



**Tuberculosis (TB) risk assessment worksheet**

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

<b>Scoring</b> ✓ or Y = Yes                      X or N = No                      NA = Not Applicable
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**1. Incidence of TB**

<p>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.</p>	<p><b>Facility rate:</b> (# of confirmed diagnosed cases of TB/number of admissions*100,000)</p> <p>CY 2021 9/12892= 69.81 per 100,000</p> <p>CY 2020 4/21959 = 18.21 per 100,000</p> <p><b>CY 2019</b> 6/28,912=22.66 per 100,000</p> <p><b>CY 2018</b> 8/26,469= 30.22 per 100,000 patients</p> <p><b>CY2017</b> 4/26,922 = 14.85 per 100,000 patients</p> <p><b>Community rate:</b> (from dept. of health) 2.5 (2021) 2.1 (2020) 2.9 (2019) 3.5 (2018) 3.2 (2017) 3.1 (2016)</p> <p><b>State rate:</b> 2.3 (2021) 1.9 (2020) 2.6 (2019) 2.8 (2018) 2.7 (2017) 3.2 (2016)</p> <p><b>National rate:</b> 2.37 (2021) 2.16 (2020)</p>
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Are patients with suspected or confirmed TB disease encountered in your setting (inpatient and outpatient)?	Yes																							
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.	<table border="1"> <thead> <tr> <th rowspan="2">Year</th> <th colspan="2">No. patients</th> </tr> <tr> <th>Suspected</th> <th>Confirmed</th> </tr> </thead> <tbody> <tr> <td>2021</td> <td>57</td> <td>9</td> </tr> <tr> <td>2020</td> <td>83</td> <td>4</td> </tr> <tr> <td>2019</td> <td>281</td> <td>6</td> </tr> <tr> <td>2018</td> <td>440</td> <td>8</td> </tr> <tr> <td>2017</td> <td>352</td> <td>4</td> </tr> <tr> <td>2016</td> <td>345</td> <td>7</td> </tr> </tbody> </table>	Year	No. patients		Suspected	Confirmed	2021	57	9	2020	83	4	2019	281	6	2018	440	8	2017	352	4	2016	345	7
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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)?	No																							

**2. Risk Classification**

<b>Inpatient settings</b>	
How many inpatient beds are in your inpatient setting?	719
How many patients with MTB disease are encountered in the inpatient setting in 1 year? Review laboratory data, infection-control records, and databases containing discharge diagnoses.	2021: 9 2020: 4 2019: 6 2018: 8 2017: 4 2016: 7
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.)	Low risk.
Does your health-care setting have a plan for the triage of patients with suspected or confirmed TB disease?	Yes

**3. Screening of HCWs for *M. tuberculosis* Infection**

Does the health-care setting have a TB screening program for HCWs?	Yes
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 <input checked="" type="checkbox"/> Administrators <input checked="" type="checkbox"/> Laboratory workers <input checked="" type="checkbox"/> Respiratory therapists <input checked="" type="checkbox"/> Physical therapists Contract staff (Required by the contracting department. Records kept in contracting department)	<input checked="" type="checkbox"/> Janitorial staff <input checked="" type="checkbox"/> Maintenance or engineering staff <input checked="" type="checkbox"/> Transportation staff <input checked="" type="checkbox"/> Dietary staff <input checked="" type="checkbox"/> Receptionists Trainees and students (Medical students-under GME; Nursing and Allied under Learning/Nursing department. Records and compliance are managed by the above departments) <input checked="" type="checkbox"/> Volunteers <input type="checkbox"/> Others _____

Construction or renovation workers (same as contract workers) ✓ Service workers	
Is baseline skin testing performed with two-step TST(Tuberculin Skin Test) for HCWs?	Yes
Is baseline testing performed with QFT (Quantiferon) or other BAMT (Blood Assay for Mycobacterium Tuberculosis) for HCWs?	No
How frequently are HCWs tested for <i>M. tuberculosis</i> infection?	Annually during their anniversary hire period.
Are the <i>M. tuberculosis</i> infection test records maintained for HCWs?	Yes
Where are the <i>M. tuberculosis</i> infection test records for HCWs maintained? Who maintains the records?	Employee Health Department and Broward Health Workman’s Comp Department maintain records of conversions
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? † Benchmark 1.0%  2021 0.0% 2020 0.0% 2019 0.7% 2018 0.6% 2017 0.5% 2016 0.6%	
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)	o Decreasing from 0.7% – 0% No conversions for CY 2020. Even though the percentages were up and down over the last five years, the numbers remain below the threshold benchmark of 1%. We have continued to recommend TST and annual fit testing for all employees.
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?	No
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 - New hire converters are evaluated by PCP/ID physician prior to hire. Employees who converted are seen by an ID physician through workers comp. If employees are terminated before they are seen and evaluated, a letter is sent by employee health to follow up with workers comp, private primary care physician or their new employee health department. Exposure follow up for employees who were terminated before the 10 <sup>th</sup> week of follow up are notified by letter to follow up with their PCP or new employee health department.

