Facility Tuberculosis (TB) Risk Assessment for Correctional Facilities

The various areas within correctional facilities have different levels of risk for TB transmission. Apply this worksheet to assess all settings within the facility, and then as appropriate, to identify the risk category for the whole facility.

Terminology and Definitions

Airborne Infection Isolation Room – Formerly, negative pressure isolation room, an AIIR is a single-occupancy patient-care room used to isolate persons with a suspected or confirmed airborne infectious disease. Environmental factors are controlled in AIIRs to minimize the transmission of infectious agents that are usually transmitted from person to person by droplet nuclei associated with coughing or aerosolization of contaminated fluids. AIIRs should provide negative pressure in the room (so that air flows under the door gap into the room); **and** an air flow rate of 6-12 Air Changes per Hour (ACH) (6 ACH for existing structures, 12 ACH for new construction or renovation); **and** direct exhaust of air from the room to the outside of the building or recirculation of air through a HEPA filter before returning to circulation (MMWR 2005; 54 [RR-17])

Conversion – A tuberculin skin test increase of 10mm or more within a 2-year period, regardless of age (i.e., 5/10/05 – TST = 4mm, tested again 3/17/07 – TST = 16mm.)

> **Test Conversion Rate** – calculation is identified by dividing the number of conversions among workers by the number of workers who were tested and had prior negative results during a certain period.

Risk Classifications

> **Low Risk** – If the facility has admitted no residents with TB, had no resident/staff TST conversions, the facility TB rate is less than the county rate, no person to person transmission has occurred, and an agreement exists to refer residents with active TB for initial inpatient care, the facility is classified as *low risk.*
>
> **Medium Risk** – A facility with TST conversion rates greater than those in the county where the facility is located is classified as *medium risk*. If the population served by the facility is not representative of the community in which the facility is located, an alternate comparison population might be appropriate. If the facility experienced a cluster of TST conversions of residents or health care or security workers, the facility is classified as *medium risk*.
>
> Facilities that serve communities with a high incidence of TB disease or that treat populations at high risk (e.g., those with human immunodeficiency virus infection or other immunocompromising conditions) or that treat residents with drug-resistant TB disease might need to be classified as *medium risk*, even if they meet the low-risk criteria.
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> **Potential Ongoing Transmission –** This classification should be applied to a specific group of health care or security workers or to a specific area of the facility in which evidence of ongoing transmission is apparent, if such a group or area can be identified. Otherwise, a classification of potential ongoing transmission should be applied to the entire setting. This classification should be temporary and warrants immediate investigation and corrective steps after a determination has been made that ongoing transmission has ceased. A new TB Risk Assessment should be performed. *The setting should be*

reclassified as medium risk, and the recommended timeframe for screening this medium risk classification is at least 1 year.

During an investigation of *potential ongoing transmission* of M. tuberculosis, testing for M. tuberculosis infection should be performed every 8–10 weeks until lapses in infection controls have been corrected and no further evidence of ongoing transmission is apparent.

Two-step Testing – A test that is done whenever serial or repeat tuberculin skin tests (TST) are administered, such as in health care workers. The procedure is an initial TST is placed followed by the reading at 48-72 hours. If the first test is positive, consider the person infected. If the first test is negative, repeat the TST within 1-3 weeks, followed by the reading 48-72 hours later. If second test is positive, consider the person previously infected. If the second test is negative, consider the person not infected.

NOTE: If the population served by the correctional facility is not representative of the community in which the facility is located, an alternate comparison population might be appropriate.

BEST PRACTICE: Complete this assessment in conjunction with the local health department at least annually.

