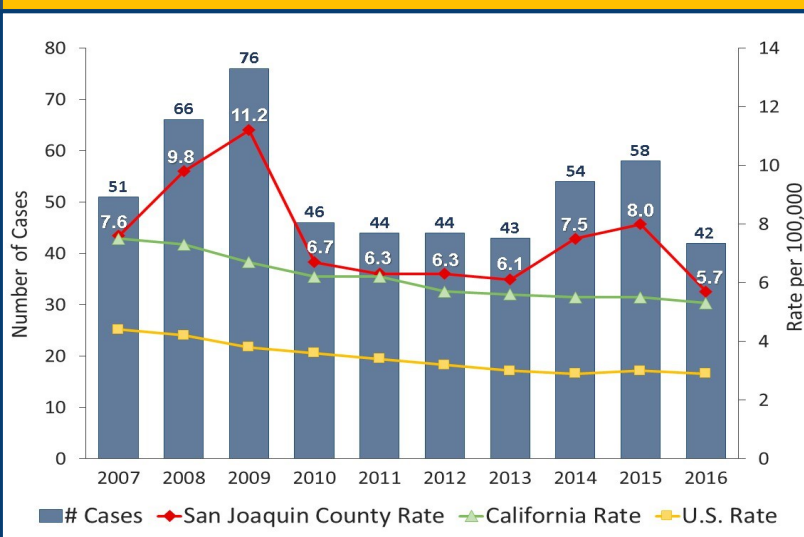


## San Joaquin County Annual Tuberculosis Report—2016

### OVERVIEW

- In 2016, San Joaquin County (SJC) reported 42 cases of tuberculosis (TB) disease compared to 58 cases in 2015, a 28% decrease (Figure 1).
- SJC rate (5.7 cases per 100,000 population) was the lowest on record (data not shown).
- The SJC rate is still slightly above the California rate (5.3) and nearly double the national incidence rate of 2.9 cases per 100,000.

**Figure 1. Annual TB Disease Cases & Rates for San Joaquin County, California, & U.S., 2007—2016**



### GENDER & AGE GROUP

- Most of the cases were male (57%) as seen in previous years (Table 1).
- Historically SJC had a high rate of pediatric TB—a devastating real life marker of recent TB transmission. In 2016, no cases of TB were reported in children under 5 years of age (Table 1).
- Adults 65 years and older continue to have the highest burden of disease. From 2014-2016, the case rate was 17.6 per 100,000 population compared to 5.7 for ages 0-64 (Table 1).

**Table 1. TB Cases (2016) & Average Case Rates (2014-2016), San Joaquin County**

	#	%	3 year Average Case Rate per 100,000
<b>Gender</b>			
Male	24	57%	8.1
Female	18	43%	6.1
<b>Age Group</b>			
0-64 yrs	31	74%	5.7
0-4 yrs	0	0%	5.2
5-14 yrs	0	0%	0.3
15-24 yrs	2	5%	2.3
24-44 yrs	9	21%	7.2
45-64 yrs	20	48%	10.0
65+ yrs	11	26%	17.6
<b>Race &amp; Ethnicity</b>			
Asian/Pacific Islander*	26	62%	24.7
Black*	2	5%	5.3
Hispanic/Latino	8	19%	4.9
White*	6	14%	3.4

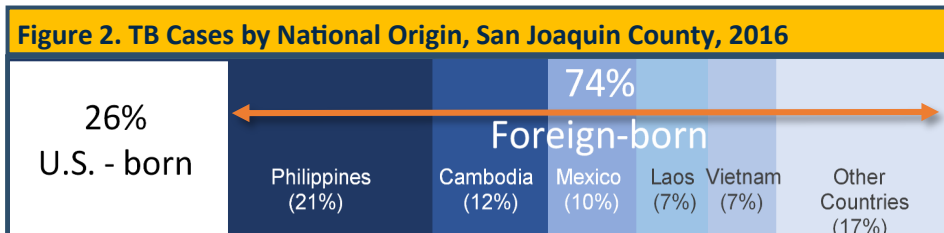
\* all races non-Hispanic

### RACE & ETHNICITY

- Non-Hispanic Asian/Pacific Islanders had the highest average case rate (24.7 per 100,000 population) which is almost five times higher than non-Hispanic Blacks (5.3) and five times higher than Hispanic/Latinos (4.9) and seven times higher than non-Hispanic Whites (3.4) (Table 1).
- While non-Hispanic Blacks had the lowest percentage of cases (4.8%), the case rate (5.3 per 100,000 population) was higher than Hispanic /Latinos (4.9) and non-Hispanic Whites (3.4) (Table 1).

