



Infectious Disease Epidemiology Report

Latent Tuberculosis Infection, 2016



Background

Tuberculosis (TB) is caused by the bacterium *Mycobacterium tuberculosis*. Latent tuberculosis infection (LTBI) occurs when *M. tuberculosis* is present in the body, but is kept under control and inactive by the body's immune system. Individuals with LTBI have no signs or symptoms and cannot spread the TB bacteria to others. While not everyone with LTBI will develop active TB disease, approximately 5 – 10% of those with an untreated LTBI will develop TB disease at some point in their life. Early identification and treatment of persons with LTBI at highest risk of developing TB disease will help support national elimination efforts.

Two tests are available to screen for the presence of *M. tuberculosis* bacterium in the body; either can be used. The skin test, called the tuberculin skin test (TST), is the standard method and has been used for many years. A newer blood test measuring immune reactivity, the interferon gamma release assay (IGRA), is also available. All positive results require additional evaluation as neither test differentiates between latent or active TB.

Methods

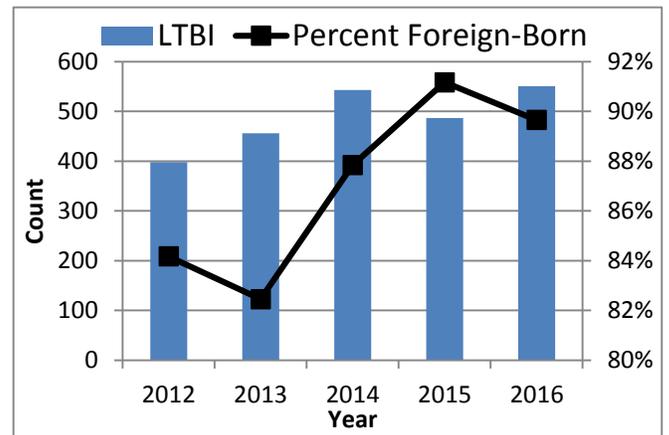
While active TB is monitored through mandatory reporting, LTBI is not a reportable condition in Maine. Maine CDC's Infectious Disease (ID) Program encourages providers to refer all LTBI cases so treatment can be offered and high risk individuals can receive Public Health Nursing (PHN) services.

The ID Program gathers LTBI case information and data through referral forms reported by a healthcare provider. The form captures patient demographics, risk factors, prescribed treatment regimen, and TB test results.

Results

A total of 551 cases of LTBI were reported in 2016, compared to 487 cases in 2015. As in previous years, the majority of LTBI cases were foreign-born (Figure 1).

Figure 1. Annual cases of LTBI and percent foreign-born – Maine, 2012-2016



Forty-eight percent of LTBI cases in 2016 occurred in persons 25-44 years old. Seventeen percent were among person 15-24 years old.

Table 1. Descriptive epidemiology of LTBI – Maine, 2016

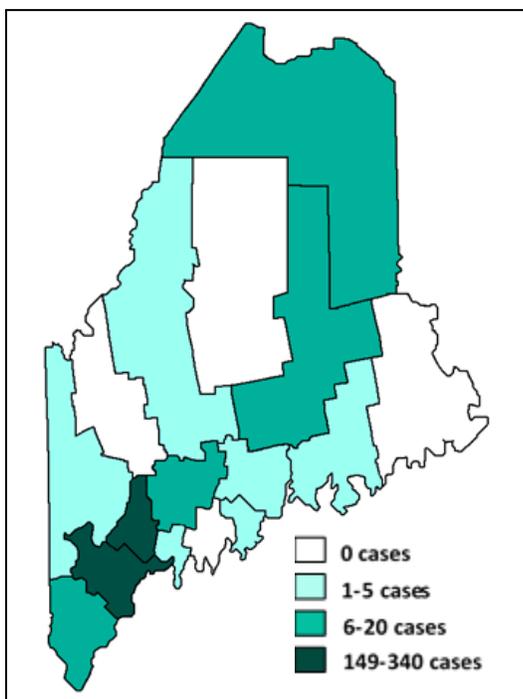
Sex	Count	Percent (%)
Female	250	45.4%
Male	301	54.6%
Race		
Black	374	67.9
White	115	20.9
Hawaiian/Pacific Islander	7	1.3
Asian	18	3.3
Multi-race	0	0
Not reported	37	6.7
Risk Factors†		
Foreign-born	497	90.2
Children <15 years	90	16.3
Contact of a case	50	9.1
Recent TST converter	17	3.1
Congregate setting	48	8.7
Immune-compromised	17	3.1
Substance use	5	0.9

† Risk factors not mutually exclusive

Individuals with LTBI came from 59 different countries, excluding the US. The most common foreign languages were: Arabic (7.2%), French (22.0%), and Somali (14.6%).

The largest proportion of cases, 89% combined, resides in Cumberland and Androscoggin counties (Figure 2).

Figure 2. LTBI cases by county – Maine, 2016



Discussion

LTBI reporting is not mandatory. Maine CDC receives reports of LTBI for patients in which financial assistance with treatment or PHN monitoring is requested. Thus, the numbers presented are an underestimate of LTBI diagnosed in Maine. This impacts the data presented in this report.

This report should be used to guide appropriate public health actions regarding TB prevention and outreach. This may include the need for targeted educational materials and language interpretive services.

The evaluation and treatment of active TB disease is more costly than LTBI treatment. Early identification, reporting, and treatment of LTBI are essential activities to keep TB disease from spreading and to protect the public's health.

Persons at high risk of developing TB include but are not limited to homeless individuals, newly arriving primary refugees, and contacts of active cases.

All suspected or confirmed cases of active TB must be reported immediately to the ID Program at Maine CDC by calling 1-800-821-5821. Though reporting of LTBI cases is not mandated, it is strongly encouraged.

Additional information about latent TB infection and tuberculosis is available at:

- Maine CDC: www.maine.gov/idepi/
- Federal CDC: www.cdc.gov/tb/
- World Health Organization: www.who.int/tb/en/