

**OH 1.1 Occupational Health Protocol for Tuberculosis Surveillance Appendix B:
Tuberculosis (TB) Risk Assessment Worksheet**

09/27/2006

Centers for Disease Control and Prevention

Division of Tuberculosis Elimination

This model worksheet should be considered for use in performing TB risk assessments for healthcare facilities and nontraditional facility-based settings. Facilities with more than one type of setting will need to apply this table to each setting.

Scoring <input type="checkbox"/> or Y = Yes	X or N = No	NA = Not Applicable
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1. Incidence of TB

What is the incidence of TB in your community (county or region served by the health-care setting), and how does it compare with the state and national average? What is the incidence of TB in your facility and specific settings and how do those rates compare? (Incidence is the number of TB cases in your community the previous year. A rate of TB cases per 100,000 persons should be obtained for comparison.)* This information can be obtained from the state or local health department.	Community rate <u>3.1/100,000</u> 27 cases 2022 State rate <u>3.38/100,000</u> 1097 cases in 2022 National rate <u>2.5/100,000</u> 8,331 cases 2022 Facility rate <u>0.0 no cases</u> Department 1 rate <u>N/A</u> Department 2 rate <u>N/A</u> Department 3 rate <u>N/A</u>
Are patients with suspected or confirmed TB disease encountered in your setting (inpatient and outpatient)?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
If yes, how many patients with suspected and confirmed TB disease are treated in your health-care setting in 1 year (inpatient and outpatient)? Review laboratory data, infection-control records, and databases containing discharge diagnoses.	Year 2022 No. patients Suspected Confirmed 1 year ago <u>0</u> <u>0</u> 2 years ago <u>0</u> <u>0</u> 5 years ago <u>0</u> <u>0</u>
If no, does your health-care setting have a plan for the triage of patients with suspected or confirmed TB disease?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Currently, does your health-care setting have a cluster of persons with confirmed TB disease that might be a result of ongoing transmission of <i>Mycobacterium tuberculosis</i> within your setting (inpatient and outpatient)?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>

2. Risk Classification

Inpatient settings	
How many inpatient beds are in your inpatient setting?	
How many patients with TB disease are encountered in the inpatient setting in 1 year? Review laboratory data, infection-control records, and databases containing discharge diagnoses.	Previous year _____ 5 years ago _____
Depending on the number of beds and TB patients encountered in 1 year, what is the risk classification for your inpatient setting? (See Appendix C.)	<input type="radio"/> Low risk <input type="radio"/> Medium risk <input type="radio"/> Potential ongoing transmission
Does your health-care setting have a plan for the triage of patients with suspected or confirmed TB disease?	Yes <input type="checkbox"/> No <input type="checkbox"/>
Outpatient settings	
How many TB patients are evaluated at your outpatient setting in 1 year? Review laboratory data, infection-control records, and databases containing discharge diagnoses.	Previous year <u>0</u> 5 years ago <u>0</u>

