

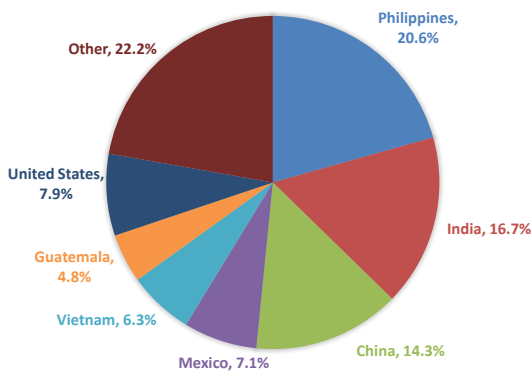


# Tuberculosis Fact Sheet— Alameda County, 2023

## OVERVIEW

During 2023, 126 tuberculosis (TB) cases were reported to Alameda County (excluding the City of Berkeley, which has its own local health department). The 2023 TB case rate in Alameda County was 8.2 cases per 100,000 residents; this rate was similar to the 2022 TB case rate. The 2023 rate ranks third among all jurisdictions in California and is 1.5 times higher than the California state rate of 5.4 cases per 100,000 residents. The 2023 rate for Alameda County is higher than other Bay Area counties, including San Francisco (8.1 per 100,000), San Mateo (5.6 per 100,000), and Contra Costa (5.9 per 100,000) counties; however, TB rates were lower than Santa Clara (8.8 per 100,000) County.

**Figure 2: Percent of TB Cases, by Place of Birth, Alameda County, 2023**



## PATIENT DEMOGRAPHICS

Similar to previous years, the majority of TB cases were male (57%). During 2023, the largest proportion of TB cases occurred among adults aged 65 years old and older (47%), and the lowest proportion occurred among children 0 to 4 years old (Table 1).

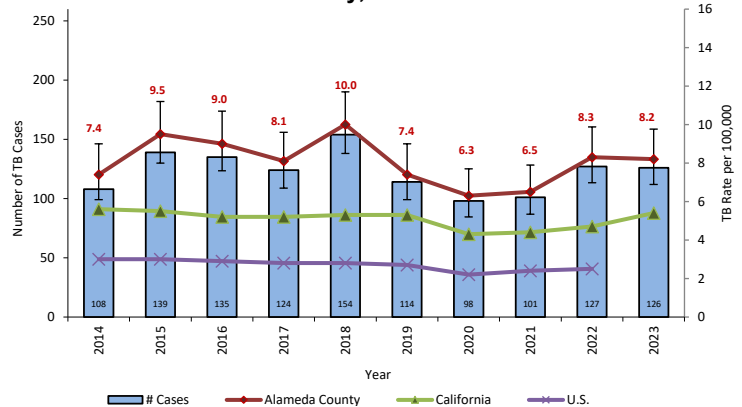
The majority of 2023 TB cases (98%) occurred among non-White residents (Table 1), an increase from 2022 (93%).

From 2021 to 2023 Asian/Pacific Islander (API) residents in Alameda County had an average annual case rate of 16 cases per 100,000 residents, followed by Hispanic/Latino residents at 5.1 cases per 100,000 residents.

During 2023, 92% of TB cases identified were born outside of the U.S. (Table 1). The most frequent birthplaces outside of the U.S. were the Philippines, India, China, and Mexico (Figure 2). The 2021–2023 average annual case rate for those born outside of the U.S. was 20.2 per 100,000 residents, 26 times the rate for cases born in the U.S. (<1.0 per 100,000). Of 2023 cases born outside of the U.S., 63% resided in the U.S. for 10 or more years before being diagnosed with TB.

The largest proportion of 2023 TB cases occurred among residents of Fremont (25%), Oakland (23%), and Hayward (17%). Five-year average rates were highest in parts of Oakland and south Fremont (more than twice the mapped five-year county average of 7.3 per 100,000) (Figure 3).

**Figure 1. Number of TB Cases and Rate per 100,000, Alameda County, 2014-2023**



**Table 1. Number of TB Cases and Rates per 100,000, Alameda County, 2021-2023**

		Number of 2023 Cases (N=126)	Percent	Average Case Rate per 100,000 (2021-2023)
<b>Sex</b>	Males	72	57.1%	8.8
	Females	54	42.9%	6.2
<b>Age Group</b>	0-4 yrs	< 10	--	*
	5-24 yrs	12	9.5%	4.5
	25-44 yrs	31	24.6%	6.4
	45-64 yrs	23	18.3%	6.5
	65+ yrs	59	46.8%	21.7
<b>Race / Ethnicity</b>	Black/African American	10	7.9%	4.9
	Asian/Pacific Islander	88	69.8%	16.0
	Filipino	27	30.7%	--
	Asian Indian	22	25%	--
	Chinese	22	25%	--
	Other Asian**	17	19.3%	--
	Amer Ind/Native AK	< 10	--	*
	Hispanic/Latino	25	19.8%	5.1
	Multiracial	< 10	--	*
	White	< 10	--	*
<b>Birthplace</b>	United States	10	7.9%	0.8
	Outside of United States	116	92.1%	20.2

\* Categories with <10 average annual cases are unstable and not presented  
 \*\*Includes Vietnamese, Burmese, Cambodian, Korean, Laotian, and Nepalese

**CLINICAL CHARACTERISTICS**

Of all 2023 TB cases, 75% had pulmonary involvement and 25% were extrapulmonary only (Table 2). Of all pulmonary cases, a majority (53%) were acid-fast bacilli (AFB) smear-negative and 72% did not have evidence of cavitory disease on chest radiography. Only 2% of 2023 TB cases were co-infected with HIV and the most common comorbidity was diabetes (21%). One hundred and three patients (82%) reported having a usual source of care in the past two years, which was defined as a place where the patient usually went when sick or needing health advice.