**4. TB Infection-Control Program**

Does the health-care setting have a written TB infection-control plan?	Yes and BH Policy
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Who is responsible for the infection-control program?	Chief Medical Officer/ chairman of infection control committee.
When was the TB infection-control plan first written?	06/05
When the TB infection-control plan was last reviewed or updated?	1/2022
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> )?	All infection control policies reviewed yearly.
Does the health-care setting have an infection-control committee (or another committee with infection control responsibilities)?	Yes
If yes, which groups are represented on the infection-control committee? (Check all that apply.) <ul style="list-style-type: none"> <li>✓ Physicians</li> <li>✓ Nurses</li> <li>✓ Epidemiologists</li> <li>✓ Engineers</li> <li>✓ Pharmacists</li> <li>✓ Laboratory personnel</li> <li>✓ Health and safety staff</li> <li>✓ Administrator</li> <li>✓ Risk assessment</li> <li>✓ Quality control (QC)</li> <li>✓ Environmental staff</li> <li>✓ Respiratory</li> <li>✓ Clinical education</li> <li>✓ Facilities management</li> </ul>	

#### 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: ____	Yes. Dr. David Droller Corporate Chief Infection Prevention/ Medical Director of Epidemiology
Based on review of the medical records, what is the average number of days for the following:	<ol style="list-style-type: none"> <li>1. Presentation of patient until collection of specimen: 1</li> <li>2. Specimen collection until receipt by laboratory: 1</li> <li>3. Receipt of specimen by laboratory until smear results are provided to healthcare provider: 1</li> <li>4. Diagnosis until initiation of standard anti-tuberculosis treatment: 1</li> <li>5. Receipt of specimen by laboratory until culture results are provide for healthcare provider : 1</li> <li>6. Receipt of drug susceptibility results until adjustment of anti-tuberculosis treatment if indicated: 4</li> <li>7. Admission of patient to hospital until placement in airborne infection isolation (AII): 1</li> </ol>
Through what means (e.g., review of TST or BAMT conversion rates, patient medical records, and time analysis) are lapses in infection control recognized?	Review of laboratory results, outbreak investigations and other means of surveillance.
What mechanisms are in place to correct lapses in infection control?	Process improvements, outbreak investigation, literature search, multidisciplinary team work, reporting through committee process within the facility.
Based on measurement in routine QC (Quality Control) exercises, is the infection-control plan being properly implemented?	Yes
Is ongoing training and education regarding TB infection-control practices provided for HCWs?	Yes

**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 health-care 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	*	
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. The same process is utilized on nights and weekends as regular business hours. Laboratory will page the on call Epidemiologist to communicate positive AFB results outside of normal business hours.	

**7. Environmental Controls**

Which environmental controls are in place in your health-care setting? (Check all that apply and describe)	
<u>Environmental control</u> <ul style="list-style-type: none"> <li>✓ All rooms</li> <li>✓ Local exhaust ventilation (enclosing devices and exterior devices)</li> <li>✓ General ventilation (e.g., single-pass system, recirculation system.)</li> <li>✓ Air-cleaning methods (e.g., high-efficiency particulate air [HEPA] filtration and ultraviolet germicidal irradiation [UVGI])</li> </ul>	
What are the actual air changes per hour (ACH) and design for various rooms in the setting?	
Med Surge / Tele Rooms - 6 ACPH Emergency Department - 12 ACPH Operating Rooms / Surgical Services – 20 ACPH Negative Isolation Rooms – 12 ACPH Bronchoscopy Rooms - 12 ACPH Endoscopy Rooms – 12 ACPH Cath Labs - 15 ACPH Interventional Radiology Procedure Room - 15 ACPH Delivery Room(Caesarean) – 20 ACPH	
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)	
<ul style="list-style-type: none"> <li>✓ Laboratory hoods</li> <li>✓ Booths for sputum induction</li> </ul>	
What general ventilation systems are used in your health-care setting? (Check all that apply)	
<ul style="list-style-type: none"> <li>✓ Single-pass system</li> <li>✓ Constant air volume (CAV)</li> <li>✓ Recirculation system</li> </ul>	
What air-cleaning methods are used in your health-care setting? (Check all that apply)	
<u>HEPA filtration</u> <ul style="list-style-type: none"> <li>✓ Fixed room-air recirculation systems</li> </ul>	
<u>UVGI</u> <ul style="list-style-type: none"> <li>✓ Portable room-air cleaners</li> </ul>	
How many All rooms are in the health-care setting?	83

