



Tuberculosis in Alameda County 2015

OVERVIEW

In 2015, 139 tuberculosis (TB) cases were reported to Alameda County (excluding the City of Berkeley). This represents a 28.7% increase in cases compared to 2014 and more comparable to rates observed in 2011 and 2012 (Figure 1). The 2015 TB case rate in Alameda County was 9.5 cases per 100,000 residents, ranking fourth among all jurisdictions in California and is 72.7% higher than the California state rate of 5.5 cases per 100,000 residents. Compared to other Bay Area jurisdictions, the rate in Alameda County continues to rank lower than San Francisco (11.1 per 100,000) and Santa Clara (10.3 per 100,000) counties, but is higher than Contra Costa (4.1 per 100,000), Marin (3.4 per 100,000) and San Mateo (7.5 per 100,000) counties.

Figure 1. Annual Tuberculosis Cases in Alameda County 2006-2015

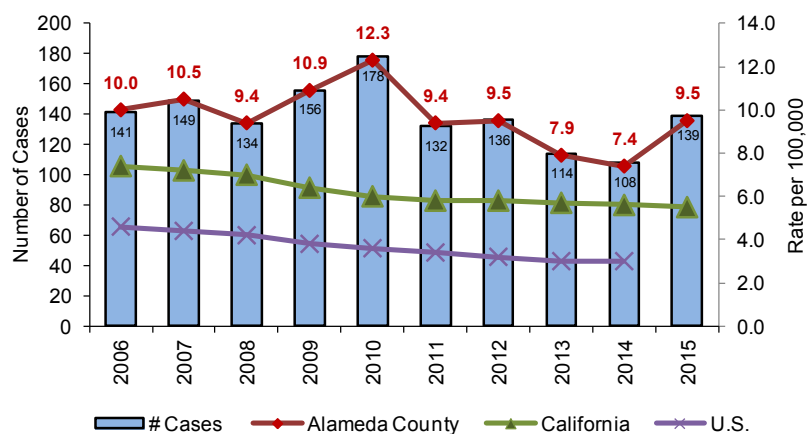


Table 1: Incident TB Cases (2015) and Average Case Rates (2013-2015), Alameda County

		Number of Cases (N=139)	Percent	Average Case Rate per 100,000
Sex	Males	71	51.1%	9.6
	Females	68	48.9%	7.0
Age Group	0-4 yrs	1	0.7%	n/a
	5-14 yrs	1	0.7%	n/a
	15-24 yrs	13	9.4%	9.9
	25-44 yrs	33	23.7%	6.8
	45-64 yrs	43	30.9%	18.3
	65+ yrs	48	34.5%	22.8
Race / Ethnicity	Non-Hispanic Black	16	11.5%	7.2
	Asian / Pacific Islander	99	71.2%	20.0
	Amer Ind / Native AK	1	0.7%	n/a
	Latino	14	10.1%	4.2
	White	9	6.5%	1.8
Birthplace	United States	18	12.9%	1.7
	Outside of United States	121	87.1%	21.0

(11.5%) and Latino residents (10.1%) (Table 1). Rates among each race/ethnicity group have remained stable in recent years; from 2013-2015, Asian/Pacific Islanders had the highest average annual case rates (20.0 per 100,000), almost three times the rate among Non-Hispanic Blacks (7.2 per 100,000), almost five times that of Latinos (4.2 per 100,000), and ten times the rate for Non-Hispanic Whites whose average annual case rate was 1.8 per 100,000. When examined by place of birth, the majority of U.S.-born cases occurred among Black residents (45.0%), while 83.2% of cases born outside of the U.S. were Asian/Pacific Islanders.

SEX AND AGE

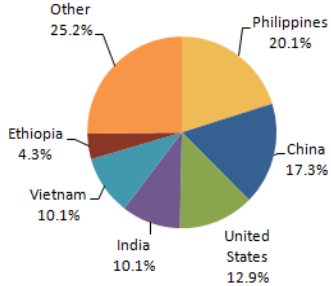
As in previous years, men comprised a higher percentage (51.5%) of TB cases than women (Table 1). The average annual rate among men from 2013 to 2015 was 9.6 per 100,000, approximately 1.3 times the rate in women (7.0 per 100,000).

Also similar to 2014, the greatest proportion of incident TB cases occurred among adults age 65 years and older (34.5%), which had the highest average case rate of 22.8 per 100,000 compared to other age groups; 89.1% of TB incident cases occurred among individuals age 25 and older. In 2015, one case of TB occurred in a child younger than five years of age (Table 1).

