

2017 Tuberculosis Annual Report

San Mateo County Health System Tuberculosis Control Program

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Tuberculosis in San Mateo County

- ⇒ 55 new active cases
- ⇒ Incidence: 7.1 cases / 100,000 population
- ⇒ SMC ranked 6th highest incidence in CA
- ⇒ TB-associated deaths: 1
- ⇒ No links among US born cases

Cases by Origin

- ⇒ US Born: 6
- ⇒ Foreign-Born: 49

Country (non-US)	Cases
Philippines	25
Mexico	4
Burma	3
China	3
Taiwan	3
Hong Kong	2
Vietnam	2
Cuba	1
Guatemala	1
India	1
Libya	1
Mongolia	1
Nepal	1
Tonga	1

Foreign-born origins among TB cases

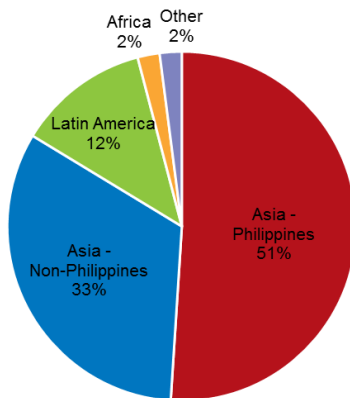


Figure 1. Over half of foreign-born cases of active TB were in individuals born in the Philippines.

Incidence Trends

Incidence of Tuberculosis, San Mateo County, California, and U.S., 2008-2017

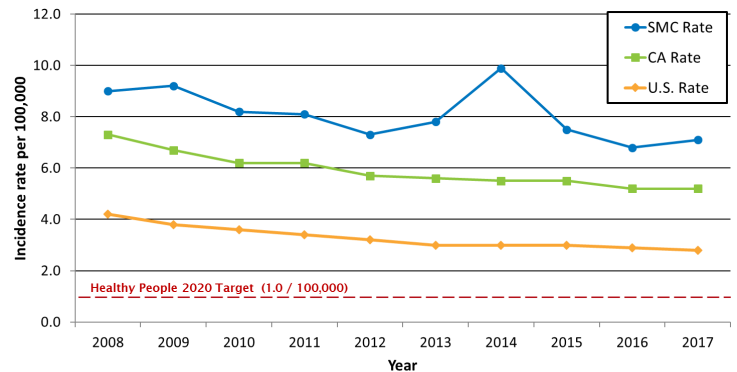
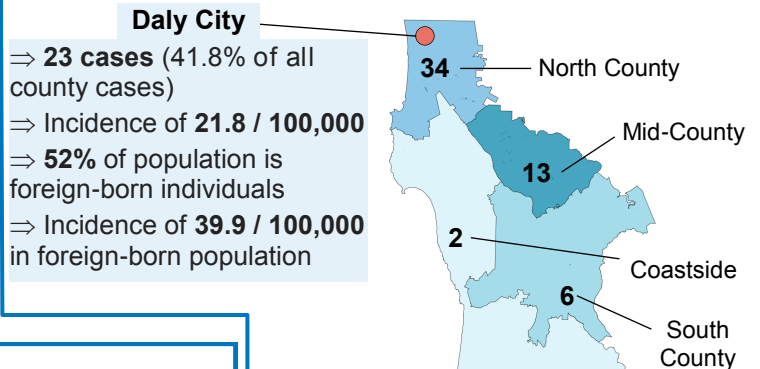


Figure 2. San Mateo County remains above the state and U.S. incidence rates.

Cases by Region



Patient Demographics

Tuberculosis Cases and Incidence Rates, 2013-2017

		2017 cases	Percent	2017 Incidence per 100,000	2013-2017 Annual average number of cases	2013-2017 Average Incidence Rate
Sex	Male	31	56.4%	8.1	35.8	9.5
	Female	24	43.6%	6.1	23.4	6.1
Age Group	0-4 yrs	0	0	0	0.8	1.8
	5-14 yrs	1	1.8%	0	0.8	0.9
	15-24 yrs	0	0	0	3.2	4.0
	25-44 yrs	16	29.1%	7.7	14.8	7.0
	45-64 yrs	14	25.5%	6.4	18.0	8.4
65+ yrs	24	43.6%	18.8	21.6	18.2	
Race/Ethnicity	White	3	5.5%	1.0	5.0	1.6
	Black	0	0	0	0.2	1.0
	Hispanic/Latino	8	14.5%	4.0	10.2	5.2
	Asian	43	78.2%	21.7	42.2	22.0
	Pacific Islander	1	1.8%	8.8	1.4	12.7
	American Indian	0	0	0	0.0	0.0
	Multiple Race	0	0	0	0.2	0.8

Table 1. Compared to 5-year average incidences, most groups experienced decreased incidences in 2017, except for the 25-44 and 65+ age groups. The incidence in the Asian population was decreased compared to the 5-year average, though remain the most affected group, with more than 78% of the TB burden in San Mateo County in 2017.