## PLACE OF BIRTH

- In 2016, 31 patients with TB (74%) were born outside the U.S.; leading countries of birth were the Philippines, Cambodia, and Mexico (Figure 2).



- Of the foreign-born, the median length of residence in the U.S. prior to TB diagnosis was 26 years (data not shown).

## COMORBIDITIES & RISK FACTORS

Diabetes is a major risk factor for TB and for poor outcomes:

- Diabetes triples the risk of developing TB.<sup>1</sup>
- Proportion of diabetes are higher in people with TB (33%) (Table 2) than in the general population (10%)<sup>2</sup>.

**Table 2. TB Cases\* by Select Comorbidities and Risk Factors, San Joaquin County, 2015-2016**

Comorbidities and Risk Factors	2015		2016	
	#	%	#	%
Diabetes Mellitus	17	29%	14	33%
Excess Alcohol within Past Year	7	12%	5	12%
Non-injection Drug Use within Past Year	8	14%	3	7%
Homelessness	4	7%	2	5%

\*58 cases in 2015; 42 cases in 2016

## DRUG SUSCEPTIBILITY

34 out of 35 culture-positive patients were tested for drug susceptibility (Table 3):

- In 2016, 74% of culture-positive isolates were sensitive to all first-line drugs used to treat TB (i.e., isoniazid, rifampin, ethambutol and pyrazinamide).
- 8 (23%) patients with TB were resistant to INH and 1 (3%) patient was multi-drug resistant.

All pyrazinamide-resistance was due to infection with *Mycobacterium bovis* (data not shown).

**Table 3. Culture Positive TB Cases\* by Initial Drug Susceptibility, San Joaquin County, 2016**

	2015		2016	
	#	%	#	%
Test Performed	42	100%	34	97%
Sensitive to all 1 <sup>st</sup> line drugs†	38	90%	25	74%
Resistant to one or more drug (s)‡	4	10%	9	26%
Isoniazid (INH)	2	5%	8	23%
Rifampin (RIF)	0	0%	1	3%
Pyrazinamide (PZA)	3	7%	1	3%

\*42 cases were culture positive in 2015; 35 in 2016 ; †isoniazid, rifampin, ethambutol, pyrazinamide; ‡One 2015 case was resistant to both INH and PZA & one 2016 case was resistant to both INH and RIF

## DEATHS WITH TB

- From 2007 – 2016, 59 people (11%) died with TB in SJC (data not shown).
- In 2016, there were 9 people that died with TB almost double from last year; 7 deaths (78%) were related to TB disease, (Table 4).

**Table 4. TB Deaths\*, San Joaquin County, 2016**

	2015		2016	
	#	%	#	%
Total Deaths	5	9%	9	21%
Related to TB disease	2	40%	7	78%
Unrelated to TB disease or Unknown	3	60%	2	22%

\*58 cases in 2015; 42 cases in 2016

1. World Health Organization. Tuberculosis & Diabetes. [http://www.who.int/tb/publications/diabetes\\_tb.pdf](http://www.who.int/tb/publications/diabetes_tb.pdf)

2. Robert Wood Johnson Foundation. County Health Rankings 2016. Diabetes Prevalence. <http://www.countyhealthrankings.org/app/california/2016/downloads>

Produced by:

Yohani Ramos, MPH - Epidemiologist, Kelly Rose, MPH - Supervising Epidemiologist, Julia Lauper, MS - Epidemiologist, San Joaquin County Public Health Services, rev 03/24/2017