What ventilation methods are used for AII rooms? (Check all that apply) <u>Primary (general ventilation):</u> ✓ Single-pass heating, ventilating, and air conditioning (HVAC) ✓ Recirculating HVAC systems  <u>Secondary (methods to increase equivalent ACH):</u> ✓ Fixed room recirculating units ✓ UVGI	
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?	Yes
Are environmental controls regularly checked and maintained with results recorded in maintenance logs?	Yes
Are AII rooms checked daily for negative pressure when in use?	Yes
Is the directional airflow in AII rooms checked daily when in use with smoke tubes or visual checks?	Yes
Are these results readily available?	Yes
What procedures are in place if the AII room pressure is not negative?	Patient is transferred
Do AII rooms meet the recommended pressure differential of 0.01 -inch water column negative to surrounding structures?	Yes

**8. Respiratory-Protection Program**

Does your health-care setting have a written respiratory-protection program?	Yes									
Which HCWs are included in the respiratory protection program? (Check all that apply) ✓ Physicians ✓ Mid-level practitioners (NPs and PAs) ✓ Nurses ✓ Administrators ✓ Laboratory personnel ✓ Service personnel ✓ Janitorial staff ✓ Maintenance or engineering staff ✓ Transportation staff ✓ Dietary staff										
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). <table border="0" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; border-bottom: 1px solid black;"><u>Manufacturer</u></th> <th style="text-align: left; border-bottom: 1px solid black;"><u>Model</u></th> <th style="text-align: left; border-bottom: 1px solid black;"><u>Specific application</u></th> </tr> </thead> <tbody> <tr> <td>Halyard Health Inc.</td> <td>N-95 #62355</td> <td>Routine contact with infectious TB patients</td> </tr> <tr> <td>3M corporation</td> <td>N-95 #1860 &amp; 1860S</td> <td>Routine Contact with Infectious TB patients</td> </tr> </tbody> </table>	<u>Manufacturer</u>	<u>Model</u>	<u>Specific application</u>	Halyard Health Inc.	N-95 #62355	Routine contact with infectious TB patients	3M corporation	N-95 #1860 & 1860S	Routine Contact with Infectious TB patients	
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Halyard Health Inc.	N-95 #62355	Routine contact with infectious TB patients								
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Is annual respiratory-protection training for HCWs performed by a person with advanced training in respiratory protection?	Yes									
Does your health-care setting provide initial fit testing for HCWs? If yes, when is it conducted?	Yes; On hire by employee health									
Does your health-care setting provide periodic fit testing for HCWs? If yes, when and how frequently is it conducted?	Yes; yearly									
What method of fit testing is used? Describe. _x_ 1. Fit check: Saccharin or Bitrex fit check . Individual is asked to do normal, deep breathing; bend over; side to side and up/down head movements). _____ _____	Hood/Taste									
Is qualitative fit testing used?	Yes									

Is quantitative fit testing used? (Available)	No
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**9. Reassessment of TB risk**

How frequently is the TB risk assessment conducted or updated in the health-care setting?	Yearly
When was the last TB risk assessment conducted?	01/2020
What problems were identified during the previous TB risk assessment? 1) Male employees who cannot be fit tested with the N95 mask by Employee Health due to facial hair are non-compliant with OSHA requirements for respiratory personal protection as an N95 mask is required to enter airborne precaution room. Nor are they compliant with the EOC Respiratory Protection and PPE policies. Managers are notified and so is the Safety Officer. Alternate patient assignments are necessary. Employees are told they can go to HR and request an ADA accommodation which can only be granted for documented religious and medical reasons.	
What actions were taken to address the problems identified during the previous TB risk assessment?	
Did the risk classification need to be revised as a result of the last TB risk assessment?	No

\* 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).