

Massachusetts Department of Public Health, Bureau of Infectious Disease and Laboratory Sciences
Summary Tuberculosis Statistics for the Year 2022

Tuberculosis - Massachusetts

In 2022, 153 cases (incidence rate 2.2 per 100,000 residents¹) of tuberculosis (TB) disease were reported to and verified by the Massachusetts Department of Public Health. The 2022 national TB case rate is 2.5 per 100,000 residents. Compared with the five-year period 2016-2020, the average annual number of cases in MA has decreased 17% during 2021-2022, from 184 to 153. It is likely that some proportion of this decrease in reported cases is related to the COVID-19 pandemic. Some factors that could contribute to a decrease in cases include increased use of precautions for airborne pathogens, changes in immigration and travel patterns, and reduced healthcare-seeking behavior.

Race/Ethnicity

Racial and ethnic minority groups are disproportionately affected by TB; 92% of active TB disease in 2022 was diagnosed in members of racial/ethnic minority groups. The TB case rate per 100,000 residents in 2022 was 13.5 among Asian non-Hispanic residents, 7.3 among black non-Hispanic residents, and 3.2 among Hispanic residents; compared with 0.3 among white non-Hispanic residents. Compared with white residents, the relative risk for being diagnosed with TB in 2022 was approximately 54.4 times higher among Asian (95% CI 29.51 to 100.4), 29.5 times higher among black (95% CI 15.3 to 56.9), and 12.8 times higher among Hispanic (95% CI 6.5 to 25.2) residents.

Higher Risk Groups

Persons Born outside the U.S. and Territories (non-U.S. born): Among 153 cases of TB in 2022, 142 (93%) were reported in non-U.S. born persons. 89 (58%) cases were in persons born in one of nine countries: India (19, 12%), Vietnam (19, 12%), Haiti (13, 8%), Cambodia (8, 5%), Brazil (7, 5%), China (7, 5%), Dominican Republic (6, 4%), Philippines (5, 3%), and Ecuador, (5, 3%). The remaining 53 (35%) cases occurred in persons born in one of 25 additional countries outside the U.S.

Children <15 Years of Age: In 2022, two cases of TB were diagnosed in children under 15 years of age (1% of cases, incidence <1/100,000 children under 15).

Incarcerated in Prison/Jail: No cases of TB were diagnosed in persons in the Massachusetts correctional system in 2022.

Unstably Housed: Of the 153 cases of TB reported in 2022, 5 (3%) were in persons experiencing homelessness within the previous year.

HIV Co-infected (preliminary): Six persons (4%) diagnosed with TB in 2022 were known to be co-infected with human immunodeficiency virus (HIV).

Known Contacts to Massachusetts Cases: Six persons (4%) were known contacts to previous TB cases in Massachusetts, an indicator of possible community transmission occurring within Massachusetts.

Drug Resistance

With drug resistant-TB (DR-TB) increasing worldwide, DR-TB in Massachusetts is carefully monitored and remains a priority of the TB program.

In 2022, 134 (88%) of the 153 TB cases were bacteriologically confirmed by positive culture for *Mycobacterium tuberculosis* and had isolates available for drug susceptibility testing. Resistance testing was successfully completed on all 130 (97%) of the cultured isolates.

Resistance to one or more anti-TB drugs was detected in 21 (16%) of the 130 isolates. Resistance to isoniazid (INH), either alone or in combination with other agents, was seen in 11%. Multidrug resistance (resistance to isoniazid and rifampin) was detected in one isolate that also had resistance to second line drugs, meeting criteria for pre-XDR TB. injectable).

Characteristics of TB Cases, 2022 (N=153)

Demographics	# (%)
Male	91 (59%)
Female	62 (41%)
Race Ethnicity	
White, non-Hispanic	12 (8%)
Black, non-Hispanic	35 (23%)
Hispanic	28 (18%)
Asian, non-Hispanic	69 (45%)
Other, non-Hispanic	9 (6%)
Origin of Birth	
U.S.-born	11 (7%)
Non-U.S. born	142 (93%)
Age (years)	
<5	1 (1%)
5-14	1 (1%)
15-19	6 (4%)
20-24	17 (11%)
25-44	44 (29%)
45-64	48 (31%)
65+	36 (23%)

Clinical Presentation

Primary site of disease

Pulmonary	85 (56%)
Extra-pulmonary	49 (32%)
Both	19 (12%)

Chest radiography

Cavitary disease only	43 (28%)
Miliary disease only	2 (1%)
Cavitary and miliary	4 (3%)
Non-cavitary disease only	78 (51%)
Normal	23 (15%)
Not done	3 (2%)

Known Higher Risk Groups²

(N=153)	
Non-U.S. born	142 (93%)
Children <15 yrs old	2 (1%)
Incarceration	0 (0%)
Homelessness	5 (3%)
Substance use ³	9 (6%)
HIV co-infection	6 (4%)
Contact to previous MA case	6 (4%)

Drug Resistance Culture confirmed cases with drug susceptibility results (N=130)

Resistance to ≥1 drug	21 (16%)
Resistance to INH	14 (11%)
Resistance to INH and RIF (MDR-TB)	5 (3%)

¹As of 9/9/2020 BIDLS calculates rates per 100,000 population using denominators estimated by the University of Massachusetts Donahue Institute using a modified Hamilton-Perry model (UMDI Oct 2016). Note that rates and trends calculated using previous methods cannot be compared to these. Denominators were last updated in 2020.

² Not mutually exclusive groups

³ Alcohol, injecting and non-injecting drug use