



Tuberculosis Fact Sheet Alameda County 2016

OVERVIEW

During 2016, 136 tuberculosis (TB) cases were reported to Alameda County (excluding the City of Berkeley). The 2016 TB case rate in Alameda County was 9.1 cases per 100,000 residents, a 4% decrease from the 2015 rate. The 2016 rate ranks third among all jurisdictions in California and is 71.6% higher than the California state rate of 5.3 cases per 100,000 residents. Compared to other Bay Area jurisdictions, the Alameda County rate ranks lower than San Francisco (11.6 per 100,000) and higher than Santa Clara (8.3 per 100,000), San Mateo (6.8 per 100,000), Solano (5.5 per 100,000), and Contra Costa (3.5 per 100,000) counties.

Figure 1. Tuberculosis Cases and Rate per 100,000 in Alameda County, 2007-2016

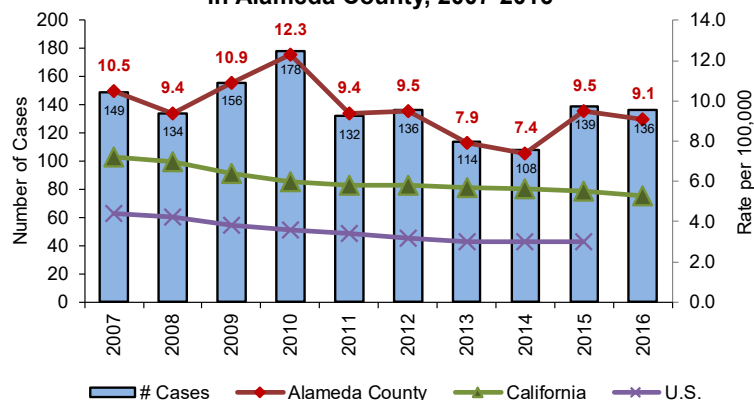
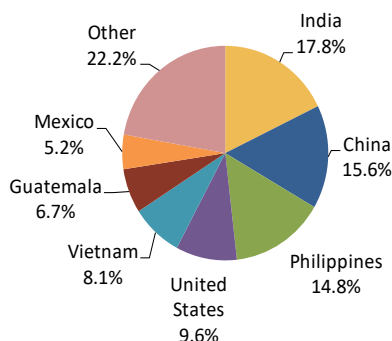


Figure 2: Incident TB Cases (2016) by Place of Birth, Alameda County



PATIENT DEMOGRAPHICS

Similar to previous years, men comprised a majority of TB cases (64.0%), and the greatest proportion of TB cases occurred among adults age 65 years and older (33.8%) (Table 1). In 2016, three cases of TB occurred in children younger than five years of age (Table 1).

The majority of 2016 TB cases (93.4%) occurred among non-White residents (Table 1). Cases occurred most frequently among Asians/Pacific Islander (72.8%), followed by Hispanic/Latino (14.0%) and Black/African American residents (5.1%). From 2014 to 2016, White residents in Alameda County had the lowest the average annual case rate of 2.1 per 100,000; rates were ten times higher among Asian/Pacific Islander (21.2 per 100,000), three times higher among Black/African American (6.8 per 100,000), and two times higher among Hispanic/Latino (4.7 per 100,000) residents.

During 2016, 89.7% of Alameda County TB cases were born outside of the U.S. (Figure 2). The most frequent places of birth remain China, India, Mexico, Philippines, the U.S., and Vietnam. The 2014-2016 average annual case rate for cases born outside of the U.S. was 22.3 per 100,000, almost 15 times the rate for cases born in the U.S. (1.5 per 100,000). For cases born outside of the U.S., 65.8% had resided in the U.S. for 10 years or more before being diagnosed with TB. A majority of 2016 cases occurred among Asian/Pacific Islander residents, regardless of place of birth (50.0% among cases born in the U.S. and 76.2% among cases born outside of the U.S.).

Table 1. Incident TB Cases (2016) and Annual Average Case Rates per 100,000 (2014-2016), Alameda County

		Number of Cases (N=136)		Average Case Rate per 100,000
			Percent	
Sex	Males	87	64.0%	10.1
	Females	49	36.0%	7.2
Age Group	0-4 yrs	3	2.2%	*
	5-14 yrs	1	0.7%	*
	15-24 yrs	13	9.6%	10.7
	25-44 yrs	32	23.5%	6.9
	45-64 yrs	41	30.1%	18.5
	65+ yrs	46	33.8%	23.8
Race / Ethnicity	Black / African American	7	5.1%	6.8
	Asian / Pacific Islander	101	74.3%	21.2
	Amer Ind / Native AK	0	0.0%	*
	Hispanic / Latino	19	14.0%	4.7
	White	9	6.6%	2.1
Birthplace	United States	13	9.6%	1.5
	Outside of United States	122	89.7%	22.3
	Unknown	1	0.7%	*

* 2014-2016 rates for categories with <10 cases are unstable and not presented

PLACES OF RESIDENCE

The largest proportion of 2016 TB cases occurred among residents of Oakland (30.9%), followed by Fremont (18.4%) and Union City (12.5%). The five-year average TB rate continues to be highest in Downtown, Uptown and East Oakland (over twice the five-year county average of 8.7 per 100,000) (Figure 3).

