. The risk of transmission isn’t just from patients to health care workers. We also share lessons learned from outbreaks of hepatitis C in health care facilities in which infection control breaches put patients at risk.



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Occupational Safety and Health Division (Cal-OSHA). A respiratory therapist and police officer contracted meningitis and are now unable to work due to a resulting disability. (See related article on p. 112.)

“There was an assumption made that people were all using PPE [personal protective equipment] and therefore they didn’t need to do anything further,” says **Deborah Gold**, CIH, MPH, deputy chief of health and engineering services for the California Department of Industrial Relations (Cal-OSHA) in Oakland, which fined the hospital \$84,450. “Almost no one was actually using PPE.”

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Editorial Questions

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AHC Media

Ken Rosenman, MD, an expert on occupational injury reporting, has analyzed emergency room records and other data sources to detect work-related amputations, burns and skull fractures. Only one-third of the amputations and burns are being captured by the U.S. Bureau of Labor Statistics reporting system, which is based on OSHA logs, he says.

Underreporting is almost certainly much greater in the more subtle area of occupational illness, says Rosenman, who is chief of the Division of Occupational and Environmental Medicine in the Michigan State University College of Human Medicine in Lansing.

“The basic premise of prevention is knowing where and how adverse events occur. Once you know that, you can intervene. You can prioritize,” he says.

“If you have inadequate reporting at a national level, it means there are not enough resources given to occupational injuries and illnesses. You may be targeting the wrong things. At an individual employer or hospital, the CEO may say, ‘What’s the big deal? We’ve got such low rates this is not a problem.’”

Nurses died of SARS, H1N1

It has been 9 years since SARS (Severe Acute Respiratory Syndrome) revealed just how vulnerable health care workers are to unrecognized or newly emerging infectious diseases. In hospital-based outbreaks in Toronto, China, Hong Kong and Singapore, 378 health care workers became ill, which was 57% of all hospital-acquired SARS cases.¹ Two Toronto nurses died of SARS.

Hospital workers need to be protected from infectious agents even when the nature of the risk is not fully known, the SARS Commission of Ontario declared in a 2007 report. “[R]easonable steps to reduce risk should not await scientific certainty,” it said.²

That “precautionary principle” is still not being followed in Canada or the United States, says **Gabor Lantos**, MD, P.Eng, MBA, president of Occupational Health Management Services in Toronto and a consultant to hospitals. The policy seems to be “if [the risk] is not proven, don’t do anything or do next to nothing. Do something that someone thinks would suffice,” says Lantos. “Overall, I would say even if there is a respirator program, the rigor is lacking. It’s simply lacking.”

Four nurses died of H1N1 in the early months of the pandemic. One, a California nurse who had

been a triathlete and marathon runner, developed pneumonia and a severe respiratory illness related to H1N1, with methicillin-resistant *Staphylococcus aureus* (MRSA) infection as a contributing factor.

Cal-OSHA tried to investigate H1N1-related deaths among nurses but struggled to establish the clear occupational link. “If there’s an exposure that’s potentially both in the community and in the workplace, the question is whether you can meet the threshold of causation,” says Gold. “We didn’t find that we could prove transmission.”

A study of 63 health care workers exposed to six of the first eight cases of lab-confirmed pandemic H1N1 in the United States found that nine (14%) health care workers were serologically positive but only three developed influenza symptoms.³

“Use of either a mask or a N95 respirator appeared to be effective in mitigating healthcare-associated H1N1 transmission,” the researchers found. But only 10% of the health care workers

consistently wore a mask or N95 respirator during pandemic H1N1 patient encounters. In fact, 68% of outpatient health care workers and 9% of inpatient health care workers reported using no PPE during contact with pandemic H1N1.

Health care workers need better infection prevention training and N95 readiness, the authors concluded.