Facility Name _____

Date: _____

Person(s) conducting Risk Assessment:

Correctional Facility Name	Title	Health Department TB Program Name	Title

Background

What is the total # of beds in the facility? # of beds_____

What is the total # of inmates in the facility? # of Inmates_____

How many Airborne Infection Isolation (AII) rooms are in the facility? _____

		Cases	Rate (Per 100,000)	Incidence (%)
What is the incidence of TB in your correctional facility, and how does it compare with the state and national average? *(**Note:** 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.)*	National			
	State			
	Community			
	Facility			
What is the incidence of TB in your facility and specific settings (Infirmary, General Population) and how do those rates compare?	Infirmary			
	Gen. Pop.			
	Other			

Does evidence exist that a high incidence of TB disease has been observed in the community that the correctional setting serves? ☐ Yes ☐ No

Is the incidence/rate higher in your facility than in the community? ☐ Yes ☐ No

Does your facility house persons with active TB? ☐ Yes ☐ No

How frequently is the TB risk assessment conducted or updated in the correctional facility?
☐ Annually ☐ Every six months ☐ As needed ☐ Other (please specify)_____

When was the first time a TB risk classification was done for your facility?_____(Date)

When was the last TB risk assessment conducted?_____(Date)
Did the risk classification need to be revised as a result of the last TB risk assessment? ☐ Yes ☐ No

Have inmates with drug-resistant TB disease been encountered in your facility within the previous 5 years? ☐ Yes ☐ No

Does your facility receive inmates from (contract with) high risk facilities (ICE, BOP, USMS, other jails/prisons with high incidence of TB)? ☐ Yes ☐ No

STAFF

Does the correctional facility have a TB screening program for staff? ☐ Yes ☐ No

If yes, which workers are included in the TB screening program? (check all that apply)
☐ Physicians ☐ Contract staff ☐ Dietary staff

☐ Mid-level practitioners (nurse practitioners [NP] and physician's assistants [PA])	☐ Construction or renovation workers	☐ Receptionists
	☐ Food Service workers	☐ Trainees and students
☐ Nurses	☐ Janitorial staff	☐ Volunteers
☐ Administrative staff	☐ Maintenance or engineering staff	☐ Training staff
☐ Correctional facility security staff	☐ Transportation staff	☐ Classifications
☐ Others *(Specify)*		

How frequently is staff tested for *M. tuberculosis* infection?
☐ Annually ☐ Every 6 mos. Other (please specify)_____

If there is serial TB screening for staff, what are the conversion rates for the previous years? _____

Are all staff screened and/or tested as outlined in policy and procedure? ☐ Yes ☐ No

Is baseline skin testing performed with two-step TST for all permanent staff? ☐ Yes ☐ No

Is baseline testing performed with IGRA or BAMT for all permanent staff? ☐ Yes ☐ No

Are the M. tuberculosis infection test records maintained for staff? ☐ Yes ☐ No

If yes, how? ☐ Manually ☐ Database ☐ Other (please specify)_____

Where are the *M. tuberculosis* infection test records for staff maintained? ☐ Human Resources ☐ Infection Control ☐ Other (please specify)_____

Who maintains the records? ☐ Medical ☐ Custody ☐ Other (please specify)_____

If there is serial TB screening for staff, what are the conversion rates for the previous years? †					
1 year ago	**# Tested**	**# Positive**	4 years ago	**# Tested**	**# Positive**
2 years ago	**# Tested**	**# Positive**	5 years ago	**# Tested**	**# Positive**
3 years ago	**# Tested**	**# Positive**			

Are there any documented conversions in staff in your facility? ☐ Yes ☐ No

For staff who have positive test results for M. tuberculosis infection and who leave employment at the facility, are efforts made to communicate test results to staff and recommend they follow-up for latent TB infection (LTBI) treatment with the local health department or their primary physician? ☐ Yes ☐ No ☐ Unknown ☐ Not applicable

INMATES

Does your correctional facility have a plan for screening all inmates for TB disease? ☐ Yes ☐ No

How many inmates (TB suspects/active cases) are medically evaluated at your correctional facility?
Suspects _____ Active Cases _____
(*Note: Review laboratory data, infection control records, and databases containing discharge diagnoses. Confirm with the Health Department*)

Is there a high incidence of immunocompromised inmates or staff in your facility? ☐ Yes ☐ No

Does your correctional facility have a plan for the triage and/or transfer (*if no negative airborne infection isolation (AII) room)* of inmates with suspected or confirmed TB disease? ☐ Yes ☐ No

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		Days
• Specimen collection until receipt by laboratory		Days
• Receipt of specimen by laboratory until smear results are provided to healthcare provider		Days
• Diagnosis until initiation of standard anti-tuberculosis treatment		Days
• Receipt of specimen by laboratory until culture results are provided to healthcare provider		Days
• Receipt of specimen by laboratory until drug-susceptibility results are provided to healthcare provider		Days
• Receipt of drug-susceptibility results until adjustment of anti-tuberculosis treatment, if indicated		Days
• Admission of patient to hospital		Days

