

Tuberculosis Fact Sheet Alameda County 2019

OVERVIEW

During 2019, 114 tuberculosis (TB) cases were reported to Alameda County (excluding the City of Berkeley). The 2019 TB case rate in Alameda County was 7.4 cases per 100,000 residents, a 26% decrease from the 2018 rate. The 2019 rate ranks seventh among all jurisdictions in California and is 0.5-fold 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 (13.4 per 100,000), Santa Mateo (8.5 per 100,000), and San Clara (8.4 per 100,000), but higher than Solano (7.0 per 100,000), and Contra Costa (5.0 per 100,000) counties.

Figure 1. Number of Tuberculosis Cases and Rate per 100,000, Alameda County, 2010-2019

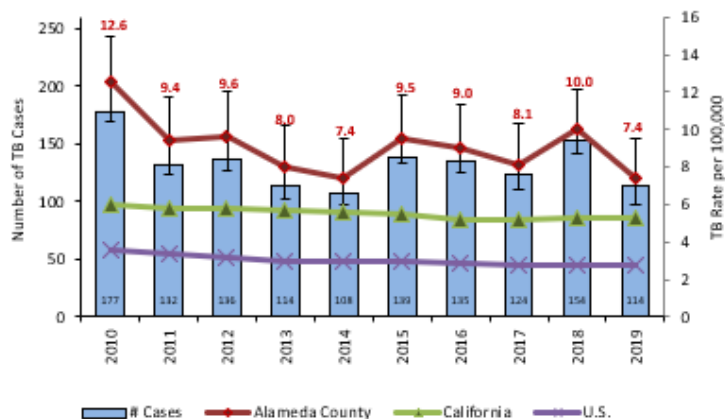


Figure 2: Incident TB Cases (2019) by Place of Birth, Alameda County

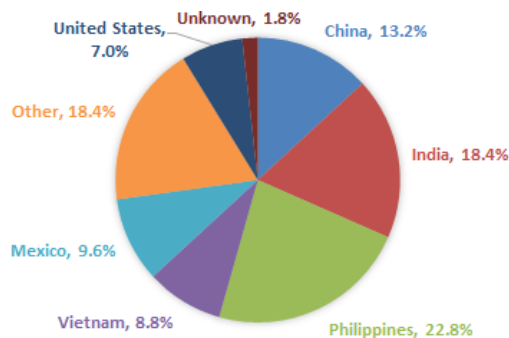


Table 1. Number of TB Cases and Rates per 100,000 during 2017-2019, Alameda County

		Number of 2019 Cases		Average Case Rate per 100,000 (2017-2019)
		Cases	Percent	
Sex	Males	69	60.5%	10.2
	Females	45	39.5%	6.8
Age Group	0-4 yrs	0	0.0%	*
	5-14 yrs	2	1.8%	*
	15-24 yrs	8	7.0%	5.7
	25-44 yrs	32	28.1%	7.6
	45-64 yrs	29	25.4%	9.9
	65+ yrs	43	37.7%	20.1
Race / Ethnicity	Black / African American	7	6.1%	*
	Asian / Pacific Islander	87	76.3%	20.7
	Amer Ind / Native AK	0	0.0%	*
	Hispanic / Latino	18	15.8%	4.4
	White	2	1.8%	*
Birthplace	United States	10	8.8%	1.3
	Outside of United States	104	91.2%	23.3

* Categories with <10 average annual cases are unstable and not presented

PATIENT DEMOGRAPHICS

Similar to previous years, a majority of TB cases were male (60.5%). During 2019, the largest proportion of TB cases occurred among adults 65 years old and older (37.7%), and the lowest proportions occurred among children 0 to 4 years old (0.0%) (Table 1).

The majority of 2019 TB cases (98.2%) occurred among non-White residents (Table 1). From 2017 to 2019, Asian/Pacific Islander (API) residents in Alameda County had an average annual case rate of 20.7 cases per 100,000 residents, followed by Hispanic residents at 4.4 cases per 100,000 residents.

During 2019, 91.2% of TB cases were born outside of the U.S. (Table 1). The most frequent birthplaces outside of the U.S. remain the Philippines, India, China, Mexico, and Vietnam (Figure 2). The 2017-2019 average annual case rate for cases born outside of the U.S. was 23.3 per 100,000, almost 18 times the rate for cases born in the U.S. (1.3 per 100,000). For 2019 cases born outside of the U.S., 64.4% had resided in the U.S. for 10 years or more before being diagnosed with TB.

The largest proportion of 2019 TB cases occurred among residents of Oakland (28.9%), Fremont (22.8%) and Hayward (14.0%). Five-year average rates were highest in Downtown and East Oakland, and South Fremont (over twice the five-year county average of 8.6 per 100,000) (Figure 3).

CLINICAL CHARACTERISTICS

Of all 2019 TB cases, 75.4% had any pulmonary involvement and 24.6% were extrapulmonary only (Table 2). Of all pulmonary cases, a majority (50.0%) were acid-fast bacilli (AFB) smear-negative and 65.1% did not have evidence of cavitary disease on chest radiography. Only 3.5% of 2019 TB cases were co-infected with HIV. The most common comorbidity was diabetes (23.7%).