Infections are a top worry

Nurses are worried about acquiring an infection at work. It is their third-greatest health and safety concern, according to a 2011 survey of 4,614 nurses by the American Nurses Association. (Stress/overwork and disabling musculoskeletal injuries were the top concerns.)⁴

Almost one in five of the nurses had taken days off from work in the past year due to an occupational illness, the survey found — about twice as

Occ illness? It’s in the eyes of employer

What defines an occupational illness? It’s up to the employer to make that decision. The U.S. Occupational Safety and Health Administration has a specific reporting category for certain illnesses: skin disorders, respiratory conditions, poisoning, and hearing loss. Anything that is not in one of those categories would be recorded as “other illness.”

An OSHA spokesperson offered some advice about recording illnesses:

Record all needlesticks but not all splashes. Any sharps injury that involves a needle or object that was contaminated with a patient’s blood or other potentially infectious material must be reported on a sharps log and the OSHA 300 log, even if the patient does not have a bloodborne pathogen. (The OSHA 300 log can serve as the sharps injury log if the sharps injuries can be segregated easily from other injuries. They are privacy cases so the employee’s name should not appear on the log.) A needlestick is considered to be a puncture (injury) unless an infection develops. If an employee develops an infection and receives medical treatment, the log should be updated. Splashes of blood and body fluid do not need to be reported unless the employee develops an infection and requires medical treatment.

Record positive TB tests as a “respiratory condition” even if there is no treatment. For a positive

TB test to be work-related, there needs to be an exposure at work. That could occur if there was someone in the work environment with tuberculosis, even if the employee didn’t have direct contact with them. It is not recordable if the worker lives in a household with someone who has active TB, if public health authorities identify the employee as a contact of someone with active TB outside of work, or if a medical investigation demonstrated that the TB infection was caused by an exposure outside of work.

Record pertussis but not the common cold or flu. OSHA specifically excludes the common cold or flu from recordkeeping. However, employers were required to record confirmed cases of pandemic H1N1 if it was related to a work exposure and required treatment or days away from work. Employers also must report other infectious diseases linked to work exposures that require treatment or days away from work, such as pertussis — even if the illness also exists in the community.

Record a work-related asthma attack as a “respiratory condition.” If the employee has a pre-existing condition, such as asthma, but it is triggered by a work exposure, such as cleaning or disinfecting chemicals, and it requires medical treatment, that is a recordable case. Work does not have to be the sole cause. ■

many as reported lost work time for occupational injuries.

Yet according to the U.S. Bureau of Labor Statistics, there were 14,190 occupational injuries among nurses that required time away from work but just about 750 occupational illnesses that resulted in lost workdays.

There are other indications that occupational illnesses are underreported. A Congressional report noted that it is particularly difficult to connect occupational illnesses to work exposures.⁵

In a National Emphasis Program, the U.S. Occupational Safety and Health Administration (OSHA) found errors in half of all injury and illness reports. Most of them were minor, but some were cases that employers had failed to document, an OSHA spokesperson told *HEH*.

The National Institute for Occupational Safety and Health (NIOSH) has just begun an investigation of reporting, with an emphasis on occupational illness. Researchers will conduct surveillance at 60 emergency departments across the country and seeks to interview about 3,000 workers.

There are a myriad of reasons that occupational illnesses are underreported, says **Larry L. Jackson**, PhD, chief of the Injury Surveillance Team of NIOSH's Surveillance and Field Investigations Branch in Morgantown, WV.

If the disorder develops over time or it's an exacerbation of a chronic condition, the employee may not report it as work-related. Or the employer may fail to place it on the OSHA 300 log.

Yet understanding the problem of occupational illness is a critical first step toward prevention, he says. "You may be applying the wrong infection control if you do not understand the true magnitude or exposure routes," he says.

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Failure to report has life-threatening result

HCW left with permanent disability

Lack of reporting of infectious disease exposures may also result in a lack of treatment. And that can have serious, even deadly, consequences.

On Dec. 3, 2009, respiratory technician **Suheil "Sam" Saliba** helped intubate a patient who had been discovered unconscious in his home. Meningitis was suspected, and by the next day, lab tests on spinal fluid suggested that's what it was.

