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.

Scoring √ or Y = Yes	**X or N = No**	**NA = Not Applicable**

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.	**Broward County** **Community rate:** ↓ 2.1 (2020) 2.5 (2021) **State rate:** 2.6 (2020) ↓ 2.3(2021) **National rate**: 2.7 (2020) ↓ 2.2 (2021) **Facility rate: CY 2021 0.0** (# of confirmed diagnosed cases of TB/number of admissions) 1/10,213=0.09 per 1000 patients.
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 healthcare setting in 1 year (inpatient and outpatient)? Review laboratory data, infection-control records, and databases containing discharge diagnoses.	Suspected Confirmed 2021: 4 1
Currently, does your health-care setting have a cluster of persons with confirmed TB disease that might be a result of ongoing transmission of *Mycobacterium tuberculosis* within your setting (inpatient and outpatient)?	No

2. Risk Classification

Inpatient settings	
How many inpatient beds are in your inpatient setting?	181
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.	CY 2021: 1
Depending on the number of beds and TB patients encountered in 1 year, what is the risk classification for your inpatient setting (≥200 beds)? (See Appendix C.) According to the CDC guidelines 2005, a "low risk" facility has less than 6 TB patients a year. A "medium risk" facility has greater than or equal to 6 confirmed cases of tuberculosis annually.	In CY 2021, there was 1 confirmed MTB patient cases; therefore, BHIP is classified as a "low risk" facility.
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.) Physicians Mid-level practitioners (nurse practitioners [NP] and physician's assistants [PA]) ✓ Nurses ✓ Administrators ✓ Laboratory workers ✓ Respiratory therapists	✓ Janitorial staff ✓ Maintenance or engineering staff ✓ Transportation staff ✓ Dietary staff ✓ Receptionists ✓ Trainees and students (Medical students-under GME; Nursing and Allied under Learning/Nursing department.

✓ Physical therapists Contract staff (Required by the contracting department. Records kept in contracting department) Construction or renovation workers (same as contract workers) Service workers	Records and compliance are managed by the above departments) ✓ Volunteers o Others_____
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 *M. tuberculosis* infection?	Annually during their anniversary hire period.
Are the *M. tuberculosis* infection test records maintained for HCWs?	Yes
Where are the *M. tuberculosis* infection test records for HCWs maintained? Who maintains the records?	Employee Health Department
If the setting has a serial TB screening program for HCWs to test for *M. tuberculosis* infection, what are the conversion rates for the previous years? † Benchmark 1.0% (2021)-0.02% (2020)-0% (2019)- 0% (2018)-0%	
Number of employee exposures	2020-0: 2021:0 2019-0

Has the test conversion rate for *M. tuberculosis* infection been increasing or decreasing, or has it remained the same over the previous 5 years? (Check one)	Decreased
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 *M. tuberculosis* infection that exceeds the health-care setting's annual average?	No.
For HCWs who have positive test results for *M. tuberculosis* 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 positive skin test results are screened with a chest x-ray and are referred to their PCP or community resource for evaluation of latent TB status. This is required by day 60 after first day of employment. 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 10th 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 – in the Infection Control Plan and a Broward Health policy
Who is responsible for the infection-control program?	Medical Director of Infection Prevention Program
When was the TB infection-control plan first written?	06/05
When was the TB infection-control plan last reviewed or updated?	4/2022

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 *M. tuberculosis*)?	No
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.) ✓ Physicians ✓ Nurses ✓ Epidemiologists Engineers ✓ Pharmacists ✓ Laboratory personnel ✓ Employee Health ✓ Administrator ✓ Risk assessment ✓ Quality control (QC) ✓ Environmental staff ✓ Respiratory ✓ Clinical education ✓ Facilities management	

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: Chairman of Infection control	Yes. Dr. Stephen Renae
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 teamwork, 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 (completed at BH facility central lab)	✓	
Nucleic acid amplification (NAA) testing (completed at BH facility central lab)	✓	
Does the laboratory at your healthcare setting or the reference laboratory used by your healthcare 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. Microbiology 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>