RACE/ETHNICITY

The majority of TB cases in 2015 (93.5%) occurred among people of color (Table 1). Cases occurred predominantly in Asians/Pacific Islanders (71.2%), followed by Black

Figure 2: Incident TB Cases (2015) by Place of Birth, Alameda County



PLACES OF BIRTH

In 2015, 121 of the 139 TB cases (87.1%) occurred among individuals born outside of the U.S., who most often came from the Philippines, China, India, and Vietnam (Figure 2). Compared to 2014, more cases were born in China (17.3% vs. 12.0% in 2014), Vietnam (10.1% vs. 6.5% in 2014) and Ethiopia (4.3% vs. 1.0% in 2014), and fewer cases were born in India (10.1% vs. 13.0% in 2014) and Mexico (2.2% vs. 6.5% in 2014). The average annual case rate in 2013-2015 for individuals born outside of the U.S. in Alameda County was 21.0 per 100,000, more than twelve times the rate for individuals with TB who were born in the U.S. (1.7 per 100,000).

PLACES OF RESIDENCE

As in previous years, a majority of TB cases occurred among residents of Oakland (40.3%), followed by Fremont (15.1%) and Hayward (12.2%) and Union City (9.4%). The five-year average TB rate in is highest in Downtown, Uptown and East Oakland (over twice the five-year county average of 8.8 cases per 100,000), followed by Northern and Central Fremont (one to one-and-a-half times the county average) (Figure 3).

CLINICAL CHARACTERISTICS

Of the TB cases reported in 2015, 70.5% were pulmonary-only cases, 18.0% were extrapulmonary only and 11.5% were both pulmonary and extrapulmonary (Table 2). Of the 114 pulmonary cases, 42.1% were smear-positive and 33.3% had evidence of cavitory disease, both of which are indicators of increased infectiousness. HIV is the most important risk factor for progression from latent TB infection to TB disease; in 2015, 4.3% of TB cases were co-infected with HIV.

DRUG RESISTANCE

In 2015, 14 (10.1%) TB cases demonstrated resistance to at least one first-line drug used to treat TB (isoniazid, rifampin, ethambutol and pyrazinamide). Of those, 12 of 14 were resistant to isoniazid, nine of which were resistant to isoniazid only. There were three multi-drug resistant TB cases (resistant to both isoniazid and rifampin) in Alameda County in 2015, an increase from one case in 2014 and none in 2013. All cases with drug resistance in 2015 were born outside of the United States.

Figure 3: Alameda County TB Rates by Zip Code, 2011-2015

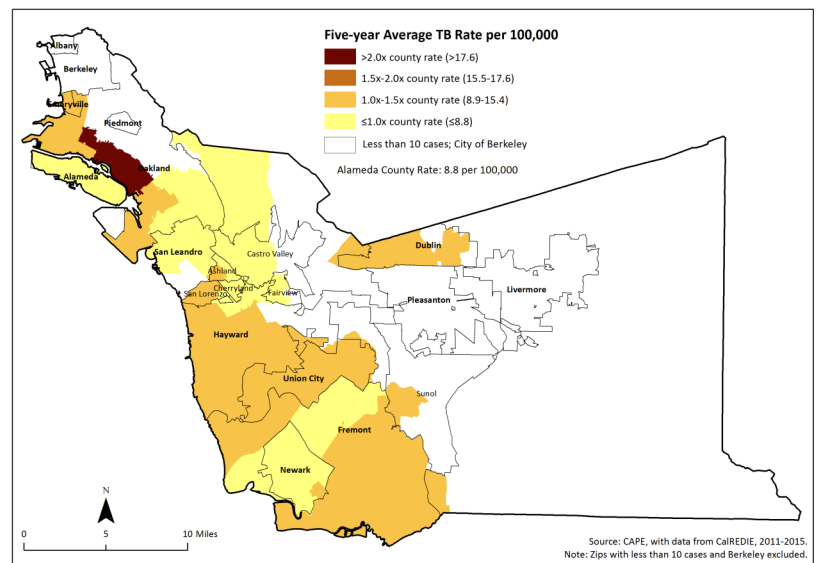


Table 2: Clinical Characteristics of Incident TB Cases (2015) Alameda County

		Number of Cases	Percent
Site of disease	Pulmonary only	98	70.5%
	Extrapulmonary only	25	18.0%
	Both	16	11.5%
Among cases with any pulmonary disease (N=114)			
<i>Sputum smear</i>	Positive	48	42.1%
	Negative	60	52.6%
	Not done	6	5.3%
<i>Cavitory disease</i>	Present	38	33.3%
	Absent	76	66.7%
Comorbidities	HIV/AIDS	6	4.3%
	Diabetic	30	21.6%
	End-stage renal disease	7	5.0%
	Other immunosuppression	8	5.8%
Drug resistance	Any drug resistance	14	10.1%
	INH resistance	12	8.6%
	Resistance to INH only	9	6.5%
	Multi-drug resistance	3	2.2%

For questions or additional information, contact:

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