By Sunday, Dec. 6, the case was confirmed, but Alta Bates Summit Medical Center in Oakland waited until Monday, more than 24 hours later, to report the case to the local health department, according to the California Department of Industrial Relations Occupational Safety and Health Division (Cal-OSHA). The hospital never notified the Oakland police department or fire department, and it didn't conduct an exposure analysis until Saliba and a police officer were admitted to the emergency department of a different hospital with meningitis.

Both men recovered, but are on permanent disability. Saliba told local reporters that he has permanent hearing loss, joint damage, memory loss and cognitive impairment from neurological damage related to the illness. "I've been through a lot," Saliba said.

Cal-OSHA uncovered three other cases of delayed reporting of meningitis and active tuberculosis and two other cases without timely exposure analysis.

"There was a lack of urgency — there needs to be a sense of urgency," says **Deborah Gold**, CIH, MPH, deputy chief of health and engineering services for Cal-OSHA in Oakland.

Gold notes that the state's Aerosol Transmissible Disease Standard, the only one of its kind in the country, requires exposure investigations to begin within 72 hours. Meningitis also is a reportable disease to the health department. The federal Ryan White HIV/AIDS Treatment Extension Act

of 2009 requires reporting of certain life-threatening diseases to emergency responders.

“We’ve been trying to use this as an instructional moment to reach out to people in other hospitals and health care systems to make sure they understand the importance of this reporting system,” she says.

“Without that initial reporting and notification, you’re not going to take the other important actions to prevent disease, particularly with meningitis where the incubation period is short and the effects of getting the disease are significant,” she says. “It’s a disease that needs to be taken seriously.”

New focus on other diseases

Traditionally, infection control and employee health departments have focused on tuberculosis and bloodborne pathogens as the major infectious disease risks to health care workers. It’s time to pay more attention to diseases spread by aerosols and droplets, says Katherine West, MSEd, CIC, BSN, who specializes in working with first responders as a infection control consultant in Manassas, VA.

“We’re at a historic low for TB cases in this country. I don’t see that as a [major] issue,” she says. “It’s time to move beyond TB and bloodborne pathogens and make sure we’re covering the airborne and droplet diseases. Some of them reported in higher numbers than bloodborne pathogens.”

It’s critical for hospitals to alert first responders to potential exposures, as well as employees, she says. “I realize facilities are overworked right now with data collection and their responsibility to bring down [the rate of] hospital-acquired infections, but they’ve got to include all members of the health care team [in reporting and exposure analysis],” she says. “That includes fire rescue and law enforcement as well.”

In addition to reporting problems, West sees problems with inadequate training of health care workers related to infection control. “It’s like everybody’s looking for the quick fix,” she says. “Well, that will come back to haunt you most times.”

The U.S. Occupational Safety and Health Administration has announced its intention to create an infectious disease rule, although the agency has yet to issue a draft version of the rule. It is likely to be patterned after California’s Aerosol Transmissible Disease Standard.

In comments to OSHA, Cal-OSHA urged the federal agency to provide additional protections to health care workers related to infectious diseases:

“All employers are faced with decisions regarding the prioritization of resources,” noted then-Cal-OSHA chief Len Welsh. “We have been told by employers that the existence of the ATD regulation has been used to require sites where outbreaks have occurred to conduct exposure investigations that the local management would otherwise have declined to do...”

The failure to provide prompt reporting and exposure analysis demonstrates the need for regulation, Welsh said. “Although the state mandates reporting of infectious diseases, until the passage of this standard there was no easily available civil enforcement mechanism.” ■

Pertussis surges, but HCW vaccination lags

Nation on track for most cases since 1959

As the nation faces the largest outbreak of pertussis in 50 years, the rate of vaccination of health care workers languishes at about 20%.

By mid-July, 18,000 cases had been reported to the Centers for Disease Control and Prevention in Atlanta, with the largest outbreaks in Washington state and Wisconsin. Infants are especially at risk; so far this year, nine babies have died of pertussis.

Yet vaccination coverage with Tdap, the pertussis booster that also contains tetanus and diphtheria vaccine, has remained low among health care workers. Vaccination is most critical for health care workers who care for infants and pregnant women, but the CDC recommends Tdap vaccination “as soon as feasible” even for health care workers who recently received a tetanus booster.¹

From 2005 to 2010, only 20.3% of health care workers received the vaccine, according to the National Health Interview Survey.

