



# Pertussis Report

October 20, 2015

California experienced a pertussis epidemic in 2014. Pertussis is cyclical and peaks every 3-5 years as the numbers of susceptible persons in the population increases due to waning of immunity following both vaccination and disease. The overall incidence of pertussis has increased since the 1990s. One reason for the increase is the use of acellular pertussis vaccines, which cause fewer reactions than the whole-cell vaccines that preceded them, but do not protect as long. Young infants are at greatest risk of hospitalization and death from pertussis, therefore pregnant women are encouraged to receive pertussis vaccine (Tdap) during the 3rd trimester of every pregnancy. Pertussis antibodies are transferred from vaccinated mothers to their infants and will help protect them until they are old enough to be vaccinated. The primary DTaP vaccine series is essential for reducing severe disease in young infants and should not be delayed. DTaP can be given to infants at an accelerated schedule with the first dose given as early as 6 weeks of age. Even one dose of DTaP may offer some protection against severe pertussis disease in infants.

- **4,211 cases with onset in 2015** have been reported to CDPH for a state rate of 11 case per 100,000 population (Table 1, Figures 1-2).
  - Pertussis incidence remains high in California. Excluding the epidemic years of 2010 and 2014, more cases of pertussis have already been reported in 2015 than any year since the 1950's (Table 1, Figures 2-3).
  - 171 cases have been hospitalized; 50 (29%) of these required intensive care
    - 120 (70%) of hospitalized patients were infants <4 months of age.
  - One death has been reported in an infant that was <3 weeks of age at the time of disease onset.
  - Overall pertussis rates are highest for infants <1 year of age and older children and adolescents and teens 14-17 years of age (Figure 4). Rates by race/ethnicity are highest for White and Hispanic infants <6 months of age and White, non-Hispanic adolescents and teens aged 10-17 years of age (Figure 5).
  
- **11,203 cases with onset in 2014** were reported to CDPH for a state rate of 29.3 cases per 100,000 population.
  - 456 cases were hospitalized; 119 (26%) of these required intensive care.
    - 278 (61%) of hospitalized patients were infants <4 months of age.
  - Three deaths with disease onset in 2014 were reported; all were infants who were ≤ 5 weeks old at time of disease onset.
    - Two additional deaths occurring in 2014 but with disease onset in 2013 were reported. These cases will be attributed to 2013. Both infants were ≤2 months of age at disease onset.
  - Additional data are available at:  
<http://www.cdph.ca.gov/programs/immunize/Documents/VPD-DiseaseSummary2014.pdf>