CLINICAL & LABORATORY CHARACTERISTICS

Of all 2016 TB cases, 80.9% had any pulmonary involvement and 19.1% were extrapulmonary only (Table 2). Of all pulmonary cases, a majority (56.4%) were smear-negative and 73.6% did not have evidence of cavitary disease on chest radiography. Only 2.2% of 2016 TB cases were co-infected with HIV, a decrease from 3.7%-5.3% in the previous three years. The most common comorbidity was diabetes (22.8%). Among TB cases with any pulmonary disease, a higher proportion of patients with positive smears received nucleic acid amplification (NAA) testing at diagnosis compared to patients with negative smears (89.1% vs. 29.0%).

DRUG RESISTANCE

Fewer drug resistant isolates were identified during 2016 compared to 2015. During 2016, nine (6.6%) TB cases demonstrated resistance to at least one first-line TB treatment drug (isoniazid, rifampin, ethambutol and pyrazinamide). Of those, six of nine were resistant to isoniazid only. There were no multi-drug resistant TB cases (resistant to both isoniazid and rifampin) in Alameda County in 2016, compared to three in 2015.

SUMMARY

TB remains an important public health problem in Alameda County. In recent years, California and national TB reports have estimated that 80%-85% of TB cases occur due to reactivation of latent TB infection (LTBI) rather than recent transmission. Alameda County cases may reflect this trend: while TB cases continue to be reported among children younger than five years old (an indicator of recent transmission), the highest rates of disease occur among residents that are 65 years and older, born outside of the U.S., and have resided in the U.S. for 10 years or more (indicators of LTBI reactivation). Lastly, although NAA tests are available for TB diagnosis, they are used more often for smear positive cases. Increased use of diagnostic NAA tests for all cases may lead to earlier diagnosis and reduced TB transmission.

Figure 3: Average Annual TB Rates per 100,000 by Zip Code (2012-2016), Alameda County

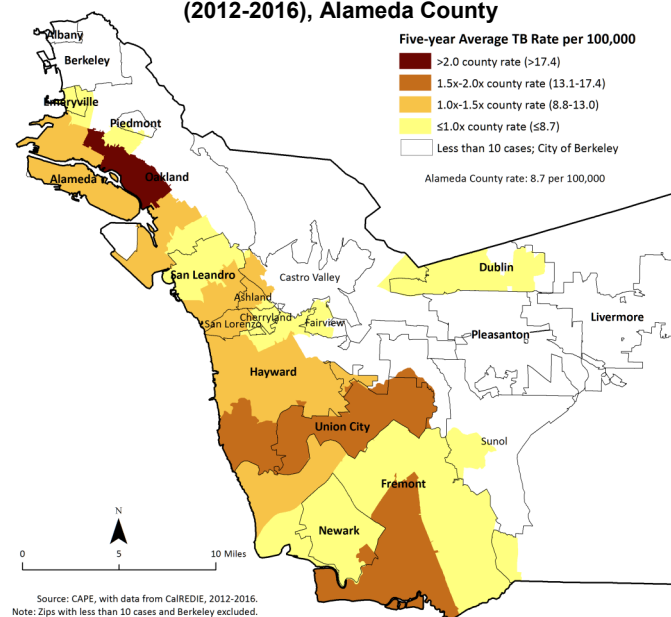


Table 2: Clinical and Laboratory Characteristics of TB Cases (2016), Alameda County

		Number of Cases	Percent
Site of disease	Pulmonary only	93	68.4%
	Extrapulmonary only	26	19.1%
	Both	17	12.5%
Among cases with any pulmonary disease (N=110)			
Sputum smear	Positive	46	41.8%
	Negative	62	56.4%
	Not done	2	1.8%
Cavitary disease	Present	29	26.4%
	Absent	81	73.6%
Comorbidities	HIV/AIDS	3	2.2%
	Diabetic	31	22.8%
	End-stage renal disease	6	4.4%
	Other immunosuppression	11	8.1%
Drug resistance	Any drug resistance	9	6.6%
	INH resistance	6	4.4%
	Resistance to INH only	6	4.4%
	Multi-drug resistance	0	0.0%
Nucleic Acid Amplification Testing (NAAT) practice at diagnosis			
Among cases with any pulmonary disease and sputum smear performed (N=108)			
Sputum smear positive (N=46)	NAAT performed	41	89.1%
	NAAT positive	40	97.6%
Sputum smear negative (N=62)	NAAT performed	18	29.0%
	NAAT positive	7	38.9%

For questions or additional information, contact:

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<http://www.acphd.org/tb.aspx>
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