To boost vaccination, Washington state sent reminders to all licensed health care professionals. An awareness campaign, with billboards and ads on television, radio, buses and social media, is urging all adults to receive the pertussis vaccine. “We hope everyone is getting the message about the vaccination,” said Washington Secre-

tary of Health **Mary Selecky** in a press briefing.

Overworked at epicenter

Skagit County was an epicenter of the epidemic, with the highest rate of pertussis in the country. Skagit Valley Hospital in Mount Vernon, WA, scrambled to verify the vaccination status of employees, especially those who said they had received the vaccine elsewhere.

At the beginning of the epidemic, only about a third of hospital employees had received Tdap. By mid-July, that number had jumped to 67%.

Employee health nurse **Greta Ashley**, RN, BSN, CIC, used peer vaccinators and other strategies from the annual influenza vaccination playbook. But the pertussis response has been overwhelming.

Even vaccinated employees who have an unprotected exposure to a patient with pertussis should have antimicrobial prophylaxis or be monitored daily for symptoms for 21 days, according to CDC guidelines. Employees who have had an exposure and develop symptoms should be furloughed for five days, CDC says.

Ashley had to put other employee health projects on hold and worked 50-hour weeks to keep up with the pertussis response. She is the only employee health nurse for 1,800 employees and 400 volunteers.

She did find a receptive audience in the employees. Even some who balk at the influenza vaccine have come to get their Tdap, she says. "There is a sincerity about trying to protect the infants," she says.

Vaccine isn't 'perfect'

The Washington outbreak has highlighted some concerns about the durability of the pertussis vaccine. Cases have spiked among 13- and 14-year-olds, which might be a sign of waning immunity from childhood vaccines, says **Anne Schuchat**, MD, director of CDC's National Center for Immunization and Respiratory Diseases.

CDC recommends booster shots for 11- and 12-year-olds. But a change in the vaccine may be another factor, says Schuchat. In 1997, in an effort to avoid some potential adverse effects, the United States switched from a whole cell vaccine to an acellular vaccine. The switch "might have done something to impact how long the vaccines last," Schuchat said at a press briefing.

Meanwhile, the vaccine is only about 66% to 78% effective, which is why even vaccinated health

care workers need prophylaxis after an exposure.¹

For now, CDC recommends only a one-time booster for health care workers. But with further research, CDC is investigating the issue of waning immunity.

"Vaccines have done a good job at reducing the incidence of pertussis, but our pertussis vaccines are not perfect," Schuchat said in the press briefing. "They don't provide protection for as long as we wish they would. This adds to our challenges during these times of the increased disease. We wish we had better ways of controlling pertussis.

"But remember that without vaccines, we know we would have hundreds of thousands of pertussis cases each year," she said.

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Sharpen focus on TB blood tests

Scores near cutoff may be false positive

Using a blood test to screen health care workers for tuberculosis can cut your false positives by two-thirds, but it is critical to evaluate the numerical result on the test, according to members of a national TB testing task force.

While the Food and Drug Administration approved the QuantiFERON-TB Gold test with a cutoff value of 0.35, 1.1 is actually the most statistically significant trigger for recommending treatment for latent TB infection (LTBI) of health care workers, says **Wendy Thanassi**, MD, MA, chief of occupational health for the Palo Alto (CA) VA Health Care System.

Thanassi and colleagues at the University of Illinois at Chicago and the Cleveland Clinic have pooled data from 2,500 hospital workers to investigate the best treatment protocol for interferon gamma release assays (IGRAs). The Centers for Disease Control and Prevention is considering their input. (The T-Spot test, also FDA-approved, has similar issues surrounding its cut point.)

"The greatest variability in any result is right around the cutoff. Somebody is going to fall just to the left and just to the right," says Tha-

nassi, who is scheduled to speak on the topic at the annual conference of the Association of Occupational Health Professionals in Healthcare (AOHP), Oct. 3-6 in Las Vegas. “That’s, in fact, what we’re seeing in QuantiFERON.”

