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CDC draft guidelines call for a major cutback on annual TB testing

Risk assessment gives hospitals flexibility

How hospitals test health care workers for tuberculosis infection would change fundamentally for the first time in 10 years under draft guidelines from the Centers for Disease Control and Prevention (CDC).

Hospitals that treat few TB patients could eliminate annual tuberculin testing. Hospitals that see many such patients would no longer be high risk and could reduce the testing for many employees. And hospitals could begin using a less labor-intensive, more specific blood test.

“We’ve had 11 years of declining transmission of TB,” says **Michael Iademarco**, MD, MPH, associate director for science in CDC’s Division of TB Elimination. “There was a need for revision to address the changes in the epidemiology of transmission.”

The current guidelines, issued in 1994, came amid a resurgence of TB in the 1980s and early 1990s. Infection control interventions led to a decline in hospital-based TB outbreaks and overall TB rates, although the rate of TB varies greatly around the country.

New guidelines are needed to give hospitals greater flexibility in designing their infection control response to TB, Iademarco explains. “It’s a more strategic approach, more comprehensive, that takes into account the changing epidemiology.”

The draft guidelines streamline the TB risk assessment. Instead of five risk categories, there now are just three: low, medium, and potential ongoing transmission.

“Today, there’s no reason for anyone to be anything more than medium risk,” Iademarco notes. “If you are, then you need to take more intensive steps until you get back to medium risk.”

Low-risk inpatient settings are defined as those with fewer than three TB patients in the past year (if there are fewer than 200 beds overall) or fewer than six TB patients in the past year (if there are more than 200 beds overall). A hospital may have different risk levels for different

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settings, such as the intensive care unit, the pulmonary ward, or the urgent care center.

CDC provides a risk-assessment worksheet, several examples of risk-assessment decisions, and step-by-step guidance. (For a sample of risk assessments, see p. 15. The draft guidelines are available at www.cdc.gov/nchstp/tb/Federal_Register/default.htm.)

Hospitals may need to elevate their risk classification if they have a "relatively high level of immunosuppression," such as patients with HIV or organ-transplant recipients. Hospitals would also consider the level of TB in the community, an increasing incidence of TB diagnoses, or patients

with drug-resistant strains of *M. tuberculosis*.

"In general, if uncertain about whether to classify a setting as low risk or medium risk, classify the setting as medium risk," the draft guidelines advise.

Save resources for other IC measures

The draft guidelines could be liberating for hospitals that treat few TB patients. "They'll still have to do a thoughtful comprehensive risk assessment," Iademarco explains. "If, in that careful work, they determine their risk is low, then they should have the flexibility to take their infection control resources and, in a preventive way, continue to keep it low and not be saddled with doing lower priority screenings."

In other words, those resources used to track employees and administer the skin tests now can be used for other TB infection control measures. All hospitals should provide baseline screening of all health care workers upon hire with a two-step tuberculin skin test or QuantiFERON test, the draft guidelines advise.

The reduction in TB testing also reflects another reality: "If you test low-risk people, you're going to end up with a lot of false positives," explains Henry Blumberg, MD, hospital epidemiologist at Grady Memorial Hospital in Atlanta. "The idea is not to do repeated tests in low-risk situations."

For facilities that treat larger numbers of TB patients, annual or even semiannual testing makes better sense, he says. "The test works really well when you're dealing with a high-risk population," adds Blumberg.

Hospitals that currently are considered high risk would be allowed to reduce testing from every six months to annually. "If they're a medium-risk institution, it's possible they can justify annual screening as long as they can be sure they don't have ongoing transmission," Iademarco adds.

Increased rates or a cluster of conversions on the QuantiFERON or tuberculin skin tests would classify the hospital as a facility of "potential ongoing transmission," requiring testing as frequently as every eight to 10 weeks "until lapses in infection control have been corrected and no further evidence of ongoing transmission is apparent," the draft guidelines state.

Currently, the risk assessment ranges from minimal and very low risk to high risk. Minimal risk facilities do not admit TB patients and are in communities without a reported TB case in the past year. Very-low-risk facilities do not admit TB

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Editorial Questions

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patients but may evaluate cases in the outpatient setting. Those facilities do not need to conduct routine annual TB screening tests, although if TB patients have been evaluated in the past year, health care workers in the area where they were seen would need the screening.

Consider patterns of transmission

In conducting the risk assessment, the CDC also expects hospitals to consider the realities of today's TB transmission.

TB is more prevalent among foreign-born Americans and is more transmissible among people with HIV infection. Hospitals in a rural area may not admit TB patients, but may hire foreign nurses due to the nursing shortage. That could be

a factor in considering the TB risk assessment, Iademarco points out.

"What they're worried about is the health care worker who brings TB into the hospital," he says. "Unlike the '90s, our attention is more focused on community risk factors.