Are all inmates screened and/or tested as outlined in policy and procedure? ☐ Yes ☐ No

Are there any documented conversions in inmates in your facility? ☐ Yes ☐ No

LABORATORY

Does the laboratory at your local health department/state laboratory or the reference laboratory used by your facility report AFB smear results for all patients within 24-48 hours of receipt of specimen? ☐ Yes ☐ No

Please specify the procedure for weekends?_____

_____

Which of the following tests are either conducted in-house at your facility's local health department/state laboratory or sent out to a reference laboratory?	State Lab	Other Lab
• Acid-fast bacilli (AFB) smears	☐	☐
• Culture using liquid media	☐	☐
• 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		Drug-susceptibility testing	
Culture using liquid media *(e.g., Bactec, MB-BacT)*		NAA testing	
		Other	
Culture using solid media		List Other	
Are all sputum specimens placed in sterile containers and refrigerated prior to being sent to the laboratory?		☐ Yes ☐ No	

INFECTION CONTROL

Does the correctional facility have a written TB Infection Control Plan? ☐ Yes ☐ No

When was the TB Infection Control Plan first written? Date_____

When was the TB Infection Control Plan last reviewed or updated? Date_____

Was the TB Infection Control Plan written in conjunction with the health department TB program staff?	☐ Yes ☐ No
Was the TB Infection Control Plan based on current CDC Corrections guidelines? Was it updated if there was an outbreak, change in epidemiology, etc.? (**Note:** Any incidence discussed in the current risk assessment that would change the risk classification for the facility)	☐ Yes ☐ No ☐ Yes ☐ No

Does the corrections' setting have an infection control committee (or another committee with infection control responsibilities)? ☐ Yes ☐ No

If yes, which staff is represented on the Infection Control Committee? (Check all that apply.)

☐ Physicians	☐ Engineers	☐ Health and safety staff	☐ Quality control (QC)
☐ Nurses	☐ Pharmacists	☐ Administrator	☐ Security/Custody
☐ Epidemiologists	☐ Laboratory personnel	☐ Risk assessment	☐ Training Staff
☐ Others *(specify)*			

If no, who has responsibility for aspects of Infection Control in the facility?	
Does the Infection Control Committee meet as a group to discuss Infection Control Issues regularly?	☐ Yes ☐ No

Has a person been designated to be responsible for implementing an infection control plan in your healthcare setting?
☐ Yes ☐ No
If yes, list the name/title_____

Is that same person responsible for overseeing the TB Infection Control Program? ☐ Yes ☐ No

If no, who is responsible? List name/title _____

Is ongoing training and education regarding TB infection control practices provided for HCWs and other staff as needed? ☐ Yes ☐ No

Based on reviews in routine quality Control exercises, is the TB infection control plan being properly implemented? ☐ Yes ☐ No

Has your correctional facility had a cluster of TB cases in the past 12 months? ☐ Yes ☐ No

Has your correctional facility had a cluster of persons with TB disease in the past 5 years? ☐ Yes ☐ No

(***Hint:*** There might be ongoing transmission within your setting)

Do any areas of the correctional facility (e.g., Infirmary, Clinics, etc.) or any group of staff (e.g., medical, officers/guards) have a test conversion rate for M. tuberculosis infection that exceeds the facility's annual average? ☐ Yes ☐ No

If yes, please list:

Does evidence exist of person-to-person transmission of *M. tuberculosis* in your facility? ☐ Yes ☐ No

How are lapses in TB infection control measures recognized (e.g., Formal infection control meetings, quality improvement meetings, review of TST or BAMT/IGRA conversion rates, patient medical records, and time analysis)?