To avoid false positives, it is imperative to test only with an IGRA — and not to use the blood tests to “confirm” a TB skin test, says Thanassi. CDC does not recommend using both tests, but does allow for some confirmatory use.¹

“If you do a TB skin test and 72 hours later you do a blood test, the blood test will be falsely positive. That [effect] will last up to six months,” she cautions.

The TB skin test has its own flaws, notes **David Marder, MD, MPH**, director of the University Health Services at the University of Illinois Hospital and Health Sciences System in Chicago, who is also speaking at the AOHP conference session.

“[Hospitals] think they’re saving money [by using the TST],” he says. “In the long run, they’re not. They’re missing some true positives because you’ll get false negatives with the skin test.”

They’re also getting many false positives, says Marder. In the first year that he implemented QuantiFERON-TB Gold, his positives dropped by two-thirds. QuantiFERON is especially useful in testing foreign-born employees who have been vaccinated with BCG because it is more specific.

First, do no harm

Testing hundreds of health care workers annually for latent TB infection has always been challenging because it is inherently a group that is at low risk of infection.

CDC guidelines call for hospitals to conduct a risk assessment and to restrict their annual TB screening to health care workers at “medium” risk of exposure. Employees in low-risk settings receive a baseline TB test at hire.²

Health care workers with a positive TB skin test have often been reluctant to take the standard treatment for LTBI, which was isoniazid for nine months. A new, 12-week regimen of directly observed therapy with isoniazid and rifampin may improve treatment for LTBI, CDC says.³

But Thanassi and Marder caution that overtreating health care workers for LTBI can expose them to uncomfortable side effects and

serious health risks, including liver damage. To “do no harm,” Marder prefers to monitor employees closely and retest them more frequently if their TB blood tests are above 0.35 but below 1.0.

“Even the people up to almost 1 we believe are low-positive,” he says. “They probably have been exposed, but I’m not convinced they’re conversions and need to be treated.”

To make things even more complicated, the blood test has resulted in some people moving from negative to positive and then, over time, back to negative.

“When we repeated the tests on people [with results] between 0.35 and 1.0, a lot of the people reverted to negative,” he says. “Maybe it was a transient infection. I’m not sure I even understand what latent TB is anymore.”

“We think it also happens with a skin test, but when you had a positive, we never retested them.”

There have been randomized trials where they retested skin tests and some of them reverted to negative. My guess is that this is a phenomenon that occurs immunologically. And we’re in the process of understanding why this is,” he says.

Treat all positives after exposure

Thanassi also takes a cautious approach to low-positives. In its most recent guidelines on the IGRAs, CDC emphasizes the importance of clinical judgment and says, “For healthy persons who have a low risk for both infection and progression, discounting an isolated positive result as a false positive is reasonable.”

“This is an outstanding test, vitally important for the world of tuberculosis,” says Thanassi. “For this low risk, low prevalence, serially tested population, it has to be looked at differently and with a relatively critical eye.”

“If they have no risky travel and no known contact and they’re under 1.1, I just retest them the next year. If they are over 1.1, I would call them in for a retest right away. If they stay in the gray zone I would retest them every year,” she says.

“If they went up and were high, I would send them for infectious disease consultation for consideration of treatment [for LTBI],” she says.

There is an important caveat: In the case of a known exposure, even a positive result near the test cutoff would trigger treatment, says Marder.

“I don’t want to take a chance in those set-

tings. The cost would be too high if we were wrong,” he says. “Your QuantiFERON [result] can go up slowly. Maybe I just caught it at the spot where it’s converting and it’s just going up.”

Through further research, experts hope to learn more about how to interpret the TB blood test results. But Marder says that the current confusion doesn’t reflect poorly on the test itself.

“This is clinical medicine,” he says. “You have a new test. Now you have new information. We have to figure out what it means and what we’re going to offer to people [in treatment].”

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Do childhood vaccines protect young HCWs?

