



# Chapter 3: Targeted Testing for Latent Tuberculosis Infection

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# Introduction

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## Purpose

Use this section to understand and follow national and Wisconsin guidelines to conduct targeted testing to screen for latent tuberculosis infection (LTBI).

In the 2005 guideline “Controlling Tuberculosis in the United States: Recommendations from the American Thoracic Society, Centers for Disease Control and Prevention (CDC), and the Infectious Diseases Society of America,” one of the recommended strategies to achieve the goal of reducing TB morbidity and mortality is to identify people with LTBI who are at risk for progression to TB disease and to treat them with an effective drug regimen.<sup>1</sup>



For information on treatment, refer to the Treatment of Tuberculosis Disease and Treatment of Latent Tuberculosis Infection sections.

Reducing LTBI in high-risk populations is an important strategy to control TB. Considering that there are an estimated 9.5–14.7 million people with LTBI in the United States, continued progress toward eliminating TB in the United States and reducing TB among foreign-born people requires effective strategies to meet this challenge.<sup>2</sup> Targeted testing for LTBI is a strategic component of TB control that identifies people who are at high risk for developing TB and who would benefit from treatment of LTBI, if detected. People with increased risk for developing TB include those who have had recent infection with *Mycobacterium tuberculosis* and those who have clinical conditions that are associated with an increased risk for progression of LTBI to active TB.<sup>3</sup>

## Policy

In Wisconsin:

People who show or report signs and symptoms of TB should be evaluated for TB disease as described in the Diagnosis of Tuberculosis Disease section and reported as suspected cases of TB as described in the “Reporting Tuberculosis” topic in the Surveillance section.

Contacts should be evaluated as described in the Contact Investigation section.

Targeted testing for LTBI should be conducted only among people in groups with identified risk factors for LTBI or progression to TB disease.

For a list of groups at high risk, refer to the “High-Risk Groups” topic in the section on Diagnosis of Latent Tuberculosis Infection.



For roles and responsibilities, refer to the “Roles, Responsibilities, and Contact Information” topic in the Introduction.

## Reporting requirements:

Active TB disease is a **Category I** reportable condition in Wisconsin. For both pulmonary and extrapulmonary cases:

- Report to the patient's local public health officer **immediately** by phone or fax upon recognition of a case or suspected case, **and**
- Complete and mail or fax a [TB Suspect Case Data form](#) (PDF) or enter data into the Wisconsin Electronic Disease Surveillance System (WEDSS) **within 24 hours**.

Latent TB infection is a **Category II** reportable condition in Wisconsin. The condition should be reported to the patient's local public health department **within 72 hours** upon recognition of a case or a suspected case using one of the methods below:

- Electronically, through the Wisconsin Electronic Disease Surveillance System (WEDSS)
- By mail or fax using a [LTBI Confidential Case Report, F-02265](#) (PDF)
- By mail or fax using an [Acute and Communicable Disease Case Report, F-44151](#) (PDF)

For more information, please visit the [Department of Health Services \(DHS\) Disease Reporting page](#).

## When to conduct targeted testing

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Targeted testing programs **should be conducted only among groups at high risk**, and testing should be discouraged for groups at low risk.<sup>4</sup> High-risk groups include people with increased risk for developing TB and those who have clinical conditions that are associated with an increased risk for the progression of LTBI to TB disease.



Factors that identify people at high risk of LTBI infection and of progression to TB disease are listed in Table 4.1 as well as the “High-Risk Groups” topic in the section on Diagnosis of Latent Tuberculosis Infection.



Evaluate high-risk patients for LTBI as specified in the Diagnosis of Latent Tuberculosis Infection section.



Offer treatment of LTBI to infected people, irrespective of age, who are considered to be at high risk for developing active TB.<sup>5</sup> See the Treatment of Latent Tuberculosis Infection section.

## Approaches to increasing targeted testing and treatment of latent tuberculosis infection

The Centers for Disease Control and Prevention (CDC) describes two approaches to increasing targeted testing and treatment of LTBI. To plan and implement programs for targeted testing and treatment of LTBI, follow the recommended approaches outlined below.<sup>6</sup>

One approach is to promote clinic-based testing of people who are under a clinician's care for a medical condition (for example, human immunodeficiency virus [HIV] infection or diabetes mellitus) that also confers a risk for acquiring TB. This approach depends on a person's risk profile for TB.<sup>7</sup>

The other approach is to establish specific programs that target a subpopulation of people who have a high prevalence of LTBI or who are at high risk for acquiring TB disease if they have LTBI, or both. This approach requires identifying the subpopulations or areas with high TB risk through epidemiologic analysis and profiling.<sup>8</sup>



For information on the system for prioritizing people for targeted testing, refer to [“Controlling Tuberculosis in the United States: Recommendations from the American Thoracic Society, CDC, and the Infectious Diseases Society of America”](#).



For assistance in planning targeted testing, contact the Wisconsin TB Program at 608-261-6319. Financial assistance through the state TB program may be available for LTHDs interested in implementing a targeted testing program.

## Screening for latent tuberculosis infection in facilities

Screening for LTBI should be conducted based upon each facility's risk for transmission of *Mycobacterium tuberculosis* (that is, low risk, medium risk, or potential for ongoing transmission),<sup>9</sup> as determined in its TB risk assessment (both the initial baseline assessment and periodic reassessments). The vast majority of facilities nationwide and in Wisconsin are categorized as low risk per the updated guidelines issued by CDC in the [May, 2019 Morbidity and Mortality Weekly Report](#).