"It's a different era," says Iademarco. "I think we have to recognize the success of the previous guidelines, but they needed significant updating."

The draft guidelines incorporate current trends in both TB transmission and new approaches to testing and treatment.

They add information about how to perform and interpret the QuantiFERON test. In December, the Food and Drug Administration approved the new version of the blood test, called QuantiFERON-TB GOLD. CDC promised to release

CDC's sample TB cases show hospitals how to assess risk

The Centers for Disease Control and Prevention (CDC) has provided examples of how to assess risk and determine if a health care setting should be classified as low or medium. Here are three excerpts from the draft TB guidelines, which are available at www.cdc.gov:

- A 150-bed hospital is located in a small city. During the preceding year, the hospital admitted two patients with a diagnosis of TB disease. One was admitted directly to an airborne infection isolation room, and one stayed on a medical ward for two days before being placed in an isolation room. A contact investigation of exposed health care workers by hospital infection control personnel in consultation with the state or local health department did not identify any health care-associated transmission. **Low risk.**
- The setting is a large, publicly funded hospital in a major metropolitan area. The hospital admits an average of 150 patients with TB disease each year, comprising 35% of the city burden. The setting has a strong TB infection-control program (i.e., annually updates infection-control plan, fully implements infection-control plan, and the setting has enough airborne infection isolation rooms as described [in the draft guidelines]), and an annual *M. tuberculosis* infection test conversion rate among health care workers of 0.5%. The *M. tuberculosis* infection test conversion rate is the percentage of HCWs who have converted their tuberculin skin test or QuantiFERON test results within a specified time period calculated by dividing the number of *M. tuberculosis* infection test conversions among HCWs in the setting in a specified period of time

(numerator) by the number of HCWs who received tuberculin skin tests or QuantiFERON tests in the setting over the same period of time (denominator) multiplied by 100. No evidence of health care-associated transmission is apparent. The hospital has strong collaborative links with the state or local health department. **Medium risk**, with close ongoing surveillance for episodes of transmission from unrecognized cases of TB disease, *M. tuberculosis* infection test conversions in HCWs as a result of health care-associated transmission, and specific groups or areas in which a higher risk for health care-associated transmission exists.

- A hospital located in a large city admits 35 patients with TB disease per year and has an overall HCW *M. tuberculosis* infection test conversions, for a rate of 15%. All of the respiratory therapists who tested positive received medical evaluations, had TB disease excluded, were diagnosed with latent tuberculosis infection (LTBI), and were offered and completed a course of treatment for LTBI. None of the respiratory therapists had known exposures to *M. tuberculosis* outside the hospital. The problem evaluation revealed:
 1. The respiratory therapists who converted had spent part of their time in the pulmonary function laboratory where induced sputum specimens were collected.
 2. The ventilation in the laboratory was inadequate. **Potential ongoing transmission** for the respiratory therapists (due to evidence of health care-associated transmission). The rest of the setting was classified as **medium risk**. To address the problem, booths were installed for sputum induction. No *M. tuberculosis* infection test conversions were noted at the repeat testing three months later, and the respiratory therapists were then reclassified back to medium risk. ■

guidelines within months on using this improved blood test, explains **Mark Boyle**, senior vice president for sales and marketing at Cellestis Inc., the Valencia, CA-based division of the Australian company.

The new version tests for specific proteins of *M. tuberculosis*. Results are available in 24 hours. "With the new QuantiFERON-TB GOLD test, anyone who had BCG will come out negative on our test," he continues. "Now we have a better picture of what's going on. We can focus on the people who are really positive."

QuantiFERON-TB GOLD has a cost of about \$25 per person tested, including \$15 for the agent and \$10 for the lab time, Boyle notes.

While that is significantly higher than the cost of the skin test reagents, the blood test eliminates much of the administrative burden and labor involved in the skin test.

"We're removing it from a clinic-based system to a lab-based system where it's more controlled," he adds. ■

Wicker amendment brings confusion — and relief

Some hospitals postponed fit-testing

A reprieve from federal enforcement of annual fit-testing was greeted by some hospitals like a holiday present from Congress, but it has scarcely registered at other facilities.

Response was mixed to the "Wicker amendment," a provision added by Rep. Roger Wicker (R-MS) to the recent federal spending bill, which prohibits the U.S. Occupational Safety and Health Administration (OSHA) from spending federal money to enforce the annual fit-testing rule as it relates to tuberculosis.

The rule remains in force. State plan states may continue to spend state money to enforce it, and the Joint Commission on Accreditation of Healthcare Organizations may continue to require compliance. The prohibition on enforcement lasts until October 2005.

For example, in California, hospitals were required to complete their updated fit-testing of staff by Jan. 18.

That deadline remained in place. Twenty-six states have state-run and OSHA-approved occupational safety and health programs.