CDC considers options for HBV response

In the age of safer needles, vaccination and prophylaxis, the risk of hepatitis B among health care workers has dropped dramatically, from a high of about 12,000 cases a year in the 1980s to 203 reported acute cases from 2005 to 2010. Routine HBV vaccination of infants, which began in 1991, promises to make transmission from blood and body fluid exposures even rarer.

But universal vaccination also has raised some difficult questions: How do you handle young employees who had the vaccine as infants but never were tested for an immune response? Do you assume they are protected? Or do you re-vaccinate everyone? And does the HBV immunity wane over time?

A group of experts is now working to draft

advice for hospitals on handling these new issues. About 92% of infants and young children are vaccinated against HBV.

“It is a very challenging question,” says **Mark Sawyer, MD**, a pediatric infectious disease specialist from the University of California, San Diego, and chair of the hepatitis workgroup of the Advisory Committee on Immunization Practices, a panel that advises the Centers for Disease Control and Prevention. “There’s a lack of hard data on lots of things you’d like to be sure about in this equation.”

CDC currently recommends a three-dose series of HBV vaccine for health care workers. More than 90% of health care workers will respond if they receive the full series. Many non-responders will show an immune response to an additional one to three vaccinations, but a small portion (about 5%) of health care workers remains non-responders.¹

If non-responders have a bloodborne pathogen exposure and the source patient is positive for hepatitis B surface antigen, they should receive hepatitis B immune globulin and additional vaccination, the CDC says.

About 9 in 1000 source patients test positive for hepatitis B surface antibody, says **Sara Schillie, MD, MPH, MBA**, medical epidemiologist at CDC. There are about a million people in the United States who have chronic HBV infection.

Several options have emerged as CDC considers this quandary, but two were receiving the greatest focus, Schillie says:

Post-exposure protection: Document previous HBV vaccination, but don’t test for titers or revaccinate. Monitor for exposures, then screen and revaccinate employees after an exposure. “The problem with that approach is it doesn’t help people who don’t report,” says Sawyer. Only about half of all trainees and health care workers report their bloodborne pathogen exposures, according to the CDC. Employees also would need to have documentation of their HBV vaccination as infants.

Pre-exposure testing: Get a baseline test of HBV antibody levels for all employees at risk of bloodborne pathogen exposure and revaccinate those with low antibody levels. Antibody levels are known to drop in infants after vaccination, says Sawyer. “We don’t know that they’re less well-protected just because their antibody levels go down,” he says.

Another option would be to revaccinate all health care workers as trainees or new hires,

then test for antibody response, says Sawyer.

Regardless of the option chosen, hospitals still will be required to offer the hepatitis B vaccine to health care workers. That is a requirement under the Bloodborne Pathogen Standard of the U.S. Occupational Safety and Health Administration.

The CDC is conducting studies of the long-term effectiveness of the HBV vaccine. “Over time, we’ll be able to address this more clearly,” says Sawyer.

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‘Serial infector’ charged for HCV spread

CMS: Secure narcotics, use precautions

It began as an infection control nightmare in New Hampshire, but it didn’t stop there. A medical technician who worked in the cardiac catheterization lab in Exeter Hospital in Nashua was charged with diverting drugs and reusing the syringes on patients. He is hepatitis C positive, and at least 30 patients have new HCV infections that are linked to his strain, investigators report.

The accused, David Kwiatkowski, was dubbed a “serial infector” by federal prosecutors because he worked for an agency that sent health care workers to hospitals around the country. Kwiatkowski has denied diverting drugs. The medical technician worked at some 13 hospitals in eight states: Arizona, Georgia, Kansas, Maryland, Michigan, New York, Pennsylvania and New Hampshire. Investigations are proceeding at the other locations.

The case highlights the importance of pre-employment background checks and raises the issue of random drug testing of health care workers. It also underscores the risk of transmission of hepatitis C in health care settings, either through intentional drug diversion or infection control lapses, such as reuse of single-dose vials. (*See related article on p. 118.*)

Between 2008 and 2011, the Centers for Disease Control and Prevention received reports of

31 outbreaks of hepatitis B or C in a health care setting, with about 250 people infected and about 88,000 patients tested. In the Exeter case, eventually more than 4,000 patients will have been tested.