Please specify: _____

What mechanisms are in place to correct lapses in TB infection control? Be specific_____

ENVIRONMENTAL CONTROL

Which environmental controls are in place in your correctional facility? (Check all that apply and describe. Maintenance can assist with this section.)	
ENVIRONMENTAL CONTROL	DESCRIPTION
☐ Airborne Infection Isolation (AII) rooms	☐ Dorm ☐ Medical ☐ Other (Please specify)
☐ 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])	

Are environmental controls regularly checked and maintained with results recorded in maintenance logs? ☐ Yes ☐ No

What general ventilation systems are used in your facility? *(Check all that apply* – maintenance can assist with this)		
☐ Single-pass system	☐ Recirculation system	
☐ Variable air volume (VAV)	☐ Other *(specify)*	
☐ Constant air volume (CAV)	☐ Other *(specify)*	

What air-cleaning methods are used in your facility? *(Check all that apply)*	
HEPA FILTRATION	UVGI
☐ Fixed room-air recirculation systems	☐ Duct irradiation
☐ Portable room-air recirculation systems	☐ Upper-air irradiation
	☐ Portable room-air cleaners

Does your correctional facility 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 ☐ No

What ventilation methods are used for AII rooms? *(Check all that apply)*			
PRIMARY (GENERAL VENTILATION)	SECONDARY (METHODS TO INCREASE EQUIVALENT ACH)		
☐ Single-pass heating, ventilating, and air conditioning (HVAC)	☐ Fixed room recirculating units		
☐ Re-circulating HVAC systems	☐ HEPA filtration		
	☐ UVGI		
	☐ Other	*(Specify)*	

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

ROOM	AIR CHANGES PER HOUR (ACH)	DESIGN

Are the directional airflow results readily available? ☐ Yes ☐ No

Do AII rooms meet the recommended pressure differential of 0.01 inch water column negative to surrounding structures? ☐ Yes ☐ No

Are AII rooms checked daily for negative pressure when in use? ☐ Yes ☐ No

Is the directional airflow in AII rooms checked daily when in use either with smoke tubes or visual check? ☐ Yes ☐ No

What procedures are in place if the AII room pressure is not negative? Specify_____

_____

RESPIRATORY PROTECTION

Does your correctional facility have a written respiratory-protection program?			☐ Yes ☐ No
Which staff is included in the respiratory protection program? *(Check all that apply)*			
☐ Physicians	☐ Construction or renovation staff	☐ Inmates	
☐ Mid-level practitioners (NPs & PAs)	☐ Service personnel	☐ Teachers	
☐ Nurses	☐ Janitorial staff	☐ Visiting Staff	
☐ Administrators	☐ Maintenance or engineering staff	☐ Other *(specify*	
☐ Security staff	☐ Transportation staff	☐ Other *(specify*	
☐ Contract staff	☐ Dietary staff	☐ Other *(specify)*	

Are respirators (N-95 masks) used in this setting for staff working with TB patients? If yes, include manufacturer, model, and specific application (e.g., Technol, 3M, etc.).

MANUFACTURER	MODEL	SPECIFIC APPLICATION

Is annual respiratory protection training for staff performed by a person with advanced training in respiratory protection?	☐ Yes ☐ No
Does your correctional facility provide initial fit testing for staff?	☐ Yes ☐ No
If yes, when is it conducted?	
Does your correctional facility provide periodic fit testing for staff?	☐ Yes ☐ No
If yes, when and how frequently is it conducted?	
What method of fit testing is used? (*Specify and describe)*	
Is qualitative fit testing used?	☐ Yes ☐ No
Is quantitative fit testing used?	☐ Yes ☐ No

FOLLOW-UP

What problems were identified during the previous TB risk assessment?

1. _____
2. _____
3. _____
4. _____
5. _____

What actions were taken to address the problems identified during the previous TB risk assessment?

1. _____
2. _____
3. _____
4. _____
5. _____

Depending on the number of TB suspects/cases encountered in one year, what is the risk classification for your infirmary?
☐ Low ☐ Medium ☐ Potential ongoing transmission

Depending on the number of TB suspects/cases evaluated in the current year, what is the risk classification for your general population setting? ☐ Low ☐ Medium ☐ Potential ongoing transmission

Does evidence exist that ongoing or unresolved transmission has occurred in your facility (based on suspects reported to the health department)? *(**Note:** this includes inmates released to the community. Confirm this with the health department)*
☐ Yes ☐ No

Considering the items above, would your facility need a higher risk classification? ☐ Yes ☐ No