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Is your health-care setting a TB clinic? (If yes, a classification of at least medium risk is recommended.)	Yes No <input checked="" type="checkbox"/>
Does evidence exist that a high incidence of TB disease has been observed in the community that the health-care setting serves?	Yes No <input checked="" type="checkbox"/>
Does evidence exist of person-to-person transmission of <i>M. tuberculosis</i> in the health-care setting? (Use information from case reports. Determine if any tuberculin skin test [TST] or blood assay for <i>M. tuberculosis</i> [BAMT] conversions have occurred among health-care workers [HCWs]).	Yes No <input checked="" type="checkbox"/>
Does evidence exist that ongoing or unresolved health-care-associated transmission has occurred in the health-care setting (based on case reports)?	Yes No <input checked="" type="checkbox"/>
Is there a high incidence of immunocompromised patients or HCWs in the health-care setting?	Yes No <input checked="" type="checkbox"/>
Have patients with drug-resistant TB disease been encountered in your health-care setting within the previous 5 years?	Yes No <input checked="" type="checkbox"/> Year
When was the first time a risk classification was done for your health-care setting?	<u>2023</u>
Considering the items above, would your health-care setting need a higher risk classification?	Yes No <input checked="" type="checkbox"/>
Depending on the number of TB patients evaluated in 1 year, what is the risk classification for your outpatient setting? (See Appendix C)	<input checked="" type="checkbox"/> Low risk <input type="checkbox"/> Medium risk <input type="checkbox"/> Potential ongoing transmission
Does your health-care setting have a plan for the triage of patients with suspected or confirmed TB disease?	Yes <input checked="" type="checkbox"/> No
Nontraditional facility-based settings	
How many TB patients are encountered at your setting in 1 year?	Previous year _____ 5 years ago _____
Does evidence exist that a high incidence of TB disease has been observed in the community that the setting serves?	Yes No
Does evidence exist of person-to-person transmission of <i>M. tuberculosis</i> in the setting?	Yes No
Have any recent TST or BAMT conversions occurred among staff or clients?	Yes No
Is there a high incidence of immunocompromised patients or HCWs in the setting?	Yes No
Have patients with drug-resistant TB disease been encountered in your health-care setting within the previous 5 years?	Yes No Year _____
When was the first time a risk classification was done for your setting?	
Considering the items above, would your setting require a higher risk classification?	Yes No
Does your setting have a plan for the triage of patients with suspected or confirmed TB disease?	Yes No

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Depending on the number of patients with TB disease who are encountered in a nontraditional setting in 1 year, what is the risk classification for your setting? (See Appendix C)	<input type="radio"/> Low risk <input type="radio"/> Medium risk <input type="radio"/> Potential ongoing transmission
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3. Screening of HCWs for *M. tuberculosis* Infection

Does the health-care setting have a TB screening program for HCWs?	Yes <input checked="" type="checkbox"/> No
If yes, which HCWs are included in the TB screening program? (Check all that apply.) <input checked="" type="checkbox"/> Physicians <input checked="" type="checkbox"/> Mid-level practitioners (nurse practitioners [NP] and physician's assistants [PA]) <input checked="" type="checkbox"/> Nurses/CMA <input checked="" type="checkbox"/> Administrators <input checked="" type="checkbox"/> Laboratory workers LARC <input checked="" type="checkbox"/> Respiratory therapists	Janitorial staff Maintenance or engineering staff Transportation staff Dietary staff Receptionists <input checked="" type="checkbox"/> Trainees and students <input checked="" type="checkbox"/> Volunteers <input checked="" type="checkbox"/> Others <u>approved visitors</u>
<input type="checkbox"/> Physical therapists <input checked="" type="checkbox"/> Contract staff <input type="checkbox"/> Construction, renovation service workers	
Is baseline skin testing performed with two-step TST for HCWs?	Yes <input checked="" type="checkbox"/> No
Is baseline testing performed with QFT or other BAMT for HCWs?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
How frequently are HCWs tested for <i>M. tuberculosis</i> infection?	TB Questionnaire Annually
Are the <i>M. tuberculosis</i> infection test records maintained for HCWs?	Yes <input checked="" type="checkbox"/> No
Where are the <i>M. tuberculosis</i> infection test records for HCWs maintained? Who maintains the records?	Occupational Health Office Yolanda Grady RN MSN
If the setting has a serial TB screening program for HCWs to test for <i>M. tuberculosis</i> infection, what are the conversion rates for the previous years? [†] 1 year ago <u>0%</u> 4 years ago _____ 2 years ago <u>0%</u> 5 years ago _____ 3 years ago _____	
Has the test conversion rate for <i>M. tuberculosis</i> infection been increasing or decreasing, or has it remained the same over the previous 5 years? (check one)	<input type="radio"/> Increasing <input type="radio"/> Decreasing <input checked="" type="checkbox"/> No change
Do any areas of the health-care setting (e.g., waiting rooms or clinics) or any group of HCWs (e.g., lab workers, emergency department staff, respiratory therapists, and HCWs who attend bronchoscopies) have a test conversion rate for <i>M. tuberculosis</i> infection that exceeds the health-care setting's annual average?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> If yes, list _____ _____ _____