Hospitals can take steps to improve both infection control and narcotics control, says New Hampshire state epidemiologist **Sharon Alroy-Preis, MD, MPH.**

“It’s important for every hospital to look at their own processes,” she says. “Who has access to narcotics? What is the process of preparing and administering narcotics? It’s important to make sure those are very tight. You can minimize [the possibility of] drug diversion.”

Cath lab was common link

The Exeter case came to light on May 6, with a report to public health authorities of a cluster of four people with newly diagnosed acute hepatitis C. “It became clear that the common link between all of them was the cardiac cath lab,” says Alroy-Preis.

In the investigation, “we decided the most likely method was drug diversion,” she says. “In other hepatitis C outbreaks in the past, there have been infection control problems — specifically with using a single dose vial on multiple patients, reusing syringes — that we did not find in this case.”

In an investigation, it came out that a co-worker had complained on one occasion that Kwiatkowski’s eyes were blood shot and he seemed to be “on something.” Other employees noted that Kwiatkowski would come into the cardiac cath lab when he wasn’t on call, and that he appeared to be sweaty and shaky.

“In every case, concerns raised by hospital staff were evaluated, in one instance including the involvement of the hospital’s human resources team,” the hospital said in a statement. “In each of these few instances, Kwiatkowski provided plausible explanations related either to medical issues he had previously made claims about, or to family crises.”

Thomas Wharton, MD, FACC, medical director of the Cardiac Catheterization Unit, called Kwiatkowski “the ultimate con artist.”

“David had stories for everything that pulled at your heart strings and we had no reason to disbelieve him,” Wharton said in a statement. “David claimed to have several important medical conditions, and we had no reason to challenge this. The day he reportedly arrived to work with red eyes he

told us his aunt had died the night before and he had been up all night crying.”

Exeter Hospital says that Kwiatkowski had pre-employment drug testing, a national and state criminal background check, and a federal sanctions check before he began working. He also had favorable recommendations.

However, that background check did not pick up the fact that Kwiatkowski had been fired from an Arizona hospital in a case of suspected drug diversion.

Coming to a hospital near you?

What can be done to prevent such situations from happening at other hospitals? The Patients Speak, a group of victims from this outbreak, is pushing for mandatory drug testing at hospitals and a national registry or national certification for licensed health care professionals.

“It’s an incident waiting to happen at a hospital near you because the proper protocols, the proper legislative efforts, and the proper regulatory efforts are not in place,” says Elenore Casey Crane, a former state representative from Nashua who co-founded The Patients Speak with Domenic Paolini, a former cardiac surgeon who is a Boston-based malpractice attorney and has filed a class action suit on behalf of patients.

“You have people who work at Home Depot being scrutinized more than people who work in an operating room, which is crazy,” says Paolini. “If the staffing company and the hospital had done their due diligence — if they had called places where he had worked, if they had called places where he claimed to receive diplomas — it would have come out that there were problems.”

The Center for Medicare and Medicaid Services (CMS) conducted a survey at Exeter and cited the hospital for failing to sufficiently secure controlled medications. CMS also cited the hospital for lax infection control.

The hospital “failed to provide a sanitary environment and avoid sources of transmission of potential infections” and failed to have adequate policies and procedures, “allowing an employee with draining wounds to participate in an environment where invasive procedures were being performed,” CMS said. (According to news reports, this employee with draining wounds was Kwiatkowski.)

A CMS surveyor also reported observing a physical therapist who was not wearing gown

or gloves despite close contact with a patient on contact precautions.

In response, Exeter Hospital said it took additional steps to secure pain medications and re-educated staff about appropriate personal protective equipment.

Crane is looking beyond procedural changes for a cultural change that encourages hospitals and health care workers to root out incompetence and drug abuse.

