Targeted Testing for Latent Tuberculosis Infection

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Introduction

PURPOSE

Use this section to understand and follow national and Wyoming 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 reduction of tuberculosis (TB) morbidity and mortality is to identify persons with LTBI who are at risk for progression to TB disease and to treat them with an effective drug regimen.¹



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 persons with LTBI in the United States, continued progress toward eliminating TB in the United States and reducing TB among foreign-born persons requires effective strategies to meet this challenge.² Targeted testing for LTBI is a strategic component of TB control that identifies persons who are at high risk for developing TB and who would benefit by treatment of LTBI, if detected. Persons 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.³

POLICY

As of October 2010, the Wyoming TB Program encourages targeted TB testing. Targeted testing guidelines must be followed by entities receiving state provided supplies.

Targeted testing guidelines in Wyoming:

- Close contacts of persons known or suspected to have TB disease (consultation with public health officials is recommended).
- Foreign-born persons, including children, from areas that have a high TB incidence or prevalence. (e.g., Latin America and the Caribbean, Africa, Asia, Eastern Europe, and Russia)
- Residents and employees of high-risk congregate settings, such as correctional
 institutions, long term care facilities, mental health and substance abuse facilities,
 child care facilities and shelters for homeless. These facilities should have
 protocols in place that define their TB screening policies.

- Healthcare workers who serve high risk clients, or who work in facilities for which
 an assessment of risk indicates the need for routine TB testing (see *Guidelines*for Preventing the Transmission of Mycobacterium tuberculosis in Healthcare
 Settings, 2005, MMWR, Dec 30, 2005.).
- High risk racial or ethnic minority populations, defined locally as having an increased prevalence of TB.
- Persons who use illicit drugs.
- Infants, children, and adolescents who are frequently exposed to adults at high risk for TB infection.
- Infants, children, and adolescents with travel histories to countries with endemic infection and having had substantial contact with native people from such countries.
- Persons with a history of inadequately treated TB infection (TST may not be an appropriate screening method for these persons).
- Travelers who anticipate possible prolonged exposure to TB (e.g., those who could be expected to come in contact routinely with hospital, prison, or homeless shelter populations) or those who may have an extended stay over a period of years in an endemic country. (e.g., Latin America and the Caribbean, Africa, Asia, Eastern Europe, and Russia). If the result is negative, travelers should have a repeat test approximately 8-10 weeks after returning.
- Persons who have medical conditions known to increase the risk for active disease if infection occurs. Includes:
 - o HIV infection
 - Substance abuse
 - Chest radiograph findings suggestive of previous TB infection in a person who received inadequate or no treatment
 - Diabetes mellitus
 - o Silicosis
 - Prolonged corticosteroid use
 - Other immunosuppressive therapy
 - o Cancer of head and neck, or lung
 - o Hematologic/reticuloendothelial disease
 - Chronic renal failure/end-stage renal disease
 - Intestinal bypass or gastrectomy
 - Chronic malabsorption syndromes
 - Low body weight (10% or more below ideal body weight)
 - Organ transplant



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

When to Conduct Targeted Testing

Targeted testing should be conducted only among groups at high risk, and testing should be discouraged for groups at low risk.⁴ High-risk groups include persons with increased risk for developing tuberculosis (TB) and those who have clinical conditions that are associated with an increased risk for the progression of latent TB infection (LTBI) to TB disease.



For a summary of the TB classification numbers, refer to the "Tuberculosis Classification System" topic in the Surveillance section.



Factors that identify persons at high risk of LTBI infection and/or of progression to TB disease are listed under the Policy section.



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



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



For information on the system for prioritizing persons 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" (MMWR 2005;54[No. RR-12]:40–42)



For assistance in planning targeted testing, contact the Wyoming TB Program at **307-777-8939**

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.⁶

One approach is to promote clinic-based testing of persons who are under a clinician's care for a medical condition (e.g., 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.⁷

The other approach is to establish specific programs that

- target a subpopulation of persons 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.⁸

SCREENING FOR LATENT TUBERCULOSIS INFECTION IN FACILITIES

Screening for LTBI should be conducted based upon each facility's risk for transmission of *Mycobacterium tuberculosis* (i.e., low risk, medium risk, or potential for ongoing transmission),⁹ as determined in its TB risk assessment (both the initial baseline assessment and periodic reassessments).



Risk assessment protocols and elements are outlined in the CDC's "Guidelines for Preventing the Transmission of *Mycobacterium tuberculosis* in Health-care Settings, 2005" (*MMWR* 2005;54[No. RR-17]) at this hyperlink: http://www.cdc.gov/mmwr/pdf/rr/rr5417.pdf.



Infection control planning for facilities will be discussed in the Infection Control section of this manual. Check the Wyoming TB Program webpage for a current map of TB in Wyoming. http://www.health.wyo.gov/phsd/tb/tbstats.html

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, or has a prior positive tuberculin skin test (TST).

References

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.

² 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.

³ CDC. Targeted tuberculin testing and treatment of latent tuberculosis infection. *MMWR* 2000;49(No. RR-6):1.

CDC. Targeted tuberculin testing and treatment of latent tuberculosis infection. MMWR 2000;49(No. RR-6):1–2.

⁵ CDC. Targeted tuberculin testing and treatment of latent tuberculosis infection. *MMWR* 2000;49(No. RR-6):1.

⁶ 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.

⁷ 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.

⁸ 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.

⁹ CDC. Guidelines for preventing the transmission of *Mycobacterium tuberculosis* in health-care settings, 2005. *MMWR* 2005;54(No. RR-17):10.