DRUG RESISTANCE

Fewer drug-resistant isolates were identified among culture-positive cases during 2019 when compared to 2018 (12.8% vs 20.0%), but a similar to proportions detected during 2015-2017 (12.8% vs. 4.8%-11.5%). During 2019, 12 TB cases were resistant any TB treatment drug, and 9 to at least one first-line treatment drug (isoniazid, rifampin, ethambutol or pyrazinamide). Of all TB cases with drug susceptibility tests reported, 6 cases (6.4%) were resistant to isoniazid only, 3 (3.2%) were resistant to pyrazinamide only, and 1 (1.1%) case was resistant to isoniazid and streptomycin. Alameda County had two multidrug resistant TB cases (one resistant to isoniazid, rifampin, pyrazinamide, and ethambutol; and one resistant to isoniazid with susceptibility to rifampin, but had molecular mutations detected that have been associated with multidrug-resistant TB cases).

DIAGNOSTIC TESTING

Among 2019 TB cases with any pulmonary disease, 67.4% received a nucleic acid amplification (NAA) test at diagnosis, a lower proportion than among 2018 cases (73.9%). Similar to 2018, more 2019 cases with positive sputum AFB smears received NAA tests compared to patients with negative sputum AFB smears (80.4% and 89.4%, respectively); a smaller proportion of 2019 cases with negative sputum AFB smears received a NAAT test compared to 2018 (50.0% and 62.3%, respectively).

SUMMARY

TB remains an important public health problem in Alameda County. Preliminary analyses have not identified a specific cause for the reduction in TB cases and rates in Alameda County; however, one possible explanation is that the declines in cases and rates may be due to natural variation that has been observed in previous years. A large proportion of Alameda County TB cases continue to occur among older adults, those born outside of the U.S., and non-U.S.-born cases who have been in the U.S. for 10 years or more before TB diagnosis; all are known risk factors for latent TB infection (LTBI). Reports have also indicated that 80%-85% of all TB cases are due to LTBI reactivation. Therefore, identifying and treating LTBI is a key TB control strategy. TB Control also continues to encourage early diagnosis through the use of NAA tests, as this practice may facilitate earlier TB treatment initiation and reduce disease transmission.

Figure 3: Average Annual TB Rates per 100,000 by Zip Code (2015-2019), Alameda County

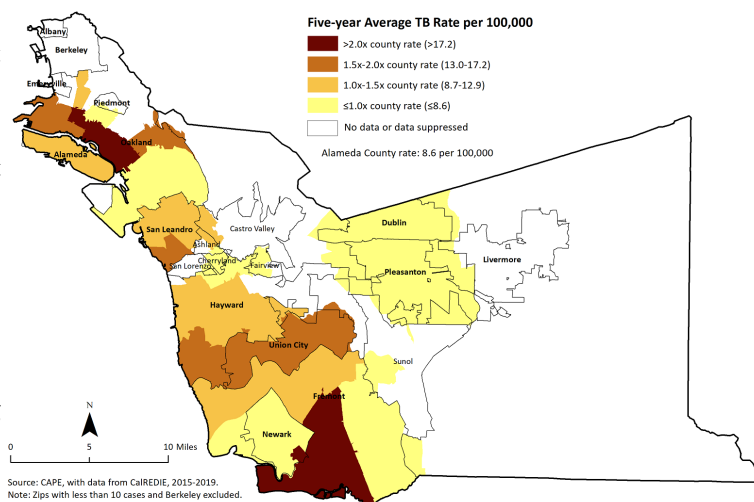


Table 2: Clinical & Laboratory Characteristics of TB Cases (2019) Alameda County

		Number	Percent	
Site of disease	Pulmonary only	67	58.8%	
	Extrapulmonary only	28	24.6%	
	Both	19	16.7%	
Among cases with any pulmonary disease (N=86)				
Sputum smear	Positive	41	47.7%	
	Negative	43	50.0%	
	Not done	2	2.3%	
Cavitary disease	Present	30	34.9%	
	Absent	56	65.1%	
Comorbidities	HIV/AIDS	4	3.5%	
	Diabetes	27	23.7%	
	End-stage renal disease	3	2.6%	
	Other immunosuppression*	13	11.4%	
Drug resistance among culture	Resistance to any TB medications	12	12.8%	
	Resistance to INH only	6	6.4%	
	Resistance to PZA only	3	3.2%	
	Resistance to INH and Streptomycin	1	1.1%	
	Multidrug resistance	2	2.1%	
Nucleic Acid Amplification Testing (NAAT) practice at diagnosis	Among cases with any pulmonary disease and sputum smear performed (N=88)			
	Sputum smear positive (N=41)	NAAT performed	37	90.2%
		NAAT positive	37	100.0%
	Sputum smear negative (N=43)	NAAT performed	35	81.4%
	NAAT positive	18	51.4%	

*Due to a medical condition, such as hematologic or reticuloendothelial malignancies or immunosuppressive therapy, such as prolonged use of high-dose adrenocorticosteroids.

For questions or additional information, contact:

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