“We could have stopped him, and we can’t let it happen again,” she says. “The only way we’re going to prevent this to happen to someone in a hospital near you is to put something in place that allows for tracking of the bad apples. I do believe there’s a culture of secrecy and cover up.” ■

CMS: Avoid outbreaks with infection control

Inspectors will observe actions of HCWs

Amid some high-profile outbreaks of hepatitis C, the Center for Medicare & Medicaid Services (CMS) has put health care facilities on notice that inspectors will zero in on infection control practices and observe the practices of health care workers.¹

“The hospital must provide a sanitary environment to avoid sources and transmission of infections and communicable diseases. There must be an active program for the prevention, control, and investigation of infections and communicable diseases,” CMS said in a June 2012 memorandum.

CMS will be looking at compliance with cleaning of patient rooms, hand hygiene of health care workers, use of personal protective equipment, medication injection practices, sterilization of critical equipment, high-level disinfection of semi-critical equipment, and appropriate use of patient isolation precautions.

From 2008 to 2011, 31 outbreaks of hepatitis B or C in health care settings led to the infection of about 250 people and the notification of 88,000 for testing. The major culprit: Using single-dose vials on more than one patient.

Some hospitals have reused single-dose vials because of drug shortages. CMS says hospitals

can repackage the medication in a sterile environment following USP standards. Medications cannot be repackaged on a patient care unit.

“Our policy is to cite the reuse of SDVs for multiple patients as an infection control deficiency, since this practice of reuse is in conflict with nationally recognized standards,” the memorandum says.

The most egregious case occurred in Nevada where 50,000 patients of the now closed Endoscopy Center of Southern Nevada and 13,000 at a related clinic were notified about possible exposure. Eight acute HCV cases were linked to the clinic and 106 were “possibly linked” to the reuse of single-dose vials, public health authorities said.² After one of the patients died of HCV this year, a grand jury indicted the owner (a gastroenterologist) and two nurse anesthetists on second-degree murder charges.

The Centers for Disease Control and Prevention also has cautioned health care providers that bloodborne pathogens aren’t the only infectious disease risks linked to reuse of single-dose vials on more than one patient. Improper repackaging or reuse of vials led to invasive *Staph aureus* infections in 10 patients in Delaware and Arizona after pain injections. Three of the infections were methicillin-resistant.³

The patients were hospitalized with sepsis, bacterial meningitis, and other severe infections.

In the Delaware case, which was in an orthopedic clinic, public health authorities found that two employees who prepared injections were colonized with *Staph aureus*. One had a strain that matched the outbreak strain.

CDC has launched a campaign to raise awareness about the need to use single-dose vials only on one patient.

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3. Centers for Disease Control and Prevention. Invasive Staphylococcus aureus infections associated with pain injections and reuse of single-dose vials — Arizona and Delaware, 2012. *MMWR* 2012; 61:501-504. ■

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

1. Read and study the activity, using the provided references for further research.
2. 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%.
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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.

COMING IN FUTURE MONTHS

- HC triggers of work-related asthma
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- How safe are medical laboratories?
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CNE QUESTIONS

1. A study of health care workers exposed to some of the first U.S. cases of pandemic H1N1 found that:
 - A. Respirators and masks were not associated with reduced transmission.
 - B. Respirators and masks were effective but were rarely used consistently.
 - C. Respirators and masks were not available due to shortages.
 - D. Health care workers were not at risk of transmission from patients.
2. According to the National Health Interview Survey, about what percentage of health care workers has received the pertussis vaccine?
 - A. 20%
 - B. 30%
 - C. 40%
 - D. 50%
3. According to Wendy Thanassi, MD, MA, and David Marder, MD, MPH, what is the most statistically significant result of the QuantiFERON-TB Gold test to begin recommending treatment for latent TB infection in health care workers?
 - A. 0.35
 - B. 0.70
 - C. 1.1
 - D. 2.0
4. What do current CDC recommendations advise employers to do for employees who received the hepatitis B vaccine as infants and young children?
 - A. Do not provide any further vaccination or testing.
 - B. Re-vaccinate with one dose of HBV vaccine.
 - C. Test for HBV antibodies.
 - D. Continue the three-shot series until further notice.

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