- ✓ AII rooms
- ✓ 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 lighting

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

Med Surge / Tele Rooms - 12 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

The rooms we would like to get the latest exchange rates on are the following:

Location	Room Size Use	Length	Width	Height	Volume	Actual CFM	Actual AC/HR	Required AC/HR	Required CFM
Room #500	Patient Isolation Room	16.0	12.0	8.5	1,632	400	14.7	12.0	326
Room #500A	Patient Isolation Room Toilet	6.0	9.0	8.0	432	105	14.6	10.0	72
Room #502	Patient Isolation Room	16.0	12.0	8.5	1,632	340	12.5	12.0	326
Room #502A	Patient Isolation Room Toilet	6.0	9.0	8.0	432	115	16.0	10.0	72
Room #1	ICU Patient Isolation Room #1	14.0	12.0	8.5	1,428	735	30.9	12.0	286
Room #1A	ICU Patient Isolation Room Toilet	5.0	8.0	8.5	340	170	30.0	10.0	57
Room #6	Patient Isolation Room #6	14.0	12.0	8.5	1,428	530	22.3	12.0	286
Room #6A	Patient Isolation Room Toilet	5.0	8.0	8.5	340	130	22.9	10.0	57
Room #400	Patient Isolation Room	16.0	12.0	8.5	1,632	390	14.3	12.0	326
Room #402	Patient Isolation Room Toilet	6.0	9.0	8.0	432	115	16.0	10.0	72
Room #300	Patient Isolation Room	16.0	12.0	8.5	1,632	380	14.0	12.0	326
Room #302	Patient Isolation Room Toilet	6.0	9.0	8.0	432	90	12.5	10.0	72

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
- ✓ Booths for sputum induction

What general ventilation systems are used in your health-care setting? (Check all that apply)

- ✓ Single-pass system
- ✓ Constant air volume (CAV)
- ✓ Recirculation system

What air-cleaning methods are used in your health-care setting? (Check all that apply)

<u>HEPA filtration</u>

- ✓ Fixed room-air recirculation systems

<u>UVGI</u>

- ✓ Portable room-air cleaners

How many AII rooms are in the health-care setting?	44 1. 3rd floor 4 2. PCU-23 3. 5th floor 3 4. GI 1 5. ICU 10 6. Bronc 1 7. ED Rm 2

What ventilation methods are used for AII rooms? (Check all that apply) Primary (general ventilation): ✓ Single-pass heating, ventilating, and air conditioning (HVAC) ✓ Recirculating HVAC systems Secondary (methods to increase equivalent ACH): ✓ Fixed room recirculating units ✓ UVGI

Does your healthcare 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
- Contract staff
- Construction or renovation staff
- ✓ Service personnel
- ✓ Janitorial staff
- ✓ Maintenance or engineering staff
- ✓ Transportation staff
- ✓ Dietary staff
- ✓ Respiratory Therapist

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). Manufacturer Model Specific application 3M corporation N-95 #1860 & 1860S Routine Contact with Infectious TB patients	
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? On hire by employee health	Yes
Does your health-care setting provide periodic fit testing for HCWs? If yes, when and how frequently is it conducted? Yearly	Yes
What method of fit testing is used? Describe. ____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

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?	04/2022
What problems were identified during the previous TB risk assessment? TB screening tool not consistently completed during triage.	
What actions were taken to address the problems identified during the previous TB risk assessment? Review TB screen tool w/ ED staff, manger, and Clinical ED.	
Did the risk classification need to be revised because of the last TB risk assessment?	No, last year we remained a

	low risk facillity
Recommendations: 1. Continue annual PPD testing and/or symptom screening and x-ray review of all employees and volunteers. 2. Continue to closely monitor all patients admitted for suspected/known TB for appropriate isolation practices. 3. Continue referring new employees for latent TB infection evaluation as indicated. 4. Close monitoring of radiographic imaging reports 5. Supplemented surveillance of abnormal diagnostic imaging	

* 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).