

OSHA & Worker Safety

Helping Health Care Workers to Breathe Easy

OSHA updates TB enforcement instruction

In her 1963 novel, *The Bell Jar*, Sylvia Plath wrote, “[Tuberculosis] is like living with a bomb in your lung. . . . You just lie around very quietly hoping it won’t go off.”

Though our knowledge of and treatments for tuberculosis (TB) have improved significantly since Plath’s words were written, the “bomb” of TB continues to tick, threatening the health and safety of health care workers and the patients they serve. Currently, nearly one third of the world’s population is infected with TB, which kills nearly 1.5 million people globally each year.¹

Health care workers are often at particular risk. According to the US Centers for Disease Control and Prevention (CDC), 9,421 TB cases were reported in the United States in 2014, and approximately 4% of those cases were among health care workers.¹ In addition, multi-drug-resistant and extremely drug-resistant strains continue to pose threats to health care workers.

The Bright Side

Though health care organizations must remain vigilant against tuberculosis among patients and employees, the 9,421 cases of TB reported in the United States in 2014 represent a rate of 2.96 cases per 100,000 persons, the lowest recorded rate since national reporting began in 1953.

Source: US Centers for Disease Control and Prevention (CDC). *Reported Tuberculosis in the United States, 2014*. Atlanta: CDC, 2015.



OSHA’s directive, among other actions, would expand the agency’s enforcement procedures to include additional settings, such as labs in which TB samples are handled.

Photo Credit: Courtesy of the CDC.

Elderly patients and persons born outside the United States are also more vulnerable to TB than the general population. An analysis of cases reported in the United States between 1993 and 2008 showed that the rate of TB among elderly adults was as much as 30% higher than among younger adults, says Mike Pannell, PhD, who works in the enforcement program of the US Occupational Health Administration (OSHA). “Even more striking are the disproportionate rates documented among those living in long term care facilities. Previous reports have estimated that adults aged ≥ 65 years residing in long term care facilities may have between 4 and 50 times the

risk of developing TB disease than elderly persons living in the community.”

The incidence rate among foreign-born persons in the United States has remained elevated at 15.4 cases per 100,000 persons during 2014.¹

To help further prevent the spread of TB among health care workers, the OSHA has updated its instructions for conducting inspections and issuing citations related to worker exposures to TB in health care settings. This directive incorporates strategies from the CDC’s 2005 *Guidelines for Preventing the Transmission of Mycobacterium tuberculosis in Health Care Settings*.

“Despite the decreasing TB case

Impact of TB on Health Care Workers Varies by State

In 2014, employers in the United States reported a 3.7 incidence rate among health care workers compared to 3.0 for the general population. However, rates vary greatly from state to state; for example, consider the 2014 rates of TB among health care workers in the table below.

| State or Region | Rate of TB Among Health Care Workers, 2014 |
|----------------------|--|
| District of Columbia | 9.4 |
| Iowa | 12.2 |
| Minnesota | 7.8 |
| West Virginia | 7.7 |

Though health care workers generally have more opportunities to become exposed to TB than the general population, their rates of infection are not universally higher. For example, according to Mike Pannell, PhD, US Occupational Safety and Health Administration, the 2014 rates of TB infection among health care workers was zero in Alaska, Connecticut, Idaho, Kansas, Maine, Montana, New Hampshire, New Mexico, Rhode Island, South Dakota, Utah, Vermont, and Wyoming.

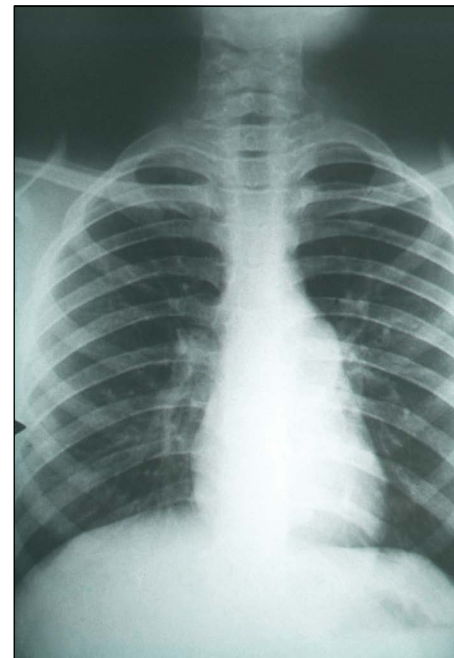
rate, however, greater progress should be made,” says Pannell. “The number of deaths has trended upwards despite a lower incidence rate of disease. There were 555 deaths in 2013 and 510 deaths in 2012. Other concerns are the localization of the disease. In addition to the concentration of TB among specific ethnic groups, TB has also varying incidence rates in different parts of the country; for example, in 2004 the incidence rates were 1.0 for Wyoming, 7.1 in New York, 8.3 in California, and 14.6 in the District of Columbia.” In addition, multidrug-resistant (MDR) tuberculosis and extremely drug-resistant (XDR) tuberculosis continue to pose serious threats to workers in health care settings.

