

# TB in San Francisco, 2009

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 2009, 116 new cases of active TB (14.2 cases per 100,000) were diagnosed in San Francisco, representing a 1.7% decrease from 2008 (118 cases). While this represents the lowest TB incidence in San Francisco's history, the rate of decline has slowed the last several years. Over the last decade, however, TB incidence has declined by more than 50% due to intensive efforts to prevent infection and active disease among San Francisco residents. While the decline in active disease is encouraging, some areas of San Francisco have extremely high rates of TB (>100 cases per 100,000) and the rate of TB in San Francisco is more than three times the 2009 national average of 3.8 cases per 100,000 and twice the 2009 California average of 7.0 cases per 100,000. See Figure 1.

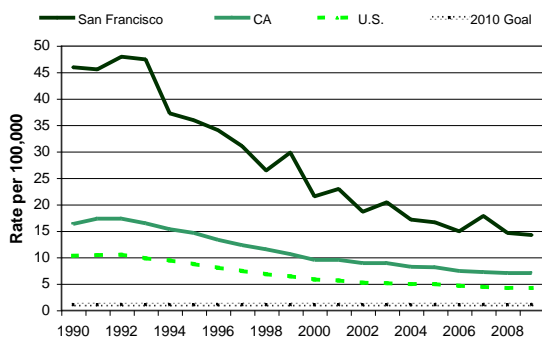


Figure 1. TB Case Rates by Year, 1990-2009.

## Age, Race, Ethnicity and Place of Birth

The median age of TB cases was 53 years old, with the majority of active TB being diagnosed in persons 45–64 years of age. See Figure 2. There were 5 pediatric cases (0–14 years old) diagnosed this year; 2 were under the

age of 5. TB cases among the elderly are stable compared to prior years; however, 14% of cases (5 of 36) in this group died compared to an overall death rate of 7% among all cases.

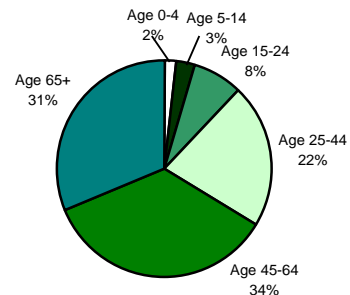


Figure 2. TB Cases by Age Group.

In San Francisco, the largest proportion of cases are reported in the Asian population (63%). In 2009, the number of cases reported in black, non-Hispanics increased to numbers similar to previous years, despite the encouraging decline in 2008. As in previous years, homelessness, drug and alcohol abuse, and HIV continue to fuel TB incidence in this group. The overall rate of TB in this population was 24.0 per 100,000, a rate similar to the 2009 Asian case rate of 28.8 cases per 100,000. While the majority of Asian case are foreign-born, black, non-Hispanic cases are U.S.-born and the rate of TB in this group is 8 times the rate in white, non-Hispanics (3.3 per 100,000) despite contributing a similar number of cases to the annual incidence of TB (13 cases reported in blacks, 12 cases reported in whites.) See Figure 3.

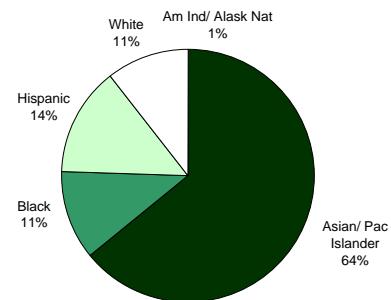


Figure 3. TB Cases by Race/Ethnicity.

As in prior years, 76% of all cases were reported among foreign-born individuals, with over 30% of these cases coming from China. See Figure 4. Since 2005, the number of TB cases among U.S.-born persons has remained relatively stable, while cases in the foreign-born have decreased. 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 results from recent transmission, while foreign-born TB is primarily due to reactivation of disease due to infection in their country of origin.

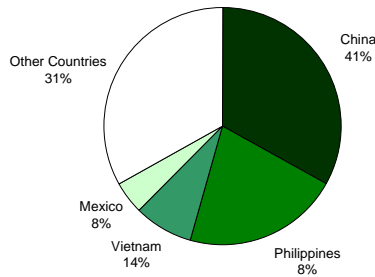


Figure 4. Foreign-born TB Cases by Country of Birth.

### Homelessness and Substance Abuse

Fifteen (15) homeless/marginally housed cases were reported in 2009, making up 13% of all TB cases reported this year. See Figure 5. Since the implementation of mandatory screening for shelter residents, we have seen a shift in TB away from the shelters and increasing number occurring among residents of in Single Room Occupancy (SRO) hotels. Ongoing collaboration with DHS and owners of public and private SRO hotels is crucial to prevent further cases among the marginally housed.

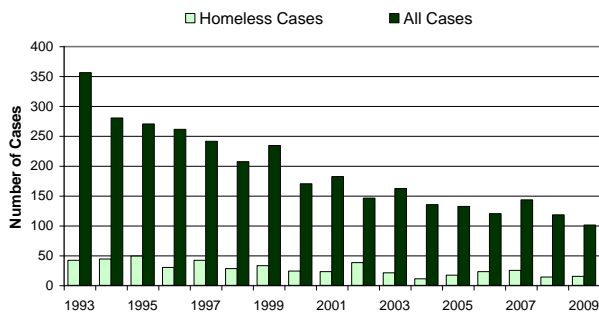


Figure 5. Homeless Cases by Year, 1993-2009.

In 2009, 8.6% of cases reported alcohol abuse, 10.3% reported non-injection drug use, and 1.7% reported injection drug use. These cofactors are often associated with homelessness and HIV infection in the U.S.-born population.

### HIV Co-Infection

Eight percent (8%, 9 cases) of TB cases were co-infected with HIV, a similar proportion to prior years. See Figure 6. HIV is common among African-American and white, non-Hispanic cases, and was present in 8-25% of cases from these racial groups. Historically, HIV co-infection is rare among Asian cases, however in 2009, one-third (3 cases) were reported in this group; 2 were also homeless. Among those with HIV co-infection, 5 (56%) were also homeless. HIV infection is strongly associated with homelessness among cases of active TB disease in San Francisco and is a marker of recent transmission.

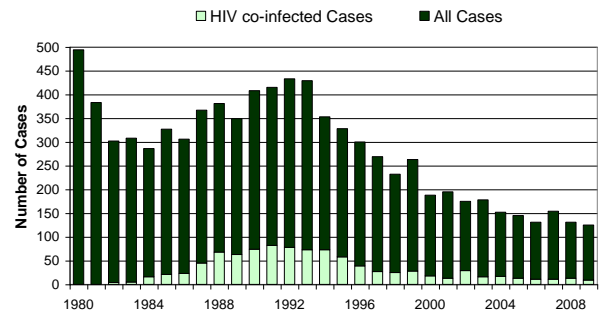


Figure 6. HIV Co-Infected Cases by Year, 1993-2009.

### Drug Resistance

For the last few years, drug resistance has remained relatively steady, with the exception of 2004, when drug resistance to at least one drug increased from 15% to 22% of culture-positive TB cases. In 2009, drug resistance among culture-positive cases increased from 11% to 18% compared to 2008. While the number of multidrug-resistant (MDR) cases has remained relatively low (1-4 cases per year, and 1-3% of all cases reported annually), these TB strains are usually highly resistant (four or more drugs) and are difficult and costly to manage. There were no cases of MDR-TB in 2009.

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

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