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For HCWs who have positive test results for <i>M. tuberculosis</i> infection and who leave employment at the health setting, are efforts made to communicate test results and recommend follow-up of latent TB infection (LTBI) treatment with the local health department or their primary physician?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Not applicable
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4. TB Infection-Control Program

Does the health-care setting have a written TB infection-control plan?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Who is responsible for the infection-control program?	Gabriel Fernandez RN CIC
When was the TB infection-control plan first written?	2017
When was the TB infection-control plan last reviewed or updated?	07/2019
Does the written infection-control plan need to be updated based on the timing of the previous update (i.e., >1 year, changing TB epidemiology of the community or setting, the occurrence of a TB outbreak, change in state or local TB policy, or other factors related to a change in risk for transmission of <i>M. tuberculosis</i>)?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Does the health-care setting have an infection-control committee (or another committee with infection control responsibilities)?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
If yes, which groups are represented on the infection-control Committee? (Check all that apply.) <input type="checkbox"/> Laboratory personnel <input checked="" type="checkbox"/> Physicians <input checked="" type="checkbox"/> Health and safety staff <input type="checkbox"/> Administrator <input checked="" type="checkbox"/> Nurses <input type="checkbox"/> Epidemiologists <input type="checkbox"/> Risk assessment <input type="checkbox"/> Engineers <input checked="" type="checkbox"/> Quality control (QC) <input type="checkbox"/> Pharmacists <input type="checkbox"/> Others (specify) _____	

If no, what committee is responsible for infection control in the setting?	
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5. Implementation of TB Infection-Control Plan Based on Review by Infection-Control Committee

Has a person been designated to be responsible for implementing an infection-control plan in your health-care setting? If yes, list the name: Gabriel Fernandez RN CIC	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Based on a review of the medical records, what is the average number of days for the following:	
• Presentation of patient until collection of specimen	<u>N/A</u>
• Specimen collection until receipt by laboratory	<u>N/A</u>
• Receipt of specimen by laboratory until smear results are provided to health-care provider	<u>N/A</u>
• Diagnosis until initiation of standard antituberculosis treatment	<u>N/A</u>
• Receipt of specimen by laboratory until culture results are provided to health-care provider	<u>N/A</u>
• Receipt of specimen by laboratory until drug-susceptibility results are provided to health-care provider	<u>N/A</u>
• Receipt of drug-susceptibility results until adjustment of antituberculosis treatment, if indicated	<u>N/A</u>
• Admission of patient to hospital until placement in airborne infection isolation (AII)	<u>N/A</u>

Which environmental controls are in place in your health-care setting? (Check all that apply and describe)			
<u>Environmental control</u>	<u>Description</u>	<input type="checkbox"/> AII rooms	<u>No AII rooms</u>

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Through what means (e.g., review of TST or BAMT conversion rates, patient medical records, and time analysis) are lapses in infection control recognized?	N/A
What mechanisms are in place to correct lapses in infection control?	Enforcement of Policy
Based on measurement in routine QC exercises, is the infection-control plan being properly implemented?	Yes No ✓
Is ongoing training and education regarding TB infection control practices provided for HCWs?	Yes ✓ No