OSHA’s directive makes several changes to existing enforcement procedures, including the introduction of a newer screening method for analyzing blood for TB, and the classification of different health care settings according to risk, which will reduce the frequency of TB screenings for some health care workers. The directive covers additional health care workplaces, such as sites in which emergency medical services are provided, and laboratories that handle clinical specimens that may contain TB. According to OSHA, the revised directive does not create any additional enforcement burdens for employers, rather it updates the agency’s inspection procedures to reflect the most current public health guidance.

What has changed?

According to Pannell, health care employers should be aware of the following updates to OSHA’s Enforcement Procedures and Scheduling for Occupational Exposure to Tuberculosis²:

- The term *tuberculin skin tests* (TSTs) is used instead of *purified protein derivative* (PPD) and introduces a new screening method.
- The frequency of TB screening for health care workers has been decreased in various settings, and the criteria for determination of screening frequency have been changed.
- The instruction explicitly covers additional workplaces regarded as health care settings, such as laboratories and additional outpatient and nontraditional facility-based settings.
- Criteria for serial testing for TB infection of health care workers have been more clearly defined. In certain settings, this change will decrease the number of health care workers who need serial TB screening.
- New terms, *airborne infection precautions* (airborne precautions) and *airborne infection isolation room* (AII room), are introduced.
- Recommendations for annual respirator training, initial respirator fit



Chest x-ray of a patient with tuberculosis

Photo Credit: Courtesy of the CDC.

- testing, and periodic respirator fit testing have been added.
- The evidence of the need for respirator fit testing is summarized.
- Information on ultraviolet germicidal irradiation (UVGI) and room-air recirculation units has been expanded.
- Additional information regarding multidrug-resistant TB and HIV infection has been included.

Screening processes

Given the threat posed by TB to many health care workers, some employers may wonder why the frequency of TB screenings would be reduced for some staff. Pannell explains that the frequency of TB screening has been updated by the CDC to reflect the fact that the risk of TB transmission varies across health care settings.

“Every health care setting should conduct initial and ongoing evaluations of the risk for transmission of TB, regardless of whether or not patients with suspected or confirmed TB disease are expected to be encountered in the setting,” Pannell says. “The TB risk assessment determines the types of administrative,

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environmental, and respiratory protection controls needed for a setting and serves as an ongoing evaluation tool of the quality of TB infection control and for the identification of needed improvements in infection prevention and control measures.”

Risk classification should be used as part of the risk assessment to determine the need for a TB screening program for health care and the frequency of screening, Pannell explains. The three TB screening risk classifications are low risk, medium risk, and potential ongoing transmission, and they apply as follows:

- The classification of *low risk* should be applied to settings in which persons with TB disease are not expected to be encountered, and, therefore, exposure to TB is unlikely. This classification should also be applied to health care workers who will never be exposed to persons with TB disease or to clinical specimens that might contain TB.
- The classification of *medium risk* should be applied to settings in which the risk assessment has determined that health care workers will or possibly will be exposed to persons with TB disease or to clinical specimens that might contain TB.
- The classification of *potential ongoing*

transmission should be temporarily applied to any setting (or group of health care workers) if evidence suggestive of person-to-person (for example, patient-to-patient, patient-to-worker, worker-to-patient, or worker-to-worker) transmission of TB has occurred in the setting during the preceding year.

What should employers do?

Given these changes, what does OSHA expect from health care employers? “As in all OSHA initiatives, the goal is to reduce the risk of injury and illness to workers,” Pannell explains. “OSHA expects all health care settings to use the CDC guidelines to conduct a TB exposure risk assessment, properly classify the risk of the health care setting, implement appropriate control measures, and implement the TB screening schedules.” 

References

1. US Centers for Disease Control and Prevention (CDC). *Reported Tuberculosis in the United States, 2014*. Atlanta: CDC 2015.
2. US Occupational Safety and Health Administration. OSHA Instruction: Enforcement Procedures and Scheduling for Occupational Exposure to Tuberculosis. Accessed Feb 5, 2016. https://www.osha.gov/OshDoc/Directive_pdf/CPL_02-02-078.pdf.

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For More Information

Additional information on tuberculosis and OSHA's role in prevention can be found at the following websites:

- US Centers for Disease Control and Prevention Fact Sheet on Tuberculosis: <http://www.cdc.gov/tb/publications/factsheets/statistics/tbtrends.htm>
- US Occupational Safety and Health Administration (OSHA), Directive No. CPL 02-02-078: https://www.osha.gov/OshDoc/Directive_pdf/CPL_02-02-078.pdf
- OSHA Safety and Health Topics: Tuberculosis: <https://www.osha.gov/SLTC/tuberculosis/index.html>
- OSHA e-Tool for Tuberculosis: <https://www.osha.gov/SLTC/etools/hospital/hazards/tb/tb.html>
- OSHA and CDC/National Institute for Occupational Safety and Health Toolkit: Hospital Respiratory Protection Program Toolkit: Resources for Respirator Program Administrators: <https://www.osha.gov/Publications/OSHA3767.pdf>
- Joint Commission: Implementing Hospital Respiratory Protection Programs: Strategies from the Field: http://www.jointcommission.org/implementing_hospital_respiratory_protection_programs_strategies_from_the_field/.

