

Tuberculosis in San Francisco, 2004

Disease Incidence

In 2004, 135 (17.1 per 100,000) new cases of active tuberculosis (TB) were diagnosed in San Francisco, representing a 17% decline in cases from 2003 and the lowest annual incidence of TB ever reported in the city. Through intensive efforts over the last decade to prevent infection and active disease among San Francisco residents, we are moving closer to our goal of TB elimination. While declines in active disease over the last few years are encouraging, the rate of TB in San Francisco is still more than 3 times the 2003 national average of 5.1 cases per 100,000, and far from the Healthy People 2010 goal of 1 case per 100,000.

Demographic Characteristics

Age: In 2004, there was a significant increase in the number of cases reported among 0-14 year olds due to an outbreak among U.S.-born, Hispanic children at an unlicensed daycare (see below). There was also a decrease in the number of cases diagnosed in individuals over the age of 65. This decline may be due to the decline in foreign-born, Chinese cases in this year, as disease in this population tends to be in the elderly.

Race and Ethnicity: In San Francisco, the largest proportion of cases are reported among the Asian/Pacific Islander population, although in 2004 the disease rate continued to decline, as in previous years. Disease rates also continued to decline among Black and White non-Hispanics. For the past 5 years, however, the number of cases among Hispanics has remained relatively stable, with approximately 20 cases a year reported in this group.

Place of birth: In 2004, there was once again a significant decline in both the number and the proportion of foreign-born cases reported (similar to declines seen in 2002). These declines were seen among Chinese, Filipino, Vietnamese, and Mexican immigrants. While reasons for these declines are unknown, declines in foreign-born TB cases are encouraging, as much of the disease rate is driven by importation of disease from TB-endemic countries. Since 2000, the number of TB cases among U.S.-born persons has remained relatively stable, with the exception of 2001 and 2002 when the number of cases increased due to ongoing outbreaks occurring in the homeless population. Much of the TB seen among the U.S.-born is a result of recent transmission, as seen this year in the pediatric outbreak, in which all 11 cases were U.S.-born.

Social Factors

Homelessness: In 2004, 11 homeless cases were reported, and of these, 7 were co-infected with HIV. While this is a 50% decrease in homeless cases from 2003 and the lowest number of cases reported in this population in the past five years, TB among HIV-positive homeless individuals is a sentinel for recent transmission in San Francisco shelters. Enforcement of both mandatory TB screening for shelter clients and the "Cough Alert" policy are needed to prevent further transmission in this population.

Substance abuse: In 2004, 11% of cases reported excess alcohol use, 4% reported non-injection drug use, and 7% reported injection drug use.

AIDS

Although the overall number of cases with AIDS has declined annually since the peak in 1991, in 2002, the number of TB cases reported with AIDS more than doubled, increasing from 13 cases in 2001 to 29 cases in 2002. This increase was associated with the increase in homeless cases reported that year. In 2003 and 2004, the number of cases with TB and HIV returned to the pre-2000 baseline of approximately 10-12% of all cases reported.

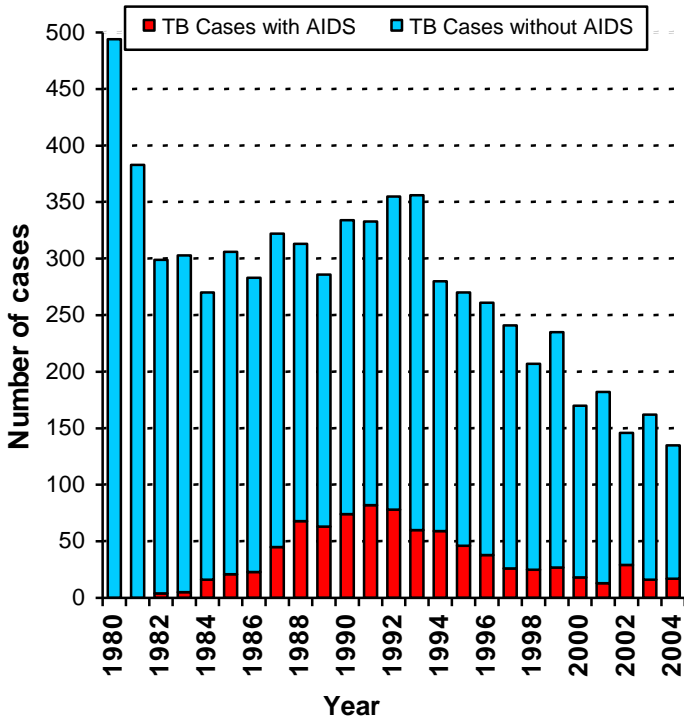
Drug Resistance

For the last several years, drug resistance has remained relatively steady. However, in 2004 drug resistance to at least one (1) drug increased from 15% to 22% of culture-positive TB cases. Isoniazid (INH) resistance, either alone or in combination with another drug, doubled from 9% in 2003 to 18% in 2004. In the last 4 years, 13 MDR cases were reported. While the number of MDR cases has remained relatively low (2-4 cases per year, and 1-3% of all cases reported annually), these TB strains are highly resistant (4 or more drugs) and difficult and costly to manage.

