

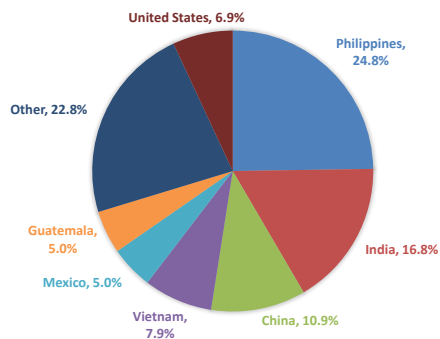


Tuberculosis Fact Sheet— Alameda County, 2021

OVERVIEW

During 2021, 101 tuberculosis (TB) cases were reported to Alameda County (excluding the City of Berkeley, which has its own local health department). The 2021 TB case rate in Alameda County was 6.5 cases per 100,000 residents, a 3% increase from the 2020 rate. The 2021 rate ranks fourth among all jurisdictions in California and is 0.5-fold higher than the California state rate of 4.4 cases per 100,000 residents. Compared to other Bay Area jurisdictions, the Alameda County rate ranks lower than San Francisco (8.6 per 100,000) and Santa Clara (7.0 per 100,000), similar to San Mateo (6.3 per 100,000), and higher than Contra Costa (3.8 per 100,000) counties.

Figure 2: Percent of TB Cases, by Place of Birth, Alameda County, 2021



PATIENT DEMOGRAPHICS

Similar to previous years, the majority of TB cases were male (53%). During 2021, the largest proportion of TB cases occurred among adults aged 65 years old and older (44%), and the lowest proportion occurred among children 0 to 4 years old (0%) (Table 1).

The majority of 2021 TB cases (97%) occurred among non-White residents (Table 1). From 2019 to 2021 Asian/Pacific Islander (API) residents in Alameda County had an average annual case rate of 16.1 cases per 100,000 residents, followed by Hispanic/Latino residents at 3.7 cases per 100,000 residents.

In 2021, 93% 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, Vietnam, Mexico, and Guatemala (Figure 2). The 2019-2021 average annual case rate for cases born outside of the U.S. was 19.3 per 100,000 residents, 24 times the rate for cases born in the U.S. (<1.0 per 100,000). Of 2021 cases born outside of the U.S., 59% resided in the U.S. for 10 or more years before being diagnosed with TB.

The largest proportion of 2021 TB cases occurred among residents of specific zip codes within Oakland (21%), Fremont (17%), and Hayward (17%). Five-year average rates were highest in Oakland and South Fremont (more than twice the five-year county average of 7.7 per 100,000) (Figure 3).

Figure 1. Number of TB Cases and Rate per 100,000, Alameda County, 2012-2021

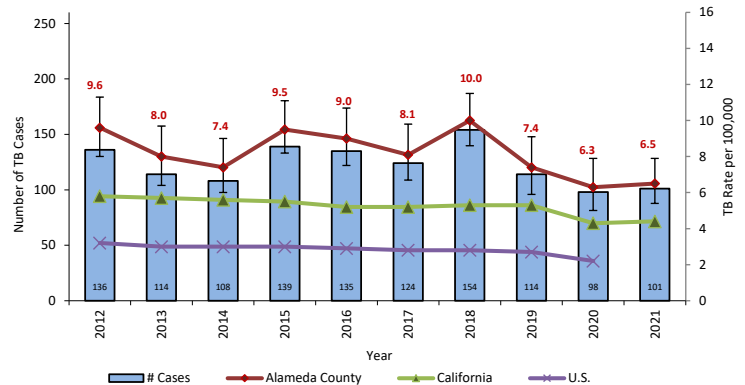


Table 1. Number of TB Cases and Rates per 100,000, Alameda County, 2019-2021

		Number of 2021 Cases (N=101)	Percent	Average Case Rate per 100,000 (2019-2021)
Sex	Males	53	52.5%	8.0
	Females	48	47.5%	5.7
Age Group	0-4 yrs	0	0.0%	*
	5-24 yrs	6	5.9%	*
	25-44 yrs	26	25.7%	5.8
	45-64 yrs	25	24.8%	6.9
	65+ yrs	44	43.6%	19.1
Race / Ethnicity	Black/African American	7	6.9%	*
	Asian/Pacific Islander	78	77.2%	16.1
	Amer Ind/Native AK	0	0.0%	*
	Hispanic/Latino	13	12.9%	3.7
	White	3	3.0%	*
Birthplace	United States	7	6.9%	*
	Outside of United States	94	93.1%	19.3**

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

** 2019 data was used to determine Alameda County's foreign-born population due to 2020 data not being available as of March 7th, 2022

CLINICAL CHARACTERISTICS

Of all 2021 TB cases, 73% had pulmonary involvement and 27% were extrapulmonary only (Table 2). Of all pulmonary cases, a majority (54%) were acid-fast bacilli (AFB) smear-negative and 73% did not have evidence of cavitary disease on chest radiography. Only 2% of 2021 TB cases were co-infected with HIV. The most common comorbidity was diabetes (25%).