**DRUG RESISTANCE**

A larger proportion of drug-resistant isolates were identified among culture-positive cases in 2023 than 2022 (23% and 12%, respectively). During 2023, all 22 drug-resistant TB cases were resistant to at least one of the first-line TB medications (i.e., isoniazid, rifampin, ethambutol or pyrazinamide). Of the 19 cases resistant to only one first-line drug, 12 cases were resistant to isoniazid and 7 cases were resistant to pyrazinamide. Two cases were multidrug-resistant TB (Table 2).

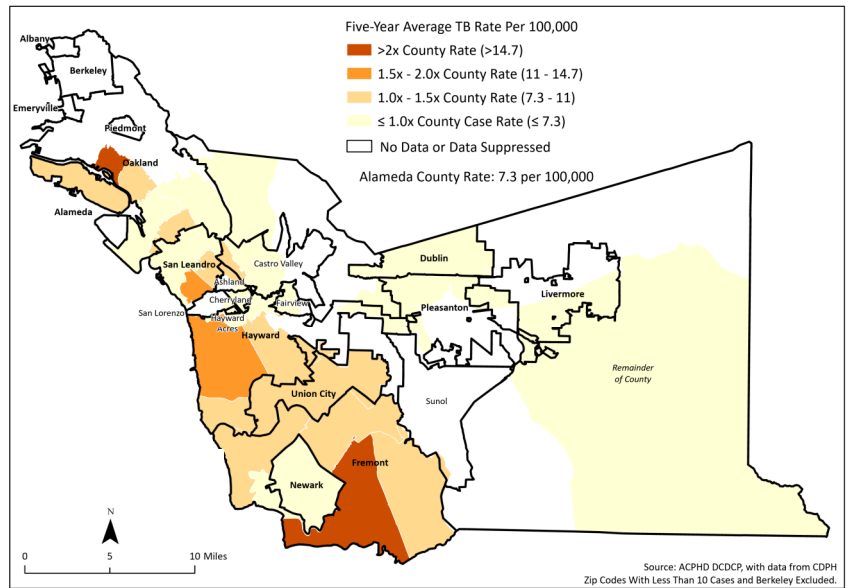
**DIAGNOSTIC TESTING**

Among 2023 TB cases with any pulmonary disease that had a sputum smear performed, 82% received a nucleic acid amplification (NAA) test at diagnosis, similar to 2022 cases (78%). Like 2022, more 2023 cases with positive sputum AFB smears received NAA tests compared to patients with negative sputum AFB smears (97% and 70%, respectively). The number of cases with negative sputum AFB smears receiving a NAA test increased from 2022 to 2023 (49% and 70% , respectively).

**SUMMARY**

TB remains an important public health problem in Alameda County. Cases in the county were similar to case numbers in 2022, and cases and case rates are now back to pre-pandemic levels. 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 or more years before TB diagnosis; all are known risk factors for latent TB infection (LTBI). Reports have also indicated that 80%-86% of all TB cases are due to LTBI reactivation. Therefore, identifying and treating LTBI is a key TB control strategy, especially since 82% of TB cases reported engaging with a usual source of care. TB Control also continues to encourage early diagnosis through the use of NAA tests regardless of sputum smear results, 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, Alameda County, 2019-2023**



**Table 2. Clinical and Laboratory Characteristics of TB Cases, Alameda County, 2023**

		Number	Percent	
<b>Site of disease</b>	Pulmonary only	80	63.5%	
	Extrapulmonary only	32	25.4%	
	Both	14	11.1%	
<b>Among cases with any pulmonary disease (N=94)</b>				
Sputum smear	Positive	37	39.4%	
	Negative	50	53.2%	
	Not done/Indeterminate	7	7.4%	
	Cavitory disease*			
	Present	26	27.7%	
	Absent	68	72.3%	
<b>Comorbidities</b>	HIV/AIDS	2	1.6%	
	Diabetes	26	20.6%	
	End-stage renal disease	3	2.4%	
	Other immunosuppression**	6	4.8%	
	Hepatitis B	8	6.3%	
<b>Usual Source of Care</b>	Patient Had Usual Source of Care in 2 Years Prior to Diagnosis	103	81.7%	
	Resistance to any TB medications	22	23.2%	
<b>Drug resistance among culture-positive cases (N=95)</b>	Resistance to INH only	12	12.6%	
	Resistance to PZA only	7	7.4%	
	Resistance to INH + PZA	1	1.1%	
	Multidrug resistance (i.e., resistant to at least isoniazid and rifampin)	2	2.1%	
<b>Nucleic Acid Amplification Test (NAAT) on Pulmonary Specimen at TB diagnosis</b>	<b>Among cases with any pulmonary disease and sputum smear performed (N=87)</b>			
	Sputum smear positive (N=37)	NAAT performed	36	97.3%
		NAAT positive	36	100.0%
	Sputum smear negative (N=50)	NAAT performed	35	70.0%
		NAAT positive	16	45.7%

\* Per X-ray, CT, or other chest imaging; \*\* 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:

Alameda County Public Health Department  
Tuberculosis Control Section

1100 San Leandro Blvd, San Leandro, CA 94577  
Phone: (510) 667-3096 | Fax: (510) 273-3916

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