Many hospitals in federal OSHA states adopted a cautious approach.

"Institutions that have begun a process to thoroughly implement [annual fit-testing] are likely not to make much change," says **Judene Bartley**, MS, MPH, CIC, vice president of Epidemiology Consulting Services in Beverly Hills, MI.

Bartley also is on the public policy committee for the Association for Professionals in Infection Control and Epidemiology and the Society for Healthcare Epidemiology of America.

"Other places that have been trying to determine the best way to approach this or are in the process of looking at who should really be fit-tested or not — I suspect some of them may say, 'This buys us some time,'" she adds.

Hospitals see little risk

Some hospitals saw the provision as a welcome move toward a looser policy on fit-testing.

Tampa (FL) General Hospital looked at the recent draft guidelines from the Centers for Disease Control and Prevention (CDC) and reviewed its TB conversion rates and decided to hold off on annual fit-testing.

JoAnn Shea, MSN, ARNP, director of employee health and wellness, notes that CDC's draft TB guidelines refer to "periodic" testing. The draft guidelines state: "Perform fit-testing during the initial respiratory protection program training and periodically thereafter [based on the risk assessment for the setting], and in accordance with applicable regulations. . . . There are insufficient evidence-based data to make a recommendation on the periodicity of fit-testing."

Last year, Tampa General treated about 40 TB patients. Among about 5,000 employees, the hospital had two conversions, a rate of 0.3% of those tested. Neither conversion involved a hospital-based exposure to TB, Shea explains. Two employees were exposed to TB patients, but neither case resulted in conversions.

Tampa General conducts annual screenings and user fit checks with every employee assigned to wear a respirator. They also receive a TB questionnaire to determine if they need a new fit-test. **(See sample questionnaire inserted in this issue.)**

It's hard to imagine that annual fit-testing would result in lower conversion rates, she adds.

"I think OSHA would be hard-pressed to come in and say your employees are at higher risk than other hospitals," Shea says. "If we started to notice

a jump in our conversion rates and other problems, that would be another story.”

That language in the CDC draft guidelines, coupled with the halt on enforcement, also influenced Shands Healthcare in Gainesville, FL, to postpone annual fit-testing.

The hospital system had planned to delegate the fit-testing task to individual departments. “It would be so labor-intensive,” says **Trina Girimont**, ARNP, COHN-S, director of Occupational Health Services. “We figured we’d have to fit-test probably 6,000 employees. The expense with that is enormous.”

Girimont acknowledges that she would have tried to reduce the number of employees designated for annual fit-testing. But the program still would have been large and difficult to maintain, without a clear benefit, she says.

Shands has a TB conversion rate of 0.26%, she says. The conversions were not linked to hospital-based exposures. “I’ve never had an employee contract TB on the job in the time I’ve been here,” Girimont adds.

Search for clarity on fit-testing

Baystate Health System in Springfield, MA, mounted a major effort last year and fit-tested 2,800 employees. The three-hospital system hired an outside contractor and also used a train-the-trainer approach to update the fit-testing.

The future of that program is uncertain, but **James Garb**, MD, director of occupational health and safety, notes the fit-testing rule still is in place.

“The occupational medicine and infectious disease community is still very divided on this,” he explains. “There are some people who think you should do it, and others who think it’s not necessary.”

The fit-testing had some benefits, notes Garb. The hospital now has a record of the dates employees were fit-tested, and the brand and size of the mask; and there was an educational component.

“We did find that a lot of [employees] in areas that didn’t use them that much didn’t even know which ones they were fit-tested for,” he says.

Meanwhile, Garb and his colleagues are hoping for clarification on the fit-testing issue — and more generally on how to protect workers from the hazards of airborne infectious diseases.

What diseases are truly airborne? How do you determine the level of hazard? What is the role of respirators?

“We all need a sense that there’s a single position by CDC on how they approach respiratory protection for agents that are known and how they approach the unknown,” Bartley adds. ■

Fit-testing rule draws emotional response

Little common ground at CDC workshop

The TB doctor stood and made her plea. Annual fit-testing is a waste of time and resources, she said. She and her staff don’t even wear masks — and they don’t become infected, the doctor added.

“The only people who wear masks in our clinic are patients,” said **Mazae Kawamura**, MD, TB controller with the California Department of Health at San Francisco General Hospital. She also is chair of the Advisory Committee on the Elimination of Tuberculosis, an advisory panel of the Centers for Disease Control and Prevention (CDC).

But the industrial hygiene expert had a plea of his own. The integrity of the face seal is a critical aspect of respiratory protection, whether the particles are infectious or inert. And the rules of respiratory protection can’t be rewritten for one industry or one disease, he said.

“What everyone here is trying to say is we don’t want half a program. If it’s needed, you need to do it correctly,” said **James S. Johnson**, chemical and biological safety section leader at the Lawrence Livermore National Laboratory in Livermore, CA.