DRUG RESISTANCE

A similar proportion of drug-resistant isolates were identified among culture-positive cases in 2021 and 2020 (13% and 14%, respectively). During 2021, all 11 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 9 cases resistant to only one first-line drug, 6 cases were resistant to isoniazid, 2 cases were resistant to pyrazinamide, and 1 case was resistant to rifampin. One case was resistant to both isoniazid and ethambutol, and one case had multidrug-resistant TB.

DIAGNOSTIC TESTING

Among 2021 TB cases with any pulmonary disease that had a sputum smear performed, 75% received a nucleic acid amplification (NAA) test at diagnosis, a lower proportion than among 2020 cases (85%). Similar to 2020, more 2021 cases with positive sputum AFB smears received NAA tests compared to patients with negative sputum AFB smears (96% and 60%, respectively). A smaller proportion of 2021 cases with negative sputum AFB smears received a NAA test compared to 2020 (60% and 80%, respectively).

SUMMARY

TB remains an important public health problem in Alameda County. Similar to findings at the overall state level, Alameda County detected lower TB case rates during the COVID-19 pandemic, and noted a slight increase in case rates in 2021. Although the cause for the reduction in TB cases and rates during the pandemic has not been identified, it is possible that fewer patients presented for care and were diagnosed with TB, or that lower levels of immigration affected the number of cases seen. 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%-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, Alameda County, 2017-2021

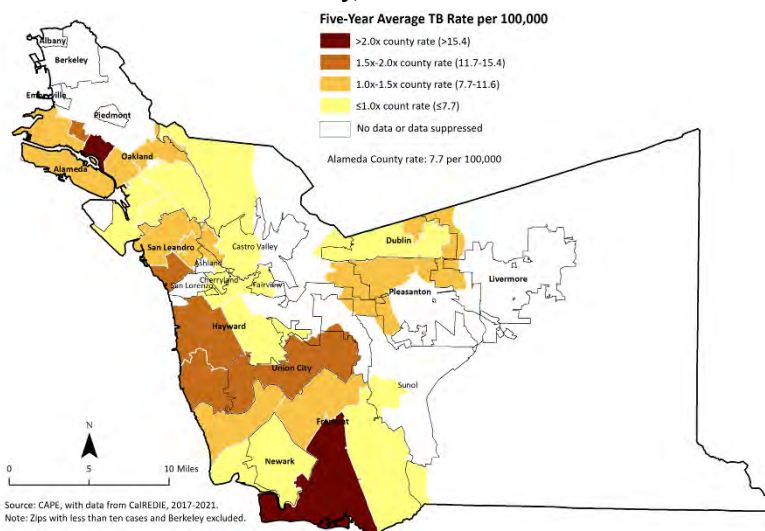


Table 2. Clinical and Laboratory Characteristics of TB Cases, Alameda County, 2021

		Number	Percent	
Site of disease	Pulmonary only	56	55.4%	
	Extrapulmonary only	27	26.7%	
	Both	18	17.8%	
Among cases with any pulmonary disease (N=74)				
Sputum smear	Positive	27	36.5%	
	Negative	40	54.1%	
	Not done	7	9.5%	
Cavitary disease*	Present	20	27.0%	
	Absent	54	73.0%	
Comorbidities	HIV/AIDS	2	2.0%	
	Diabetes	25	24.8%	
	End-stage renal disease	2	2.0%	
	Other immunosuppression**	7	6.9%	
	Drug resistance among culture-positive cases (N=82)	Resistance to any TB medications	11	13.4%
	Resistance to INH only	4	4.9%	
	Resistance to PZA only	2	2.4%	
	Resistance to INH and Streptomycin	2	2.4%	
	Resistance to INH and Ethambutol	1	1.2%	
	Resistance to RIF only	1	1.2%	
	Multidrug resistance (i.e., resistant to at least isoniazid and rifampin)	1	1.2%	
Nucleic Acid Amplification Test (NAAT) at TB diagnosis	Among cases with any pulmonary disease and sputum smear performed (N=67)			
	Sputum smear positive (N=27)	NAAT performed	26	96.3%
		NAAT positive	26	100.0%
	Sputum smear negative (N=40)	NAAT performed	24	60.0%
		NAAT positive	14	58.3%

* 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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