6. Laboratory Processing of TB-Related Specimens, Tests, and Results Based on Laboratory Review

Which of the following tests are either conducted in-house at your healthcare setting's laboratory or sent out to a reference laboratory?	In-house	Sent out
Acid-fast bacilli (AFB) smears		✓
Culture using liquid media (e.g., Bactec and MB-BacT)		✓
Culture using solid media		✓
Drug-susceptibility testing		✓
Nucleic acid amplification (NAA) testing		✓
What is the usual transport time for specimens to reach the laboratory for the following tests? AFB smears _____ Culture using liquid media (e.g., Bactec, MB-BacT) _____ Culture using solid media _____ Drug-susceptibility testing _____ Other (specify) _____ NAA testing _____		
Does the laboratory at your health-care setting or the reference laboratory used by your health-care setting report AFB smear results for all patients within 24 hours of receipt of specimen? What is the procedure for weekends?	Yes No	_____ _____

7. Environmental Controls

Local exhaust ventilation (enclosing devices and exterior devices) _____
 General ventilation (e.g., single-pass system, recirculation system.) _____
 Air-cleaning methods (e.g., high-efficiency particulate air [HEPA] filtration and ultraviolet germicidal irradiation [UVGI]) _____

What are the actual air changes per hour (ACH) and design for various rooms in the setting?

Room	ACH	Design
<u>The systems are designed to maintain design CFM based on heating and cooling needs The majority of the building is Plenum return, third floor is duct return.</u>		
_____	_____	_____
_____	_____	_____
_____	_____	_____

Which of the following local exterior or enclosing devices such as exhaust ventilation devices are used in your health-care setting? (Check all that apply) Laboratory hoods Non applicable

Booths for sputum induction
 Tents or hoods for enclosing patient or procedure

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What general ventilation systems are used in your health-care setting? (Check all that apply) <input checked="" type="checkbox"/> Single-pass system <input type="checkbox"/> Variable air volume (VAV) <input type="checkbox"/> Constant air volume (CAV) <input checked="" type="checkbox"/> Recirculation system <input type="checkbox"/> Other _____	
What air-cleaning methods are used in your health-care setting? (Check all that apply) <u>HEPA filtration</u> <input type="checkbox"/> Fixed room-air recirculation systems <input type="checkbox"/> Portable room-air recirculation systems <u>UVGI</u> <input type="checkbox"/> Duct irradiation <input type="checkbox"/> Upper-air irradiation <input type="checkbox"/> Portable room-air cleaners	
How many AII rooms are in the health-care setting? None	
What ventilation methods are used for AII rooms? (Check all that apply) <u>Primary</u> (general ventilation): <input checked="" type="checkbox"/> Single-pass heating, ventilating, and air conditioning (HVAC) <input checked="" type="checkbox"/> Recirculating HVAC systems <u>Secondary (methods to increase equivalent ACH):</u> <input type="checkbox"/> Fixed room recirculating units <input type="checkbox"/> HEPA filtration <input type="checkbox"/> UVGI <input type="checkbox"/> Other (specify) _____	
Does your health-care setting employ, have access to, or collaborate with an environmental engineer (e.g., professional engineer) or other professional with appropriate expertise (e.g., certified industrial hygienist) for consultation on design specifications, installation, maintenance, and evaluation of environmental controls?	<input checked="" type="checkbox"/> Yes No
Are environmental controls regularly checked and maintained with results recorded in maintenance logs?	<input checked="" type="checkbox"/> Yes No
Are AII rooms checked daily for negative pressure when in use?	Yes No <input checked="" type="checkbox"/> N/A
Is the directional airflow in AII rooms checked daily when in use with smoke tubes or visual checks?	Yes No <input checked="" type="checkbox"/> N/A
Are these results readily available?	Yes No <input checked="" type="checkbox"/> N/A
What procedures are in place if the AII room pressure is not negative?	N/A
Do AII rooms meet the recommended pressure differential of 0.01-inch water column negative to surrounding structures?	Yes <input checked="" type="checkbox"/> No N/A
8. Respiratory-Protection Program	
Does your health-care setting have a written respiratory-protection program?	<input checked="" type="checkbox"/> Yes No