**Table 1. Pertussis cases and rate\* by year of onset and local health jurisdiction -- California 2015\*\***

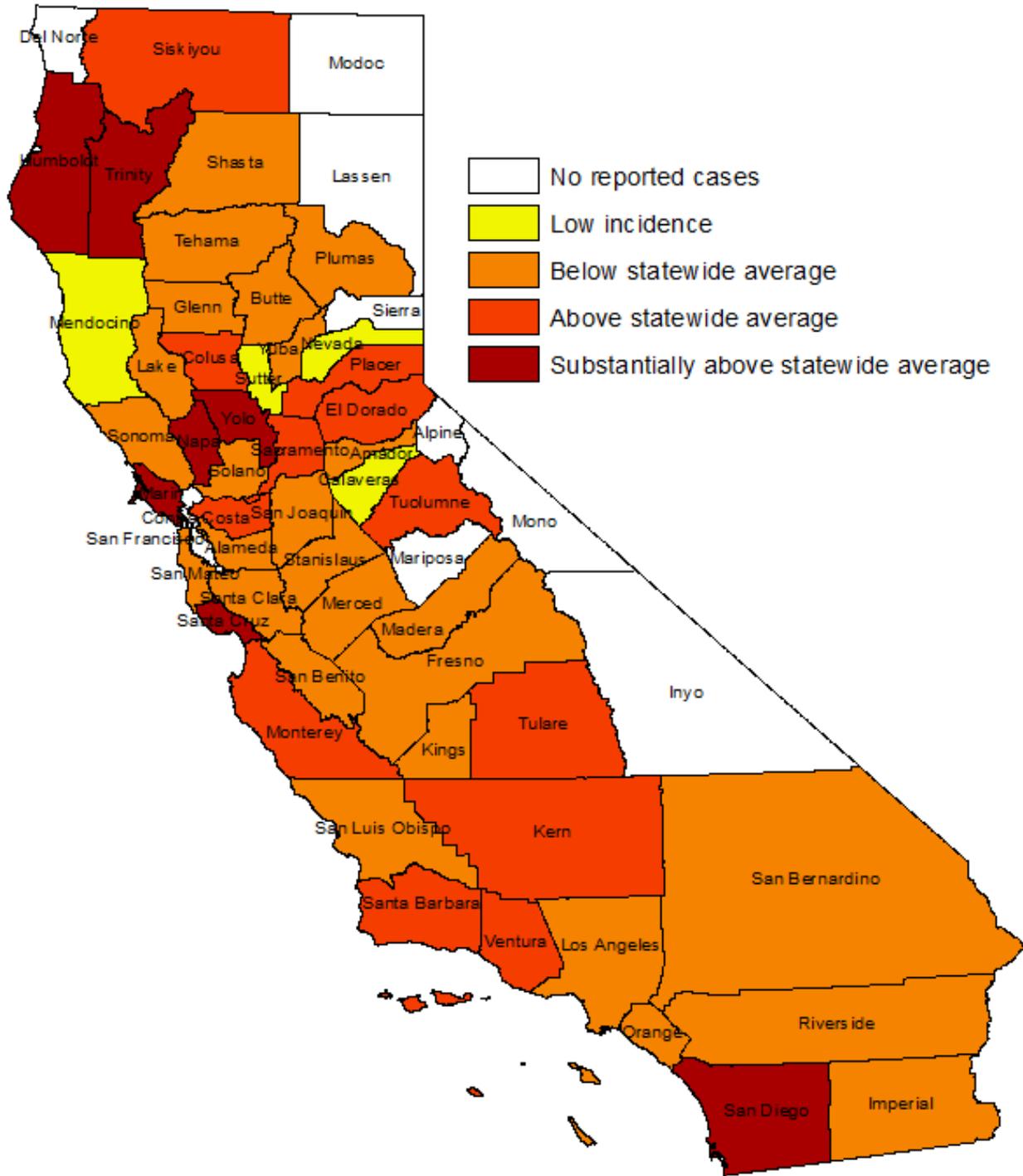
	<b>Total cases</b>	<b>Rate</b>	<b>Cases &lt;4 months of age</b>
<b>CALIFORNIA</b>	<b>4211</b>	<b>11.0</b>	<b>241</b>
ALAMEDA	159	11.0	7
City of Berkeley‡	10	8.7	0
ALPINE	0	0.0	0
AMADOR	1	2.8	0
BUTTE	8	3.6	1
CALAVERAS	1	2.2	0
COLUSA	4	18.5	1
CONTRA COSTA	175	16.2	2
DEL NORTE	0	0.0	0
EL DORADO	27	14.7	1
FRESNO	51	5.3	8
GLENN	2	7.1	0
HUMBOLDT	56	41.5	3
IMPERIAL	9	5.0	4
INYO	0	0.0	0
KERN	141	16.3	15
KINGS	6	4.0	1
LAKE	6	9.3	0
LASSEN	0	0.0	0
LOS ANGELES	1040	11.0	31
City of Long Beach‡	36	7.7	4
City of Pasadena‡	8	5.7	0
MADERA	6	3.9	2
MARIN	52	20.3	1
MARIPOSA	0	0.0	0
MENDOCINO	2	2.3	0
MERCED	10	3.8	2
MODOC	0	0.0	0
MONO	0	0.0	0
MONTEREY	72	17.0	11
NAPA	47	33.8	4
NEVADA	2	2.0	0
ORANGE	142	4.6	15
PLACER	42	11.5	3
PLUMAS	2	10.4	1
RIVERSIDE	154	6.8	19
SACRAMENTO	273	18.9	7
SAN BENITO	4	7.0	0
SAN BERNARDINO	83	4.0	10
SAN DIEGO	736	23.1	40
SAN FRANCISCO	62	7.5	2
SAN JOAQUIN	70	9.9	5
SAN LUIS OBISPO	15	5.5	1
SAN MATEO	36	4.8	1
SANTA BARBARA	61	14.1	4
SANTA CLARA	125	6.7	6
SANTA CRUZ	73	26.9	1
SHASTA	15	8.4	0
SIERRA	0	0.0	0
SISKIYOU	6	13.3	0
SOLANO	40	9.5	4
SONOMA	29	5.9	0
STANISLAUS	36	6.8	8
SUTTER	2	2.1	0
TEHAMA	5	7.9	2
TRINITY	5	37.2	0
TULARE	90	19.7	11
TUOLUMNE	9	16.6	0
VENTURA	92	10.9	2
YOLO	71	34.4	0
YUBA	2	2.7	1