State-of-the-art program

“I don’t know what is needed to convince you that annual fit-testing is an important aspect of a respiratory protection program. This is the current state of the art,” he said.

Sharp differences over fit-testing were highlighted at the CDC Workshop on Respiratory Protection for Airborne Infectious Agents held in Atlanta Nov. 30 and Dec. 1.

There was little common ground — although industrial hygienists did point out circumstances in which fit-testing could be curtailed or even eliminated. (**See related article, p. 18.**)

The goal of the workshop was to set a research agenda. Panels discussed key questions about respiratory protection and agreed that hospitals need more information on when respirator use is

necessary. They asked for more information on what exposures could lead to transmission and how to conduct risk assessments for respirator use.

“It’s important to look at the science both of how respirators work and the epidemiology [of tuberculosis transmission to health care workers] so we can identify the risk and determine how to prevent it,” commented **Mark Russi**, MD, MPH, associate professor of medicine and public health at the Yale University School of Medicine and director of occupational health at Yale-New Haven (CT) Hospital.

“We need greater emphasis on quantitative risk assessment,” agreed **Roy McKay**, PhD, who is director of the Occupational Pulmonology Services program at the University of Cincinnati College of Medicine.

Officials from the National Institute of Occupational Safety and Health also told the participants that new criteria requiring manufacturers to produce better-fitting respirators would be completed later this year.

Yet research will occur amid an unchanged regulatory backdrop. The General Industry Respiratory Protection Standard requires annual fit-testing. And although Congress voted to halt enforcement of that provision as it relates to tuberculosis, the rule remains in effect. (**See related story, p. 16.**)

Changing it would require a lengthy process of new rule-making, noted **Bill Borwegen**, MPH, health and safety director of the Service Employees International Union.

“The lead industry would be asking for the same thing the next week, then the asbestos industry the week after that,” he pointed out. “A rule is a rule is a rule.”

Hospitals still are required to perform annual fit-tests if health care workers use the masks for infectious diseases other than tuberculosis, he continued.

As the workshop progressed, deep concerns rose to the surface about the burden vs. the benefit of annual fit-testing.

“It seems to be an emotional issue,” Johnson remarked.

“It is an emotional issue,” Kawamura added. “Our hospitals are broke. Our public health programs are broke.”

“I want to make the plea that you look at TB as a start,” Johnson responded. “Any hospital in this country is going to deal with unknown respiratory hazards.” ■

Stressed over fit-testing? Are you doing too much?

Some hospitals don’t need a respiratory program

Industrial hygienists insist annual fit-testing is essential to the proper use of respirators.

Infection control practitioners argue tuberculosis patients, once identified and isolated, pose little risk to health care workers.

But perhaps they agree on one point: Hospitals are doing too much fit-testing.

Two issues emerged from the recent workshop on respiratory protection and infectious diseases sponsored by the Centers for Disease Control and Prevention (CDC):

- **If you determine there is no hazard from TB and the wearing of respirators is voluntary, you don’t need a respiratory protection program.**

You must conduct a hazard assessment to determine whether health care workers are exposed to TB and whether they need respiratory protection. But if there is no hazard, there is no need for personal protective equipment.

That is the position of the U.S. Occupational Safety and Health Administration (OSHA), as stated in a July 23 letter of interpretation.

The agency addressed a question posed by the American Health Care Association about long-term care facilities that do not accept TB patients.

If the facility is at minimal risk for TB because it admits no TB patients and is in a community in which no TB cases have been reported in the past year, then fit-testing and other measures are not required, wrote **Richard Fairfax**, OSHA director of enforcement programs.

“If the risk assessment determines that there is no hazard, employees would have no requirement to wear a respirator and there would be no need to create a respiratory protection program,” he said.

In a very-low-risk facility — one that does not admit any patients with active TB and has not examined any such patients in the outpatient area in the past year — only health care workers who might be involved in assessment or transport of patients may need to be included in a respiratory protection program. (**The CDC has proposed changing the risk-assessment scale in its draft TB guidelines. See related cover story.**)

What about hospitals that treat TB patients but

have no nosocomial transmission?

This issue arose at the workshop when **Mazae Kawamura**, MD, TB controller with the California Department of Health at San Francisco General Hospital, noted that she and her staff don't even wear masks when treating TB patients in the clinic.

"TB is not that easy to get," she said. "I've been working with very infectious patients for 15 years and never wore a mask."

Kawamura said the clinic uses a HEPA filter to filter the air, and TB patients are given surgical masks. "It's really source control that's the key."

Respiratory protection experts responded that if respiratory use is voluntary because of a low risk of exposure, the hospital does not need a respiratory protection program. However, without specific OSHA guidance on this and a lack of data about how much protection is provided by administrative and engineering controls, hospitals may find that hard to justify.