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<p>Which HCWs are included in the respiratory protection program? (Check all that apply)</p> <p><input checked="" type="checkbox"/> Physicians</p> <p><input checked="" type="checkbox"/> Mid-level practitioners (NPs and PAs)</p> <p><input checked="" type="checkbox"/> Nurses</p> <p><input type="checkbox"/> Administrators</p> <p><input checked="" type="checkbox"/> Laboratory personnel - LARC</p> <p><input checked="" type="checkbox"/> Contract staff</p> <p><input type="checkbox"/> Construction or renovation staff</p> <p><input type="checkbox"/> Service personnel</p>	<p><input type="checkbox"/> Janitorial staff</p> <p><input checked="" type="checkbox"/> Maintenance/engineering staff</p> <p><input type="checkbox"/> Transportation staff</p> <p><input type="checkbox"/> Dietary staff</p> <p><input checked="" type="checkbox"/> Students</p> <p><input checked="" type="checkbox"/> Others (specify) <u>Approved visitors</u></p>												
<p>Are respirators used in this setting for HCWs working with TB patients? If yes, include manufacturer, model, and specific application (e.g., ABC model 1234 for bronchoscopy and DEF model 5678 for routine contact with infectious TB patients).</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;"><u>Manufacturer</u></th> <th style="text-align: left;"><u>Model</u></th> <th style="text-align: left;"><u>Specific application</u></th> </tr> </thead> <tbody> <tr> <td>3M</td> <td>1860 Reg/Small</td> <td>N-95</td> </tr> <tr> <td>Halyard</td> <td>Reg 46727/ Sm 46827</td> <td>N-95</td> </tr> <tr> <td>Kimberly Clark</td> <td>Reg 46767/Sm 46867</td> <td>N-95</td> </tr> </tbody> </table>		<u>Manufacturer</u>	<u>Model</u>	<u>Specific application</u>	3M	1860 Reg/Small	N-95	Halyard	Reg 46727/ Sm 46827	N-95	Kimberly Clark	Reg 46767/Sm 46867	N-95
<u>Manufacturer</u>	<u>Model</u>	<u>Specific application</u>											
3M	1860 Reg/Small	N-95											
Halyard	Reg 46727/ Sm 46827	N-95											
Kimberly Clark	Reg 46767/Sm 46867	N-95											
Is annual respiratory-protection training for HCWs performed by a person with advanced training in respiratory protection?	Yes <input checked="" type="checkbox"/> No												
Does your health-care setting provide initial fit testing for HCWs? If yes, when is it conducted? <u>Upon Hire</u>	Yes <input checked="" type="checkbox"/> No												
Does your health-care setting provide periodic fit testing for HCWs? If yes, when and how frequently is it conducted? <u>Annually or as needed</u>	Yes <input checked="" type="checkbox"/> No												
<p>What method of fit testing is used? Describe.</p> <p style="text-align: center;"><u>Bitrex and Saccharin Qualitative Fit Test</u></p>													
Is qualitative fit testing used?	Yes <input checked="" type="checkbox"/> No												
Is quantitative fit testing used?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>												
9. Reassessment of TB risk													
How frequently is the TB risk assessment conducted or updated in the health-care setting?	Annually												
When was the last TB risk assessment conducted?	Annually												
<p>What problems were identified during the previous TB risk assessment?</p> <p>1) _____</p> <p>2) _____</p> <p>3) _____</p>													

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4) _____ _____	
5) _____ _____	
What actions were taken to address the problems identified during the previous TB risk assessment?	
1) _____ _____	
2) _____ _____	
3) _____ _____	
4) _____ _____	
5) _____ _____	
Did the risk classification need to be revised as a result of the last TB risk assessment?	Yes No <input checked="" type="checkbox"/>

- * If the population served by the health-care facility is not representative of the community in which the facility is located, an alternate comparison population might be appropriate.
- † Test conversion rate is calculated by dividing the number of conversions among HCWs by the number of HCWs who were tested and had prior negative results during a certain period (see Supplement, Surveillance and Detection of *M. tuberculosis* infections in Health-Care Settings).