Demographic Highlights

- ⇒ Median age: 63 years old
- ⇒ Age range: 10-95 years old
- ⇒ 1 pediatric case (0-14 years old)

Social Risk Factors

(within past 12 months)

- ⇒ Homeless: 2
- ⇒ Correctional facility: 0
- ⇒ Long-term care housing: 0
- ⇒ Substance abuse: 3 (including alcohol)

Clinical Characteristics

Clinical Characteristics of TB Cases, 2017

		Number of cases	Percent
Site of disease	Pulmonary only	34	61.8%
	Extrapulmonary only	16	29.1%
	Both pulmonary and extrapulmonary	5	9.1%
Culture status (sputum cultures from cases with any pulmonary infection) <i>n=38*</i>	Culture Positive	32	84.2%
	Clinical Case	6	15.8%
Sputum smear status (for cases with positive sputum cultures) <i>n=32</i>	Positive	18	56.3%
	Negative	13	40.6%
	Unknown/Not Done	1	3.1%
Comorbidities	HIV/AIDS	2	4.2%**
	Diabetes mellitus	15	27.3%
	End-stage renal disease	4	7.3%
	Other immunosuppression	8	14.5%

*One case (pulmonary only) was based on a lung culture, no sputum culture was done; this case is not included in this total; **Of 48 cases with known HIV status

Table 2. Over 40% of culture-positive sputum samples were smear-negative. The most common comorbidity was diabetes mellitus.

TB Control's Work Load

The TB Control team, with a staff of nine, followed up with **74 potential cases** and **382 contacts** in 2017. Directly observed therapy (DOT) was performed on **25 cases (49%)** while video observed therapy (VOT) was performed on **26 cases (51%)** of the total 51 active cases with treatment monitored by the TB Control team.

B-notifications

The CDC sends B notifications to health departments as follow-up to the screening mandated by U.S. immigration law. This year, San Mateo County received **289 B notifications**.

Microbiological Characteristics

Microbiological Characteristics of TB Cases, 2017

		Number of cases	Percent
Culture Status (All)	Culture Positive	46	83.6%
	Clinical Case	9	16.4%
Drug Susceptibility (Culture positive only)	Susceptible	40	87.0%
	Resistant	6	13.0%
	Unknown	0	0.0%
Anti-TB Drug Resistance	<i>INH Only*</i>	4	66.7%
	<i>MDR (INH & RIF)*</i>	1	16.7%
	<i>INH+Others*</i>	0	0.0%
	<i>Other*</i>	1	16.7%

*Percentages out of all resistant strains

Table 3. Over 80% of TB cases were culture positive. Nearly 90% of culture-positive cases were drug susceptible. Only 6 cases were drug resistant, including one multi-drug resistant (MDR) case.

2017 in Summary

2017 saw a slight increase in incidence of TB in San Mateo County (7.1 cases / 100,000 persons) compared to 2016 (6.8 cases / 100,000 persons). TB incidence continued to decrease in California (5.2 cases / 100,000 persons), and the US (2.8 cases / 100,000 persons) over the last ten years. These incidences are still well above the Healthy People 2020 Target (1.0 cases / 100,000 persons).

Approximately 80% of TB cases result from longstanding LTBI and represent a missed opportunity for prevention. Screening for and treatment of LTBI is an essential component of preventive care as recommended by the US Preventive Services Task Force. Shorter regimens for treating LTBI are available and effective, and should be used whenever possible to increase compliance.

The 6 cases in US born individuals were not epidemiologically linked, and only unique genotypes were detected. There was one clinical case discovered in continued follow-up of an outbreak that occurred in a previous year. We have no evidence of ongoing local transmission of TB. However, without continued aggressive vigilance and control measures, that could easily change.

The highest number of cases occurred in Daly City. As expected, the majority of cases were foreign-born, with just over half being foreign-born in the Philippines.

Older age groups continued to bear the highest burden of disease, though in 2017 the 45-64 age group had a lower incidence (6.4 cases / 100,000 persons) than the five year average incidence from the same group (8.4 cases / 100,000 persons). Diabetes mellitus (DM) continued to be the leading medical risk factor.

San Mateo TB Control routinely uses Video Observed Therapy (VOT). VOT allows staff to communicate with and observe patients taking their TB medications via a live video connection. This reduces the number of in-person visits staff make to patients' homes. As a result, staff members are able to provide observational therapy to a greater number of TB patients. VOT therapy cannot replace all DOT, since some patients do not have access to necessary technology, may not be able to reliably use the technology, and/or require a higher level of interaction in order to remain adherent.

For further information, please call **650-573-2346** or visit <http://smchealth.org/TB>

Additional resources:

- California Department of Public Health: <https://www.cdph.ca.gov/Programs/CID/DCDC/Pages/TBCB.aspx>
- Centers for Disease Control: <https://www.cdc.gov/tb>

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Data sources: CA Dept Public Health (2017 CA and US incidence rates, from 'TB in California: 2017 Snapshot'); CA Dept of Finance (population estimates for incidence calculations, from Jan 2018 P2 data projections); US Census Bureau (city-level population estimates, from American Community Survey 5-Year Estimates)