Risk assessment protocols and elements are outlined in the CDC's [“Guidelines for Preventing the Transmission of Mycobacterium tuberculosis in Health-care Settings.”](#)

Screening determines if a person should be evaluated for LTBI or TB disease by asking questions to gather information about whether the person has signs or symptoms of TB disease, belongs to a group at high risk for LTBI or (if infected) for progression to TB disease (see Table 3.1 below), or has a prior positive tuberculin skin test (TST) or interferon gamma release assay (IGRA) blood test.

**Table 3.1 People at high risk for TB infection and progression to TB disease**

For tuberculosis infection:	For progression to tuberculosis disease:
<ul style="list-style-type: none"> <li>• High-priority contacts such as housemates or coworkers or contacts of people who have smear-positive pulmonary or laryngeal TB</li> <li>• Infants, children, and adolescents exposed to adults in high-risk categories</li> <li>• Recent immigrants (less than 5 years) from countries with high incidence of TB (Asian, African, Latin American, and Eastern European countries have TB rates 5–30 times higher than U.S. rates, and an increasing percentage of TB cases here are occurring among immigrants from those countries)</li> <li>• Recent immigrants from Mexico</li> <li>• Migrant or seasonal workers</li> <li>• People who have recently spent over three months in high-incidence countries</li> <li>• Native American people</li> <li>• People with high rates of TB transmission: <ul style="list-style-type: none"> <li>○ People experiencing homelessness</li> </ul> </li> <li>• People who inject drugs</li> <li>• People living with HIV</li> <li>• People living or working in institutions with individuals at risk for TB such as: <ul style="list-style-type: none"> <li>○ Hospitals, especially nursing staff, emergency department staff, and laboratory staff.</li> <li>○ Long-term care facilities*</li> <li>○ Homeless shelters*</li> <li>○ Residences for people with acquired immunodeficiency syndrome (AIDS)</li> <li>○ Correctional facilities*</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• People living with HIV</li> <li>• Infants and children under age 5 years</li> <li>• People infected with <i>Mycobacterium tuberculosis</i> within the previous 2 years.</li> <li>• People with a history of untreated or inadequately treated TB disease</li> <li>• People with radiographic findings consistent with previous TB disease</li> <li>• People who use alcohol or illegal drugs</li> <li>• People with any of the following clinical conditions: <ul style="list-style-type: none"> <li>○ Silicosis</li> <li>○ Diabetes mellitus</li> <li>○ End-stage renal disease, chronic renal failure</li> <li>○ People on hemodialysis</li> <li>○ Some hematologic disorders (for example, leukemias and lymphomas)</li> <li>○ Other malignancies (for example, carcinoma of head, neck or lung)</li> <li>○ Body weight 10% or greater below ideal body weight.</li> <li>○ Prolonged corticosteroid use</li> <li>○ Use of other immunosuppressive treatments (for example, prednisone, tumor necrosis factor-alpha antagonists).</li> <li>○ People with history of organ transplantation—especially if they take anti-rejection medications</li> <li>○ Gastrectomy</li> <li>○ Chronic malabsorption syndromes</li> <li>○ Jejunioileal bypass</li> </ul> </li> </ul>
<p>* In Wisconsin, there is typically not high incidence of TB in these institutions, however other states do have incidence rates in these institutions, and so individuals coming to these institutions from other states <i>may</i> be at higher risk.</p>	

# References

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- <sup>1</sup> ATS, CDC, IDSA. Controlling tuberculosis in the United States: recommendations from the American Thoracic Society, CDC, and the Infectious Diseases Society of America. *MMWR* 2005;54(No. RR-12):15.
- <sup>2</sup> ATS, CDC, IDSA. Controlling tuberculosis in the United States: recommendations from the American Thoracic Society, CDC, and the Infectious Diseases Society of America. *MMWR* 2005;54(No. RR-12):40.
- <sup>3</sup> CDC. Targeted tuberculin testing and treatment of latent tuberculosis infection. *MMWR* 2000;49(No. RR-6):1.
- <sup>4</sup> CDC. Targeted tuberculin testing and treatment of latent tuberculosis infection. *MMWR* 2000;49(No. RR-6):1–2.
- <sup>5</sup> CDC. Targeted tuberculin testing and treatment of latent tuberculosis infection. *MMWR* 2000;49(No. RR-6):1.
- <sup>6</sup> ATS, CDC, IDSA. Controlling tuberculosis in the United States: recommendations from the American Thoracic Society, CDC, and the Infectious Diseases Society of America. *MMWR* 2005;54(No. RR-12):40.
- <sup>7</sup> ATS, CDC, IDSA. Controlling tuberculosis in the United States: recommendations from the American Thoracic Society, CDC, and the Infectious Diseases Society of America. *MMWR* 2005;54(No. RR-12):40.
- <sup>8</sup> ATS, CDC, IDSA. Controlling tuberculosis in the United States: recommendations from the American Thoracic Society, CDC, and the Infectious Diseases Society of America. *MMWR* 2005;54(No. RR-12):40.
- <sup>9</sup> CDC. Guidelines for preventing the transmission of *Mycobacterium tuberculosis* in health-care settings, 2005. *MMWR* 2005;54(No. RR-17):10.