

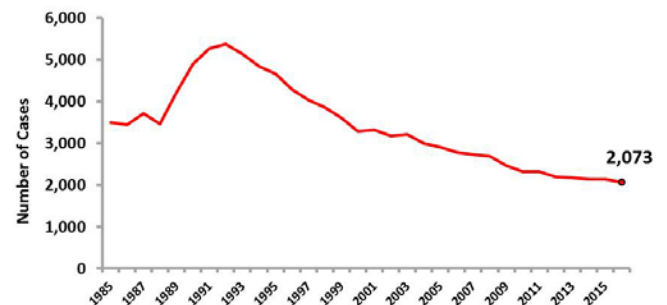
## TB in California: A Snapshot

Active tuberculosis (TB) is an illness caused by the bacterium *Mycobacterium tuberculosis*. TB usually affects the lungs and spreads through the air when a person sick with TB coughs. Not everyone infected with the bacteria becomes sick. Those that have been infected but are not sick have latent tuberculosis infection (LTBI). Persons with LTBI can become sick with active TB in the future if they are not treated.

### California Overview

- In 2016, California reported 2,073 new active TB cases, compared with 2,131 cases in 2015.
- In 2016, California's annual TB incidence was 5.3 cases per 100,000 persons, which is nearly double the national incidence rate.
- CDPH estimates that more than \$70 million was spent on medical management of TB cases in California during 2016.
- TB cases were reported in 49 of California's 61 (80%) local health jurisdictions, but 29 (48%) jurisdictions reported less than 5 cases.
- Among California's TB cases, an estimated 7% were imported from outside the United States, 13% resulted from recent transmission, and 80% were due to reactivation of LTBI.
- An estimated 2.3 million Californians (6% of the population) have LTBI which can progress to active TB without diagnosis and treatment.

Reported TB Cases: California, 1985–2016



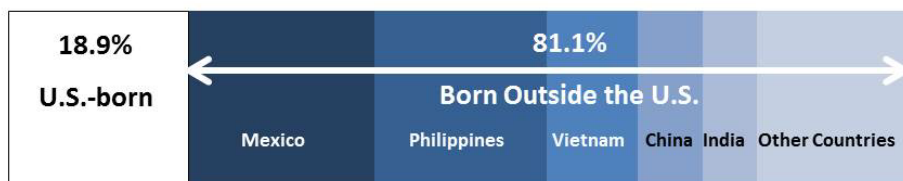
The resurgence of TB began in the 1980s and peaked in 1992. Case counts began decreasing again in 1993, and continued a downward trend through 2016.

### Most Affected Populations

#### Persons Born Outside the U.S. Bear Significant Burden

- The TB rate among persons born outside of the United States (U.S.) (15.6 per 100,000) was 11 times higher than the rate among U.S.-born persons (1.4 per 100,000).
- In 2016, 81% of California's TB cases occurred in persons who were born outside the U.S.
- Persons born in Mexico, the Philippines, Vietnam, China, and India accounted for over 75% of TB cases in persons born outside the U.S.
- During 2007–2016, the percentage of foreign-born TB patients diagnosed less than one year after arriving in the U.S. decreased from 18% in 2007 to 11% in 2016. The median time to develop TB from U.S. entry is 17 years.

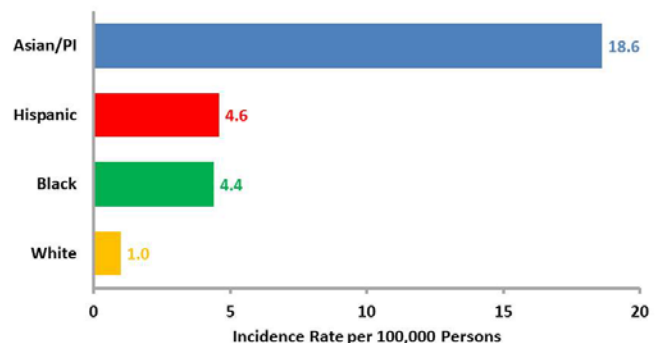
#### Proportion of TB Cases by National Origin — California, 2016



### Racial/Ethnic Disparities Persist

- Racial/ethnic minorities continued to experience higher TB rates compared to whites. Rates among Asians and Pacific Islanders (18.6 per 100,000) were 19 times higher than among whites (1.0 per 100,000), while rates among blacks (4.4 per 100,000) and Hispanics (4.6 per 100,000) were four to five times higher.
- Asians and Pacific Islanders accounted for over half of California's TB cases. In 2016, 53% of TB cases occurred in Asians and Pacific Islanders, up from 46% in 2007.

