

Tuberculosis in San Francisco, 2011

The mission of the San Francisco TB Control Section is to control, prevent and finally eliminate tuberculosis in San Francisco by providing compassionate, equitable and supportive care of the highest quality to all persons affected by this disease.



In 2011, 108 new TB cases were reported in San Francisco, for an incidence rate of 13.4 cases per 100,000 population. This represents an increase of 10% over 2010 and is the first increase seen in disease incidence since 2007. While the overall rate of disease continues on a downward trend, the rate of decline is slowing and periodic increases in disease incidence are observed every 2–4 years (every two years between 1998 and 2003 and then every four years between 2004 and 2011). See Figure 1. While the overall decline in active disease is encouraging, some areas of the city have extremely high rates of TB (>100 cases per 100,000) and the rate of TB in San Francisco is greater than four times the 2010 national average of 3.6 cases per 100,000 and more than twice the 2010 California average of 6.0 cases per 100,000.

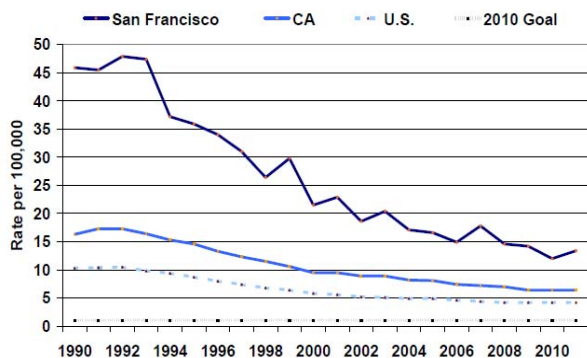


Figure 1. TB Case Rates by Year, 1990-2011

Age, Race/Ethnicity and Place of Birth

As in prior years, the average and median age of TB cases was 52 years, with the majority of active TB

being diagnosed in persons 45–64 years of age (41% of all cases). See Figure 2. There were 8 pediatric cases (0–14 years old) diagnosed this year; a significant increase (compared to 2 in 2010) that contributed 60% of the increase in additional cases seen in 2011.

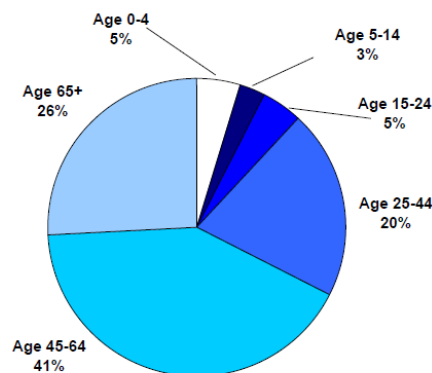


Figure 2. 2011 TB Cases by Age Group

The largest proportion of cases reported annually continues to be among the Asian population (76%). See Figure 3. As in prior years, the majority of Asian and Hispanic cases are foreign-born, while white and black non-Hispanic cases are primarily U.S.-born.

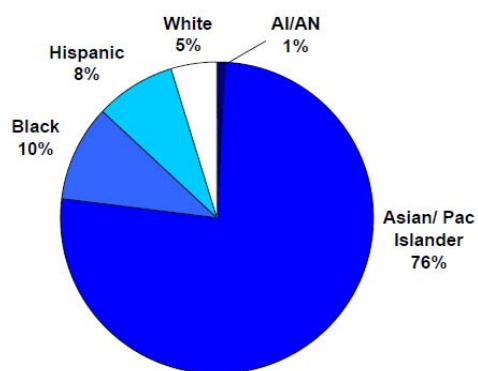


Figure 3. 2011 TB Cases by Race/Ethnicity

In 2011, 85% of all cases were reported among foreign-born individuals, with 44% coming from China and 20% coming from the Philippines. See Figure 4. This year, cases in both the U.S.-born and foreign-born increased equally, approximately 10% in each group.

The epidemiology of U.S.- and foreign-born cases differ significantly, and DNA typing of the TB bacteria indicates TB among the U.S.-born (primarily homeless and marginally-housed persons) results from recent transmission, while foreign-born TB is primarily due to reactivation of disease due to infection in TB-endemic countries.