"I don't think our administration will allow us to be exempt from the respiratory protection program," Kawamura pointed out.

Draft TB guidelines from CDC state that the "periodicity" of fit-testing should be determined by risk assessment, but they also note that OSHA requires annual fit-testing. (See related article, p. 16.)

- **You only need to fit-test employees who are actually exposed to TB or other airborne infectious diseases.**

Annual fit-testing is a burden because hospitals are fit-testing too many employees, industrial hygienists argue. Instead, you can focus on training fit-testers who maintain a core of employees in at-risk departments, such as the emergency department and the intensive care unit. Those fit-testers can conduct additional fit-tests on an as-needed basis.

Donald Wright, MD, MPH, director of the OSHA's Office of Occupational Medicine, cited a program at Dartmouth-Hitchcock Medical Center in Lebanon, NH, where only 8% of employees receive annual fit-testing. The hospital has an Infectious Disease Readiness Committee, a contingency plan to convert a wing into a respiratory isolation unit, and employees trained on each unit for each shift to conduct fit-testing.

A respiratory response cart has two powered air-purifying respirators for use in an emergency. They do not require fit-testing.

"They truly are capable of ramping up their program very rapidly should they become the next site of an infectious outbreak," Wright added. ■

Flu vaccine goes unused even by high-risk groups

HCWs report lower vaccination rates this year

With only one-third of priority groups receiving the influenza vaccine, the Centers for Disease Control and Prevention (CDC) urged midseason vaccination and expanded the groups eligible for vaccination.

The shortage kept many people from getting their annual flu vaccine — apparently including many who are at risk for complications from influenza.

The CDC reported that 75% of the vaccine supply went to those in priority groups, even taking into account the 33 million doses that were released before the suspension of Chiron's license — and loss of 48 million doses — was announced in October.

But by mid-December, only 34% of high priority groups had been vaccinated, said CDC director **Julie L. Gerberding**, MD. The low coverage of vaccination included health care workers. In a survey reported in the CDC's *Morbidity and Mortality Weekly Report*, 49% of health care workers reported receiving the vaccine last year, while only 34% received it this year.¹

"That coverage is lower than we would have seen at midflu season last year," she said in a press conference.

"About 50% of people in high-risk groups have not gone out to get vaccinated. They're stepping aside, and that is not what we want them to be doing," Gerberding explained.

Vaccine not needed?

The most common reason health care workers said they did not receive the vaccine: They felt it wasn't needed (27%). Another 18.5% of health care workers said they tried but could not get the vaccine.

The survey included a variety of hospital personnel, including nurses, physicians, laboratory workers, and office receptionists. Health care workers with direct patient care are in the priority group for the vaccine.

Health care workers need a focused message that stresses the importance of the vaccine in preventing spread to high-risk patients, notes **William Schaffner**, MD, chair of the department

of preventive medicine at Vanderbilt University in Nashville, TN. "It's only this year that we have begun a sustained educational campaign to let them know the main reason we are asking health care providers to become immunized is so they won't infect their patients," he says. "In the past, we have assumed health care workers know this, and they don't."

With additional vaccine available, the Advisory Committee on Immunization Practices (ACIP) voted to broaden the priority groups to include people ages 50 to 64 and out-of-home caregivers and household contacts of people in high-risk groups.

The high-risk groups include people 65 or older, children younger than 2 years of age, pregnant women, and people of any age who have certain underlying health conditions such as heart or lung disease, transplant recipients, or people with AIDS. ACIP is an advisory panel to CDC.

As of mid-December, Aventis still had 2.6 million doses available. CDC purchased an additional 1.2 million doses of vaccine from GlaxoSmithKline, which was manufactured in Europe and will be available under an investigation new drug status. People receiving the vaccine will need to sign a consent. An additional 2.8 million doses may be available from that same source, if necessary, Gerberding said.

"If a worst-case scenario occurs and we have a dramatic up tick in the influenza late in the season, then we've got some extra doses there that we can utilize to protect the people who need it the most," she noted.

Meanwhile, it still is unclear whether Chiron will be able to produce vaccine for next year's supply. Restrictions on who can receive the vaccine may need to be extended.

"If the worst case happens and we don't have the Chiron vaccine, we'll be working with the other international suppliers to try to get licensure of their product," Gerberding added. "We'll be working with domestic suppliers to see what, if anything, we as a government can do to scale up their production. And we'll be planning on our immunization programs to take under consideration whatever contingencies are necessary to meet the demands of the high-priority populations."

Reference

1. Centers for Disease Control and Prevention. Estimated influenza vaccination coverage among adults and children — United States, September 1–November 30, 2004. *MMWR* 2004; 53:1,147–1,153. ■

Hospitals go forward with mandatory flu vaccine

Shortage delays enforcement, but goal remains

Boosting health care worker flu vaccination has been tough during a vaccine shortage. But commitment to this goal hasn't waned for two hospitals that are launching mandatory vaccination programs.

