***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 residents[[1]](#footnote-2)) 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 Groups[[2]](#footnote-3) (N=153)**

|  |  |
| --- | --- |
| Non-U.S. born | 142 (93%) |
| Children <15 yrs old | 2 (1%) |
| Incarceration | 0 (0%) |
| Homelessness | 5 (3%) |
| Substance use[[3]](#footnote-4) | 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%) |

1. As 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. [↑](#footnote-ref-2)
2. Not mutually exclusive groups [↑](#footnote-ref-3)
3. Alcohol, injecting and non-injecting drug use [↑](#footnote-ref-4)