



## TUBERCULOSIS

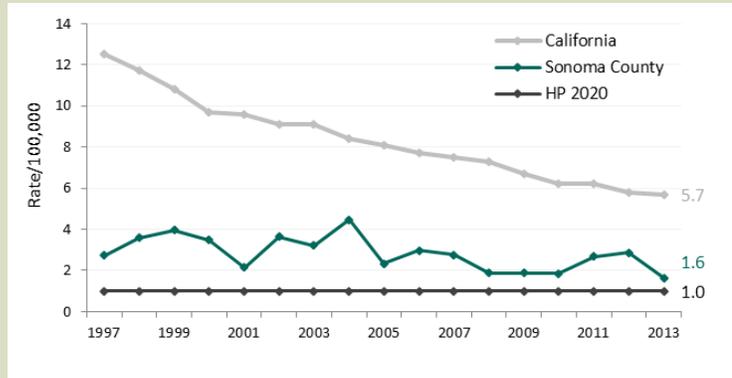
- Between 2004 and 2013, Sonoma County had an average of 12 cases of active tuberculosis (TB) diagnosed per year (range 8-21).<sup>1</sup>

- In 2013, the rate of TB in Sonoma County was 1.6 cases per 100,000, comparatively lower than the rate in California (5.7 cases per 100,000).

- Similar to the trend in the US as a whole, the rate at which persons are newly diagnosed with TB in California and Sonoma County is declining (Figure).

- With the 2013 rate of 1.6 cases per 100,000 persons, Sonoma County has relatively low incidence when compared to the California rate of 5.7 cases/100,000.<sup>2</sup> This rate, however, is consistently higher than Healthy People 2020 goal of 1.0 case per 100,000 population.<sup>3</sup>

**Rate of TB Diagnosis by Year; California, Sonoma County and Healthy People 2020 Goal, 1997-2013**



## Demographic Characteristics

### AGE

Because the absolute number of cases is small, it is difficult to evaluate changing trends in age groups among Sonoma County cases. Between 2009 and 2013, the age groups most affected by TB infection in Sonoma County were persons aged >65 years, followed by those aged 25-44 and children aged <5 years.

Children aged <5 years are of particular concern because of the risk of severe infection and the relatively short window of time elapsed between exposure and active disease. Of the four children diagnosed with TB between 2009 and 2013, two were contacts to a known case and the remaining two spent significant time in countries known for increased risk of TB transmission.

### RACE/ETHNICITY

Among TB cases diagnosed in the past five years, persons who are Asian/Pacific Islander (13 cases per 100,000) or report Hispanic/Latino ethnicity (3 cases per 100,000) have a much higher rate of disease compared to Whites (1 case per 100,000).

In California in 2012, Asian/Pacific Islanders had the highest rate of TB with 19.0 cases/100,000, followed by Hispanic/Latinos (5.6 cases/100,000).<sup>2</sup>

### BIRTH COUNTRY

Over the past five years, 66% of Sonoma County's TB cases were diagnosed among foreign-born individuals. Of these 35 cases reporting a non-US birth country, 15 were from Mexico, 10 from Southeast Asia, 5 from Nepal and 5 from other countries. Half of foreign-born persons with TB resided in the US <8 years prior to diagnosis (range 0-84 years).

## Clinical Characteristics

Given the relatively small number of cases per year, it is difficult to draw meaningful comparisons to previous years. The clinical characteristics of cases diagnosed in 2013 were similar to cases diagnosed over the past 5 years. Of note, two of the 2013 culture confirmed cases were resistant to isoniazid (INH), and one of these additionally resistant to pyrazinamide (PZA). Multi-drug resistant TB (resistance to both INH and RIF) has occurred in Sonoma County, though is infrequent. The most recent cases of MDR-TB were diagnosed in 2006 (N=2). To date, no cases of XDR-TB have been found in Sonoma County.

## Risk Factors for TB

### MEDICAL

Between 2009 and 2013, the most common underlying medical condition among those diagnosed with TB was diabetes (N=9), followed by other immune suppression (N=2) and end stage renal disease (N=1). Though HIV is a known medical risk factor for active tuberculosis, none of the cases diagnosed between 2009 and 2013 were HIV positive.

### NON-MEDICAL

Other potential and known risk factors reported among those diagnosed with TB between 2009 and 2013 included contact with a case (N=4), extensive foreign travel (N=3), homelessness (N=2), injection drug use (N=1) and past incarceration (N=1).

## Outcomes

Ninety-one percent of persons diagnosed with TB between 2009 and 2013 completed treatment within 1 year (N=40 of those not currently on treatment, N=44). Of the four not completing treatment within one year, 2 completed treatment after 1 year and the remaining two were not treated (one was diagnosed near time of death, one refused treatment).

## Selected clinical characteristics of TB Cases

Sonoma County, 2009-2013

	2013		2009-2013	
	N	%	N	%
<b>Total Cases</b>	8	--	53	--
<b>Deaths</b>				
Diagnosed at or near death	0	0	1	2
Died while on treatment	0	0	0	0
<b>Site of Disease</b>				
Pulmonary	5	63	28	53
Extrapulmonary	3	37	19	36
Both	0	0	6	11
<b>Sputum Smear (pulmonary only)</b>				
Positive	2	40	14	41
Negative	3	60	17	50
Not done	0	0	3	9
<b>Culture Result (any source)</b>				
Positive	6	75	41	77
Negative	2	25	8	15
Not done	0	0	4	8
<b>Drug Sensitivity (culture positive)</b>				
Susceptible	4	66	32	78
Resistant				
INH only	1	17	2	5
INH and Other	1	17	3	7
MDR (INH & RIF)	0	0	0	0
Other	0	0	4	10
Not Done/Pending	0	0	0	0

## References

1. All Sonoma County Tuberculosis data was provided by the State of California, Department of Public Health, Tuberculosis Control Branch.
2. California Department of Public Health, Tuberculosis Control Branch. California Tuberculosis Case County and Case Rate Data through 2012. Available at <http://www.cdph.ca.gov/programs/tb/Pages/default.aspx>. Accessed August 4, 2014.
3. U.S. Department of Health and Human Services. Office of Disease Prevention and Health Promotion. Healthy People 2020. Washington, DC. Available at <http://www.healthypeople.gov/2020/topicsobjectives2020/objectiveslist.aspx?topicId=23>. Accessed August 20, 2011.
4. All population data taken from: State of California, Department of Finance, *Race/Ethnic Population with Age and Sex Detail, 2000-2050*. Sacramento, CA, May 2012.