This fall, Virginia Mason Medical Center in Seattle became the first hospital in the country to make flu vaccination an employee "fitness for duty" requirement. The hospital was forced to postpone its policy when vaccine supply was limited.

Meanwhile, the Mayo Clinic in Rochester, MN, delayed its Enhanced Flu Vaccine Program, which requires employees in high-risk units to receive the vaccine or sign a declination.

"We felt that this was something that would save lives and promote patient safety," says **Robert Rakita**, MD, chief of the infectious diseases section at Virginia Mason. "We try to put the patients first."

Greg Poland, MD, director of the Vaccine Research Group at the Mayo Clinic, is an outspoken advocate of mandatory influenza vaccination of health care workers.

"I cannot think of a single vaccine in any age group, for any disease . . . where a voluntary program works on a sustained manner," he says. "I think we have to acknowledge that and get over that. This is not about personal preference. This is about the privilege and ethics of society trusting us with their care."

Rakita and Poland note that health care workers also face mandatory vaccination requirements related to other diseases. They must receive an annual tuberculin skin test, and they must sign a declination if they don't receive the hepatitis B vaccine (and they're at risk of bloodborne pathogen exposure). Some hospitals require varicella vaccination or furlough health care workers if they contract chicken pox.

Some states require influenza vaccination for long-term care workers. For example, New York, Maryland, and North Carolina require long-term care staff to receive the influenza vaccine but allow for medical, religious, or philosophical exemptions.¹ In Pennsylvania, health care workers must sign a declination if they choose not to

receive the influenza vaccine.

Yet requiring annual influenza vaccination remains a controversial issue. Virginia Mason plans to provide an exemption for employees with a documented egg allergy, but not for those who object to vaccination. Those who don't receive the vaccine because of medical reasons might be required to take prophylactic antiviral medication, says Rakita.

The Washington State Nurses Association in Seattle opposed the punitive nature of the policy and filed a petition in federal court, asking for an injunction. That court action has become moot with the vaccine shortage.

But the nurses' union still hopes to discuss the vaccination issue in arbitration, says **Anne Piazza**, spokeswoman.

"We'd rather work with the hospital to help educate our nurses so they understand the importance of the vaccination," she says. "We oppose a mandatory policy in the absence of a declared public health emergency. We believe that threatening to fire nurses who don't comply is simply bad policy on the hospital's part."

Voluntary programs come up short

Both hospitals had tried vigorous voluntary programs. By national standards, they had done well with their vaccinations.

Last year, Virginia Mason launched an intensive promotion and vaccinated 55% of its 5,500 employees. The Mayo Clinic vaccinated 75% of its 33,000 employees. Nationally, only about 36% of health care workers receive the influenza vaccine, according to the National Health Interview Survey.

Yet at both hospitals, hundreds of employees with patient contact remained unvaccinated. "It's more than just [a matter of] education," Poland says. "It's just sort of laziness. Not getting around to it. As soon as it's harder to decline than to just get the vaccine, people seem to comply."

Shortages raised the value of the vaccine; suddenly, health care workers asked to be vaccinated. But in general, influenza still is viewed as a commonplace disease — in part because health care workers confuse other respiratory ailments with the flu.

"People don't realize that influenza is really deadly. They think it's just too routine," says Rakita.

In fact, myths persist about the influenza vaccine, says influenza expert says **William Schaffner**, MD, chair of the department of preventive

medicine at Vanderbilt University in Nashville, TN. "[Nurses] are very skeptical of influenza vaccine generically. The main reason is that they are worried about the vaccine making them ill in some fashion," he says.

Nurses also think of the vaccine in terms of their personal risk for influenza infection and don't think of the potential impact on their patients, Schaffner adds.

How often do health care workers transmit influenza to patients? That isn't clear. One recent study at Emory Healthcare in Atlanta involved "aggressive hospitalwide surveillance for nosocomial influenza." The effort identified six inpatients who met the definition for nosocomial-acquired influenza, including one who subsequently died with influenza pneumonia as a possible cause of death. Three of the patients were on the bone-marrow transplant unit, and one was in surgical intensive care. Awareness of the outbreak did not lead to higher rates of influenza vaccination among employees, the authors noted.²

In many cases, influenza isn't noted as the specific cause of death, making it difficult to track the mortality related to complications from the disease, notes Rakita. The CDC estimates 25,000 people die of complications from influenza in a typical flu season.

Just based on those numbers, Rakita says, "I would think every single large institution in the country has likely transmission of influenza from staff members to patients and mortality resulting from that."

The problem is exacerbated by health care workers who come to work sick, notes Poland.

