

2016 Tuberculosis Annual Report

San Mateo County Health System

Tuberculosis Control Program

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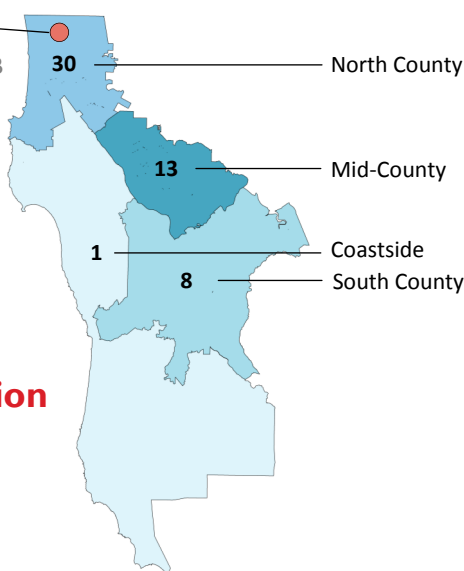
Scott Morrow, MD — Health Officer

Tuberculosis in San Mateo County

- ⇒ 52 new active cases (6.8 cases/100,000 population)
- ⇒ SMC ranked 7th highest incidence in CA
- ⇒ Majority of cases: 45+ years old
- ⇒ Median age: 58 years old
- ⇒ Pediatric¹ cases: 0
- ⇒ Deaths associated with TB: 3
- ⇒ Female: 21 (40.4%) ⇒ Male: 31 (59.6%)

Daly City

- Had the most new TB cases: 18 cases
- Second highest foreign-born population in SMC at 53%



Cases by Region

Foreign-born Cases

- ⇒ US Born: 6
- ⇒ Foreign Born: 46

Figure 3 Foreign-Born Country of Birth among TB Cases, San Mateo County, 2016

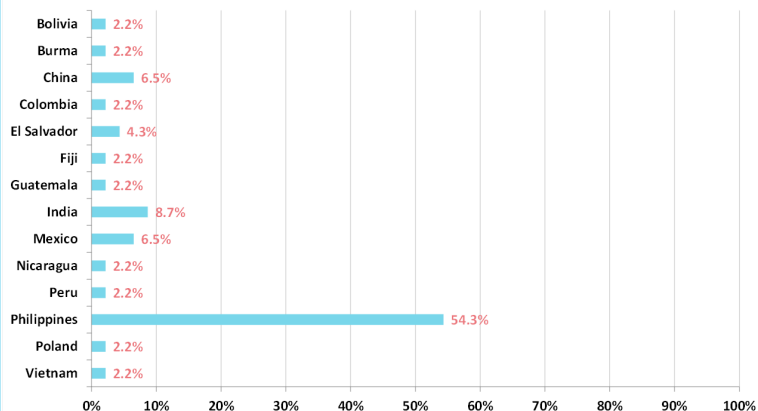


Figure 3. The Philippines continues to be the highest foreign-born country of birth among active TB cases in 2016.

Figure 1

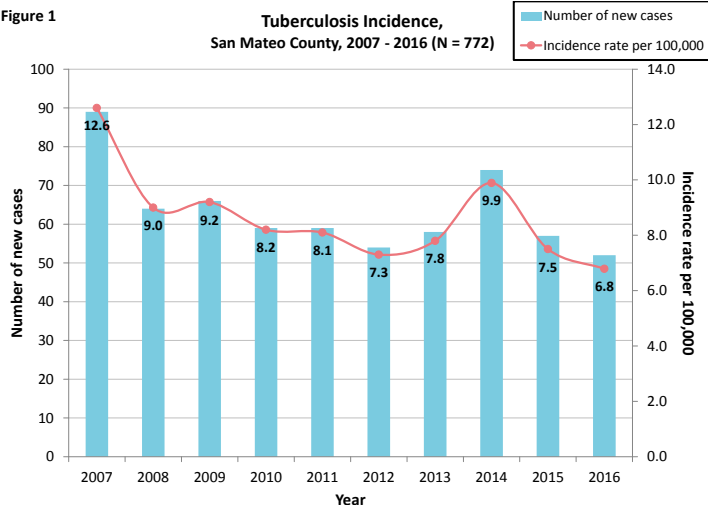


Figure 1. A decreasing trend continued in 2016.

Figure 2

Incidence of Tuberculosis, San Mateo County, California, and U.S., 2007-2016

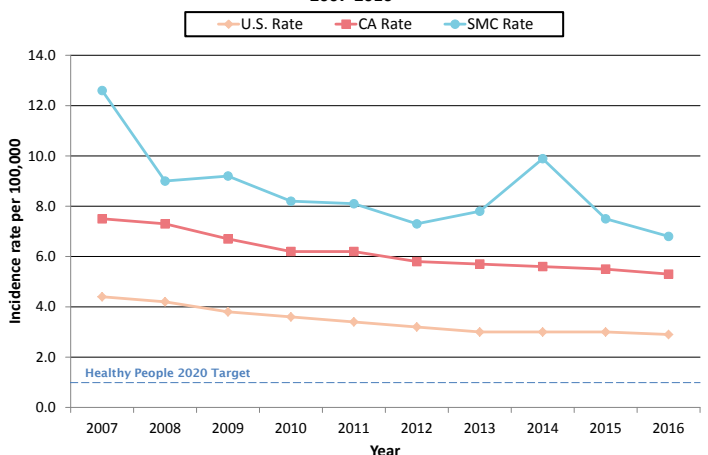


Figure 2. San Mateo County remains above the state and U.S. incidence rate. The Healthy People 2020 Target is 1.0/100,000.

