

**Tuberculosis - Massachusetts**

In 2010, 222 cases (incidence rate 3.5 per 100,000 population) of active tuberculosis (TB) were reported to and verified by the Massachusetts Department of Public Health, Division of TB Prevention and Control. This is the lowest case rates ever recorded in Massachusetts. Although there has been a 15% decline of TB cases in the past 2 years from a rate of 4.11 per 100,000 in 2008 to 3.5 in 2010, the overall rate of TB in MA has remained essentially unchanged since 1996, while the incidence rate for the United States consistently declined. This suggests that the U.S. rate is dropping below our own, when the U.S. rate has reached a level we achieved years ago.

**Drug Resistance**

In 2010, 173 (78%) of the 222 TB cases were bacteriologically confirmed by positive culture for *Mycobacterium tuberculosis*.

Of the 173 bacteriologically confirmed cases, drug susceptibility testing was performed on isolates for 170 TB cases (98%). Isolates for 31 cases (18%) were resistant to one or more anti-tuberculosis drugs. Isolates for 14 cases (45% of 31 cases, 8% of 170 cases) were resistant to isoniazid (INH) either alone or in combination with other agents.

In 2010, there were no MDR-TB cases (multi-drug resistant, defined as resistance to at least INH and rifampin (RIF)), and no XDR-TB cases (extremely drug resistant, defined as MDR-TB with additional resistance to any fluoroquinolone and at least one injectable second-line drug, such as amikacin, kanamycin or capreomycin).

**Race/Ethnicity**

Persons in minority population groups composed 79% of the TB cases in 2010. For blacks, the incidence rate was 16.3 per 100,000, and for Hispanics, the rate was 7.5 per 100,000. Asians continue to have a higher incidence rate than any other group (36.2 per 100,000 in 2010). Blacks are 19 times more likely than whites to be diagnosed with TB, Hispanics 9 times more likely, and Asians 41 times more likely than whites.

**Higher Risk Groups**

Non-U.S. born (persons born outside the United States and its territories): Among the 169 non-U.S. born persons with TB in 2010, 73 cases (43%) were from 4 countries with India accounting for 27 cases (16%) followed by China - 20 cases (12%), Haiti - 16 cases (9%) and Vietnam - 10 cases (6%). The remaining 96 cases (57%) included persons from 36 different countries. Between 1993 and 2010, 51% of the 3,452 Non-U.S. born cases were diagnosed within 5 years of arrival to the U.S.

Homeless: Of the 222 cases of TB reported in 2010, 15 cases (7%) were reported to have been homeless (estimated homeless incidence rate of 51.5 per 100,000). Among the 15 homeless cases, 9 (60%) were reported from Boston, 3 (20%) were from Springfield and the remaining 3 cases (20%) were from other Massachusetts communities.

Incarcerated: In 2010, 3 cases (1%, 14.4 per 100,000) were diagnosed in correctional facilities

HIV co-infected: Ten TB cases (5%) in 2010, were known to be co-infected with human immunodeficiency virus (HIV) - a rate similar to previous years.

Children: In 2010, 6 TB cases were in children <15 years of age (3% of cases, incidence rate <1 per 100,000 children <15 years old). All 6 children (100%) were children of minority communities.

**Note: All incidence rates are per 100,000 population.**

**For additional information, please visit our web page: <http://www.mass.gov/dph/cdc/tb>**

<b>Characteristics of TB Cases 2010 (N=222)</b>	
<b>Demographics</b>	
	<b># %</b>
<b>Sex</b>	
Male	114 (51%)
Female	108 (49%)
<b>Race Ethnicity</b>	
White, non-Hispanic	47 (21%)
Black, non-Hispanic	56 (25%)
Hispanic	32 (14%)
Asian	87 (40%)
<b>Place of Birth</b>	
US-Born	53 (26%)
Non US Born	169 (74%)
<b>Age (years)</b>	
<5	4 (2%)
5-14	2 (1%)
15-24	31 (14%)
25-44	93 (42%)
45-64	49 (22%)
65+	43 (19%)
<b>Clinical Presentation</b>	
<b>Primary Site of Disease</b>	
Pulmonary	139 (63%)
Extra pulmonary	83 (37%)
<b>Chest X-Ray Results (with pulmonary involvement)</b>	(N=190)
Cavitary Disease	54 (30%)
Miliary Disease	5 (3%)
Cavitary and Miliary Disease	2 (1%)
Non-cavitary Disease, TB	117 (65%)
Normal	12 (6%)
<b>High Risk Groups+</b>	
Non-U.S. Born	169 (76%)
Children < 15 Yrs.	6 (3%)
Prison/jail	3 (1%)
Homeless	15 (7%)
Substance Abuse*	22 (10%)
HIV positive**	10 (5%)
<i>+Not mutually exclusive groups * Excessive alcohol, injecting and/or non-injecting drug abuse</i>	
<b>Drug Resistance (N=173 Bacteriologically Confirmed Cases with Drug Sensitivity results)</b>	
<b>Pattern</b>	
Resistance to at least 1drug	31 (18%)
Resistance to at least INH	14 (8%)
Resistance to at least INH + RIF (MDR-TB)	0