"If we had a health care worker who was infected with avian influenza or SARS [severe acute respiratory syndrome], would we let them step into the hospital and care for patients?" he asks. "If we had a vaccine for avian influenza or SARS, would we let them come to work without the vaccine?"

At least at two hospitals, the answer to those questions is no.

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What it takes to be 'safest hospital in the nation'

Hospital sets high safety goals in all areas

Self Regional Healthcare in Greenwood, SC, isn't satisfied with a 48% reduction in needlesticks or a 53% decline in the recordable injury rate. In fact, Self Regional has raised the bar much higher than that.

"Our overall goal is to be safest hospital in the nation," says **Mary Margaret Jackson**, CPHQ, director of Performance Outcome Services.

That philosophy comes from the top — from the hospital's CEO, John Heydel. It pervades the hospital's operations, with programs geared toward Managing Risk Enterprise-Wide. Instead of selecting just a few key indicators, Self Regional developed a comprehensive approach to employee and patient safety. Departments that impact safety — including employee health, infection control, engineering (facility safety), and nursing (clinical safety) — work together to set goals and monitor progress.

The resulting scorecard is a daunting grid that includes the rate of days away from work due to injury, compliance with standards and National Patient Safety Goals of the Joint Commission on Accreditation of Healthcare Organizations, return-to-work statistics, and myriad other worker and patient safety items.

"You really need to proactively look at all areas," Jackson explains. "We want to help every employee think about safety every day they come into the organization."

It may sound overwhelming to take on so many areas at the same time. But for Self Regional, it's part of an overall effort to boost the hospital's safety culture and to rise to international standards.

Ever notice the signs at manufacturing plants that boast about how many days they've gone without an injury? You don't see them at hospitals. But that's the sort of zero accident goal that Self Regional would like to have, at least for preventable, serious errors that the hospital sets as a priority.

"We're going to measure the days between 'never' events and publicize that with our staff [to show] what they've been able to achieve," Jackson notes.

How can you set so many goals and still be effective? Self Regional has approached safety

both from a facilitywide approach and with individual improvement projects.

All frontline managers have had training on error reduction. The hospital worked with Performance Improvement International of San Clemente, CA, to measure its safety culture. It recorded a high level even before the interventions — but set the goal even higher.

The hospital developed a set of behavior expectations, including "Communicate clearly" and "Do the job right the first time." Employees were encouraged to ask questions and even to intervene if they saw someone doing something contrary to proper procedure.

The hospital also adopted the Stop Think Act Review (STAR) approach to encourage employees to pay attention to their actions. It used Red Rules to designate safety measures that always should be followed. **(For more information on STAR and Red Rules, see *Hospital Employee Health*, December 2004, p. 156.)**

"We want employees to use techniques like that [to focus on safety]," says Jackson.

Yet the hospital also drafted action plans for targeted improvement projects. For example, the hospital noted slips and falls were occurring from spills in the dietary area. So dietary workers received new no-slip shoes — and the hospital required their use on the job. The slip rate declined by 58%.

A sharps committee evaluated all the sharps used in the facility and made sure safety devices were used where they were available. The most challenging area has been the operating room, adds risk manager **Brenda Smith**, RN.

The hospital brought in Marc Davis, MD, a former surgeon who now specializes in reducing OR sharps injuries, to promote the use of blunt suture needles among surgeons. The overall sharps rate at the hospital dropped from 2.49 per 100 full-time equivalent employees in 2002 to 1.20 in 2003.

With construction of a new laundry facility, the hospital has been able to reduce injuries from workers lifting heavy bags and being stuck with hidden sharps. Trucks pull up to a conveyor belt, where employees use long hooks to guide them as they're dumped and to rip open the bags. Other employees sort the washcloths from the towels and sheets and look for signs of biohazard material.

"That's the last time it's touched," says **Jay Kirby**, CHE, vice president of support services. "It's fully automated from that point until it comes out clean, ready to be folded."

Self Regional tracks numerous safety indicators,

but six key patient and worker safety indicators are reported to the board on a quarterly basis.

"They want to see results," Jackson notes. "We're reducing risk to the worker and risk to the patient and visitor."

Partners in safety

Self Regional hasn't made all this progress alone. PHTS Services in Columbia, SC, a state workers' compensation insurer and risk management consultant that focuses on health care, promoted some of the initiatives and provided staff education.

In fact, PHTS has encouraged the enterprise-wide approach to managing risk among its member hospitals.

The hospital also is working toward ISO (International Standard Organization) certification. The pharmacy is working to become the first to receive the ISO designation in South Carolina and only one of 16 in the nation with that recognition, says Jackson.

The pharmacy reduced its policies and procedures by half, then trained employees to comply with the streamlined system. Surveyors from Canada will visit the hospital and evaluate their performance.