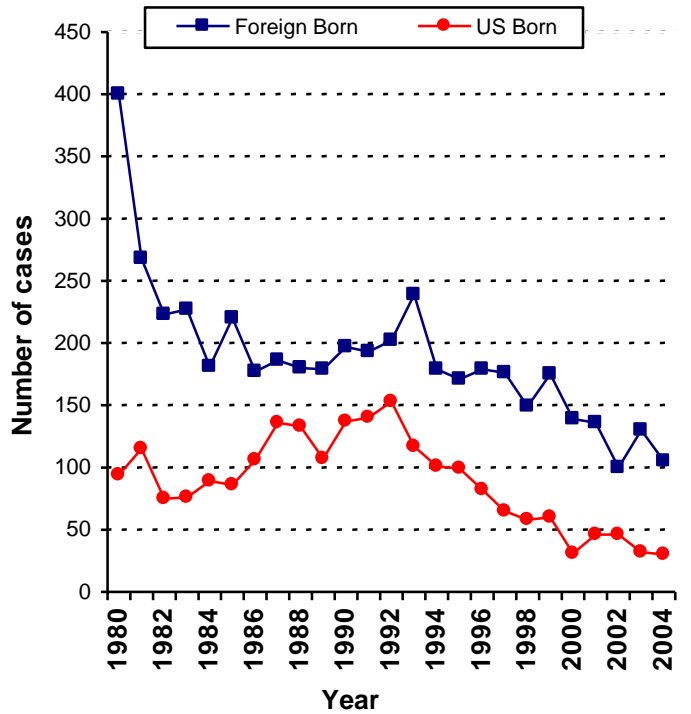
Outbreak of Pediatric TB in an Unlicensed Daycare

In April 2004, an adult living in a private-home daycare was diagnosed with active TB. This individual had been symptomatic (cough), with smear-positive TB for over a year. Between August 2002 and July 2004, 11 outbreak cases, including 9 (81%) pediatric (<7 yo) cases, were identified. All 11 lived, worked, or were cared for at the daycare. All 9 pediatric TB patients were US-born with foreign-born parents. Only 3 (33%) of the 9 pediatric cases were identified through contact investigation; 2 (22%) presented with illness and 4 (44%) were detected by primary care providers during routine TB screening. Excluding these cases, 36 (53%) of 68 named contacts had latent tuberculosis infection. Recovered *M. tuberculosis* isolates (n=6) shared a 7-band DNA fingerprint. Provider adherence to locally adapted pediatric TB screening recommendations proved critical to outbreak control. Daycare TB screening compliance may have prevented or abated this large pediatric TB outbreak.

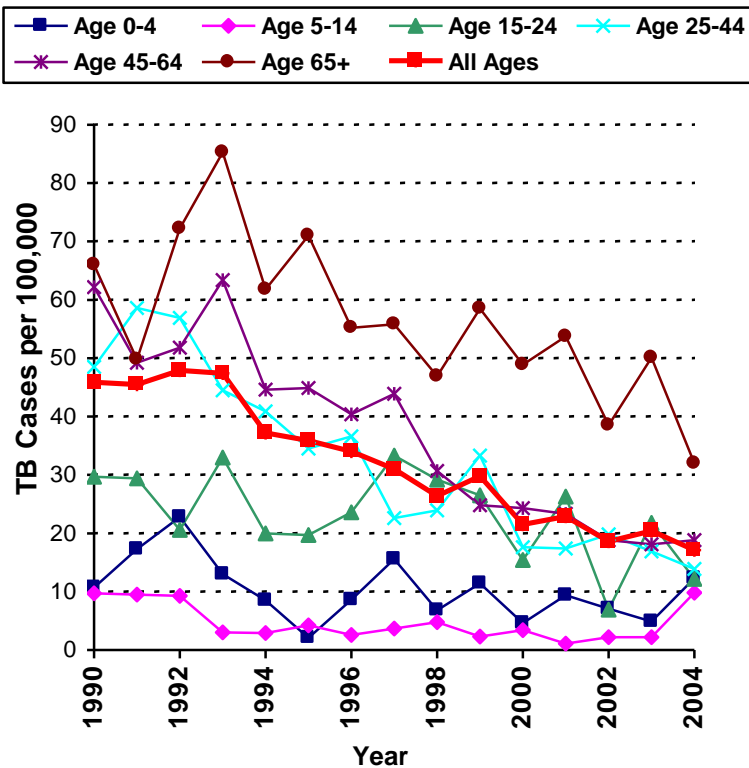
TB Cases in San Francisco by AIDS Status, 1980-2004



TB Cases in San Francisco by Place of Birth, 1980-2004



Rates of TB in San Francisco by Age Group, 1990-2004



Rates of TB in San Francisco by Race and Ethnicity, 1990-2004