TB Rates by Racial/Ethnic Group— California, 2016



## Medical Comorbidities

- In 2016, 36% of adult TB cases had a medical comorbidity such as diabetes mellitus, end stage renal disease, HIV infection, or another condition that can increase the risk of progression from latent to active TB disease.
- The most common comorbidity was diabetes mellitus (27% of adult cases).
- HIV infection greatly increases a patient's risk for progression from LTBI to active TB disease, as well as for TB-related death.
- In 2016, 85% of patients with TB were tested for HIV. Of those tested, 75 (4.3%) were HIV-positive, up from 61 (3.2%) in 2015.

## Children and Older Adults

- There were 34 TB cases among children less than 5 years of age in 2016, a decrease from 89 cases in 2007.
- The proportion of TB cases in older adults is growing. In 2016, 33% of TB cases were reported in persons 65 years of age or older, compared to 24% in this age category in 2007.
- Since 2007, the median age of all TB patients rose from 48 to 54 years, driven predominantly by the rising median age of foreign-born TB cases from 49 years in 2007 to 57 years in 2016.

## TB Transmission is Occurring in California

- An estimated 13% of TB cases resulted from transmission of TB in California during 2011–2015.
- In 2016, transmission occurred in 11 new or ongoing confirmed TB outbreaks, each involving at least 4 persons.

## Deaths Among Persons with TB

- During 2012–2014, 632 persons (10% of TB cases) died with TB. Of persons who died with TB, 22% died before receiving TB treatment.

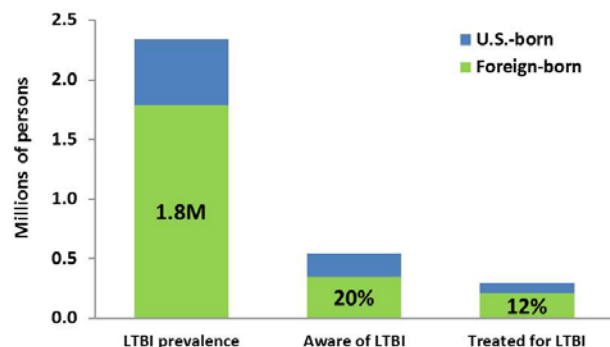
## Drug-Resistant TB

- Multidrug-resistant (MDR) TB is TB resistant to the two most potent first line drugs, isoniazid and rifampin. Extensively drug-resistant (XDR) TB is MDR TB additionally resistant to two classes of second line drugs, fluoroquinolones and injectables.
- In 2016, there were 28 (1.7%) MDR TB cases in California compared with 23 cases in 2015.
- Despite a worldwide increase in MDR TB, the proportion of TB cases in California that are MDR has remained consistent (1–2%) since drug susceptibility data began being systematically collected in 1993.
- Since 1993, 22 XDR TB cases were reported in California.
- Patients with MDR and XDR TB generally have poorer outcomes because the most effective TB drugs are ineffective against their disease.

## Treating Latent TB Infection is Critical

- Over 6% of California's total population is estimated to have LTBI, including 17.0% of the population born outside the U.S. and 1.9% of the population born in the U.S..
- Among the more than 2.3 million Californians with LTBI, only 23% are aware of their infection and only 13% have been treated.
- Because an estimated 80% of cases arise from reactivation of LTBI, treating LTBI will prevent many TB cases in California.
- [Risk assessment tools](http://www.cdph.ca.gov/programs/tb/Pages/RiskAssessment.aspx) are available for use by medical providers to identify persons at risk for LTBI for testing and treatment (<http://www.cdph.ca.gov/programs/tb/Pages/RiskAssessment.aspx>)

Estimated latent TB Infection prevalence, awareness, treatment — California, 2015



Estimated using National Health and Nutrition Examination Survey, 2011-2012 applied to the California population.