Table 1

Tuberculosis Incidence and Case Rates 2012-2016

| | 2016 Incidence | 2016 Inc. Rate | '12-'16 Avg. Incidence | '12-'16 Avg. Inc. Rate | |
|----------------|------------------|----------------|------------------------|------------------------|------|
| Age Group | 0-4 yrs | - | 0.8 | 1.8 | |
| | 5-14 yrs | - | 0.6 | 0.7 | |
| | 15-24 yrs | 4 | 4.5 | 3.6 | 4.2 |
| | 25-44 yrs | 10 | 5.1 | 15.6 | 7.7 |
| | 45-64 yrs | 23 | 10.7 | 18.0 | 8.5 |
| | 65+ yrs | 15 | 12.2 | 20.4 | 17.9 |
| Race/Ethnicity | White | 3 | 1.0 | 5.8 | 1.9 |
| | Black | - | - | 0.4 | 2.1 |
| | Hispanic/Latino | 12 | 6.1 | 11.6 | 6.0 |
| | Asian | 36 | 18.5 | 39.2 | 20.7 |
| | Pacific Islander | 1 | 8.8 | 1.4 | 12.6 |
| | American Indian | - | - | 0.2 | 17.2 |
| | Multiple Race | - | - | 0.4 | 1.6 |

Table 1. The cases in 2016 were similar in age to the five year average though there was a decrease in incidence for 65+ years. The incidence within the Asian population saw a decrease from the previous year but still account for the majority of cases.

Social Risk Factors

- ⇒ Homeless: **0**
- ⇒ Correctional facility: **1**
- ⇒ Long-term care housing: **1**
- ⇒ Substance abuse²: **0**

Medical Risk Factors

- ⇒ Immunosuppression: **4**
- ⇒ End Stage Renal Disease: **7**
- ⇒ Diabetes mellitus (DM): **15**

Table 2: Comorbidities

| | 2012 | 2013 | 2014 | 2015 | 2016 |
|-------------------|------|------|------|------|------|
| Diabetes mellitus | 14 | 15 | 16 | 19 | 15 |
| HIV | 2 | 0 | 2 | 1 | 2 |

Table 3: Clinical Characteristics

| | 2016 | | 2012-2016 | |
|--|-------|-------|-----------|-------|
| | Count | % | Count | % |
| Site of Disease (All) | | | | |
| Pulmonary | 46 | 88.5% | 217 | 73.6% |
| Extrapulmonary | 3 | 5.8% | 60 | 20.3% |
| Both | 3 | 5.8% | 18 | 6.1% |
| Culture Status (Pulmonary Only) | | | | |
| Culture Positive | 40 | 87.0% | 181 | 83.4% |
| Clinical Case | 6 | 13.0% | 36 | 16.6% |
| Sputum Smear Status (Pulmonary Culture Positive Only) | | | | |
| Positive | 22 | 55.0% | 95 | 52.5% |
| Negative | 18 | 45.0% | 83 | 45.9% |
| Unknown/Not Done | 0 | 0.0% | 3 | 1.7% |

Table 4: Microbiological Characteristics

| | 2016 | | 2012-2016 | |
|--|-------|-------|-----------|-------|
| | Count | % | Count | % |
| Culture Status (All) | | | | |
| Culture Positive | 45 | 78.9% | 231 | 78.3% |
| Clinical Case | 7 | 12.3% | 64 | 21.7% |
| Drug Susceptibility (Culture Positive Only) | | | | |
| Susceptible | 40 | 88.9% | 196 | 84.8% |
| Resistant | 5 | 26.7% | 34 | 16.0% |
| Unknown | 0 | 0.0% | 1 | 0.4% |
| Anti-TB Drug Resistance | | | | |
| INH Only* | 4 | 80.0% | 20 | 58.8% |
| MDR (INH & RIF)* | 0 | 0.0% | 1 | 2.9% |
| INH+Others* | 0 | 0.0% | 3 | 8.8% |
| Other* | 1 | 20.0% | 10 | 29.4% |

*Percentages are out of All Resistant Strains

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 **230 B notifications**.

TB Control's Work Load

The TB Control team, with a staff of nine, followed up with **75 potential cases** and **486 contacts** in 2016. Directly observed therapy (DOT) was performed on **48 of the 52 active cases**. There was no directly observed preventative therapy (DOPT) in 2016.

2016 in Summary

2016 saw the lowest incidence of TB in San Mateo County (6.8 cases per 100,000 persons), California (5.3 cases per 100,000 persons), and the US (2.9 cases per 100,000 persons) over the last ten years. While these incidences are still well above the Healthy People 2020 Target, which is at 1.0 cases per 100,000 persons, the downward trend is encouraging. There was no evidence that the 6 domestic cases were epidemiologically or genotypically linked. We have no evidence of ongoing local transmission of TB. However, without continued aggressive vigilance and control measures, that could easily change.

North County continued to have the most SMC cases with Daly City having the highest number of cases. Coastside continued to have the least number of cases. As expected, the majority of cases were foreign-born, with just over half being foreign-born in the Philippines.

Older age groups also continued to bear the highest burden of disease, though the 65+ age group for 2016 had a lower incidence (12.2 cases per 100,000 persons) than the five year average incidence from the same group (17.9 cases per 100,000 persons).

Diabetes mellitus (DM) continues to be the leading medical risk factor among San Mateo County cases.

San Mateo TB Control is routinely using Video Observed Therapy (VOT). VOT allows staff to communicate with and observe patients taking their TB medications via a live video connection. This strategy eliminates the need for a TB Control Program staff person to perform in-person visits 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 as there are some patients who 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.

¹ Pediatric: 0-14 years old

² Substance abuse: Includes alcoholism

For further information about TB or our services, please visit our web page at <http://smchealth.org/TB> or call us at **650-573-2346**.

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