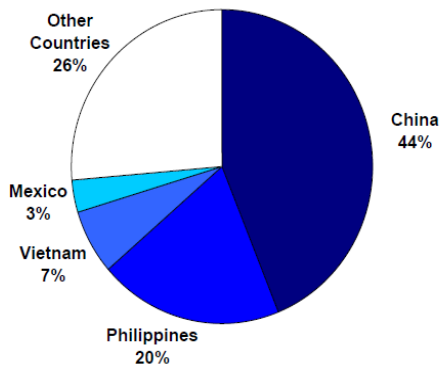


Figure 4. 2011 Foreign-born TB Cases by Country of Birth

Homelessness and Substance Abuse

TB in the homeless/marginally housed increased slightly in 2011, with 11 cases reported. See Figure 5. This year, 4 cases occurred in shelter residents and 5 occurred in residents of SRO hotels.

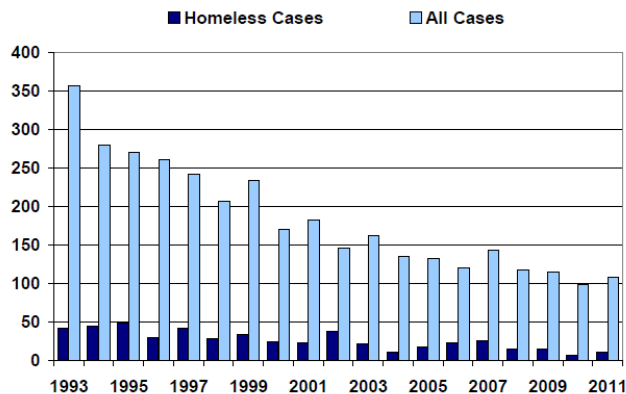


Figure 5. Homeless Cases by Year, 1993-2011

Overall, 7.4% of cases reported alcohol abuse, 5.6% reported non-injection drug use and 1.9% reported injection drug use. These cofactors are often associated with homelessness and HIV infection in the U.S.-born population.

Comorbidities

Comorbid conditions such as diabetes and tobacco use are becoming increasing important risk factors for active TB, much more so than HIV infection. In

2011, only 2.7% of TB cases were co-infected with HIV, the lowest co-infection rate since the epidemic began in the mid-80s. See Figure 6. Other conditions, however, are much more prevalent among TB cases. This year, 30% of active TB cases reported current or past use of tobacco and almost one-fourth (23%) had diabetes.

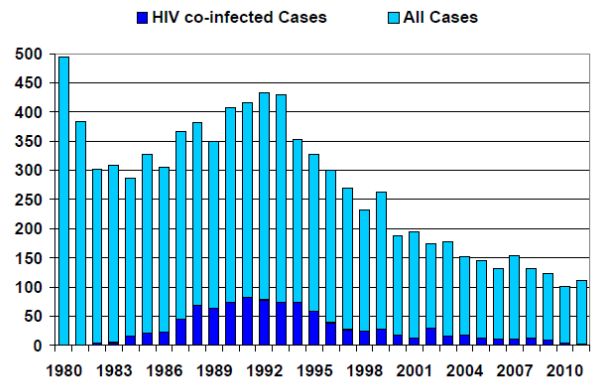


Figure 6. HIV Co-Infected Cases by Year, 1993-2011

TB Deaths

There were 8 deaths among TB cases in 2011; 2 were diagnosed with TB after death and 6 died while on treatment. All patients were over the age of 60 and 75% were Asian. Among cases 65 years of age and older, 25% died with TB. Preliminary review of the death certificates suggest only 2 of these deaths were directly related to TB, one due to advanced disease and one due to treatment complications.

Drug Resistance

As the number of cases go down each year, the proportion of cases with any form of drug resistance increases. In 2011, 15 cases (21% of culture-positive cases) were resistant to at least one anti-TB drug. The majority of cases were resistant to Isoniazid (INH) alone or in combination with another drug. There were no MDR-TB cases reported this year.

For additional information regarding the data presented in this report, please contact:

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