The goal is simple, Jackson explains. "Do the right thing all the time." ■

Prepare your facility for an unusual flu season

Vaccine shortages may wreak havoc with EDs

With the unprecedented shortage of influenza vaccine this flu season, hospitals are scrambling to prepare for what may be a record number of flu patients presenting to their already overcrowded emergency departments (EDs) and for staff shortages due to record absenteeism. After almost half of the United States' planned

CE questions

5. According to the draft TB guidelines, health care setting with more than 200 beds is at medium risk if it:
 - A. admits any TB patients
 - B. admits more than three TB patients per year
 - C. admits six or more TB patients per year
 - D. is located in one of the top 10 communities with TB transmission in the U.S.
6. According to the draft TB guidelines, the periodicity of fit-testing can be based on:
 - A. the TB risk assessment
 - B. history of ongoing TB transmission
 - C. the fit characteristics of the respirator
 - D. employee requests for new fit-tests
7. Despite the shortage of influenza vaccine, several million doses still were available in mid-December. According to the CDC, what is the reason?
 - A. The agency overestimated the number of people needing the vaccine.
 - B. Chiron received approval to sell its doses.
 - C. It was too late for high-risk people to receive the vaccine.
 - D. Some people in top priority groups decided not to get the vaccine.
8. The key to improvement in occupational safety at Self Regional Healthcare in Greenwood, SC, was:
 - A. focusing on select indicators
 - B. taking a comprehensive, enterprisewide approach
 - C. having an OSHA inspection
 - D. adopting a slogan and marketing campaign

Answer Key: 5. C; 6. A; 7. D; 8. B

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■ Creating a fit-testing program that isn't a burden

■ Proof that a streamlined pre-placement exam works

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vaccine supply was contaminated, high-risk candidates — including the very young, the elderly, those with chronic illnesses, pregnant women, the immunocompromised, and health care workers with direct patient care — have been identified as those to receive the vaccine.

In response to the national shortage, Thomson American Health Consultants has developed an influenza sourcebook to ensure you and your hospital are prepared for what you may face this flu season.

Hospital Influenza Crisis Management will provide you with the information you need to deal with ED overcrowding, potential liability risks, staff shortages, and infection control implications for staff and patients.

This sourcebook will address the real threat of a potential pandemic and the proposed response and preparedness efforts that should be taken in case of such an event. Major guidelines and recommendations for influenza immunization and treatment are included, along with recommendations for health care worker vaccination and the efficacy of and criteria for using the live attenuated influenza vaccine.

Hospital Influenza Crisis Management will offer readers continuing education credits. For information or to reserve your copy at the price of \$199, call (800) 688-2421. Please reference code 64462. ■





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CE objectives

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

- identify particular clinical, administrative, or regulatory issues related to the care of hospital employees;
- describe how those issues affect health care workers, hospitals, or the health care industry in general;
- cite practical solutions to problems associated with the issue, based on overall expert guidelines from the Centers for Disease Control and Prevention, the National Institute for Occupational Safety and Health, the U.S. Occupational Safety and Health Administration, or other authorities, or based on independent recommendations from clinicians at individual institutions. ■

Sample Tuberculosis Questionnaire

Name: _____ Date: _____

OSHA Class I (High risk) OSHA Class III (Low risk)

Yes No N/A Fit test completed. Date: _____

Yes No N/A Fit check required. Passed Referred for fit test

PPD History: Negative Positive Date last PPD: _____

Yes No PPD given today. *(Use new vial for latex sensitive employees.)*

Yes No Chest X-ray ordered. (Every five years for +PPD) Date last CXR _____

Yes No Have you been exposed to a person (community or work) with known active TB since your last TB skin test?
(If yes, 5 mm = positive.)

Yes No Do you have any current condition that may cause you to be immunosuppressed?
(i.e. cancer, leukemia, chemotherapy treatments, organ transplant, HIV disease, steroid/
prednisone therapy.)
(If yes, 5 mm = positive and CXR required.)

Yes No Do you currently have diabetes, end-stage renal disease, or chronic malabsorption
syndrome?
(If yes, 10 mm = positive.)

Yes No Do you have **ANY** contact with patients or TB lab specimens during your workday at TGH?
(If yes, 10 mm = positive. If no, and no other risk factors, 15 mm = positive.)

Yes No Have you had a live vaccine within the previous six weeks (i.e. rubella, varicella, rubeola)?
(If yes, delay PPD for six weeks after vaccination.)

Yes No Do you currently have any of the following symptoms: productive cough lasting more
than three weeks: chest pain, coughing up blood, night sweats, fever, or weight loss?
(If yes, refer to RN/ARNP.)

Yes No Have you gained or lost more than 10 pounds in the last year or grown/shaved facial hair?
(If yes, repeat fit check and/or fit testing.)

Yes No Did you have your last TB skin test inspected by Employee Health or a TGH **certified**
TB skin test inspector?