\*Incidence rate per 100,000 persons

\*\*Includes cases reported to CDPH as of 10/20/2015

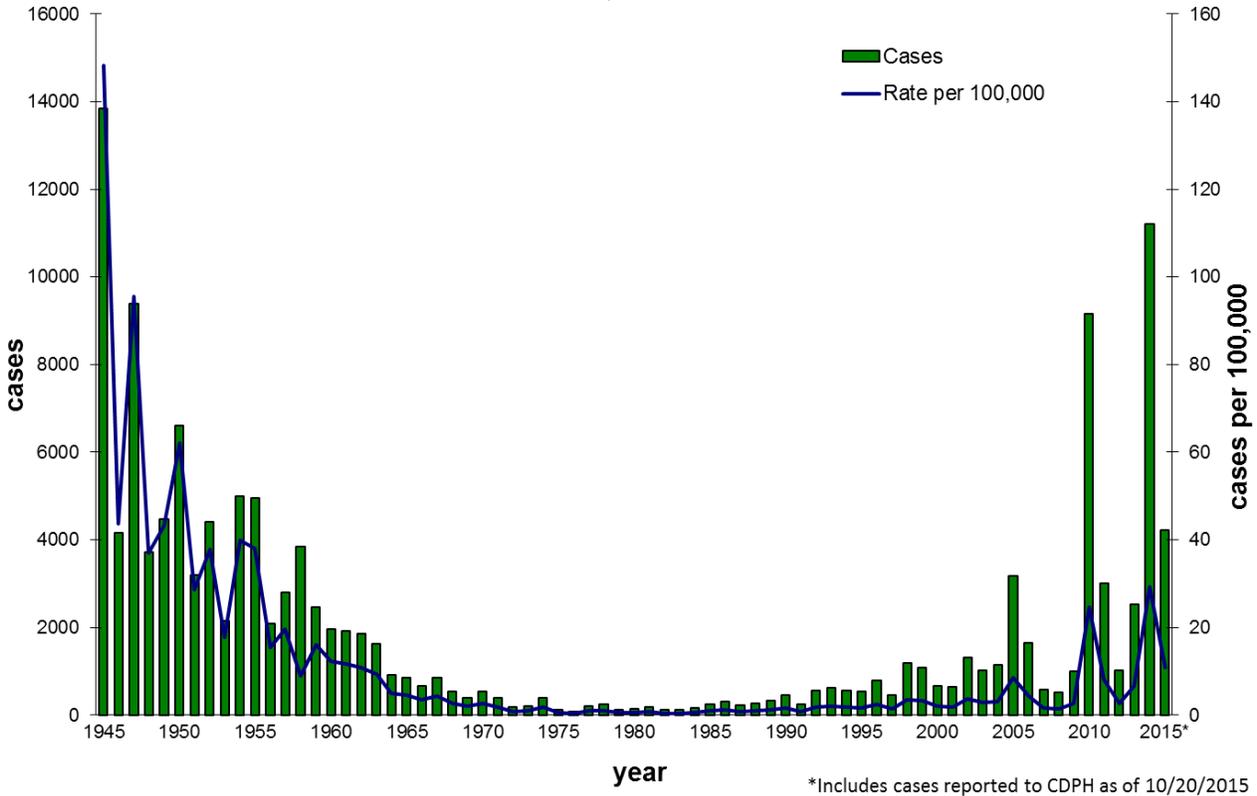
‡City health jurisdictions not included in county total

**Figure 1. Pertussis incidence per 100,000 population, by county – California, 2015**

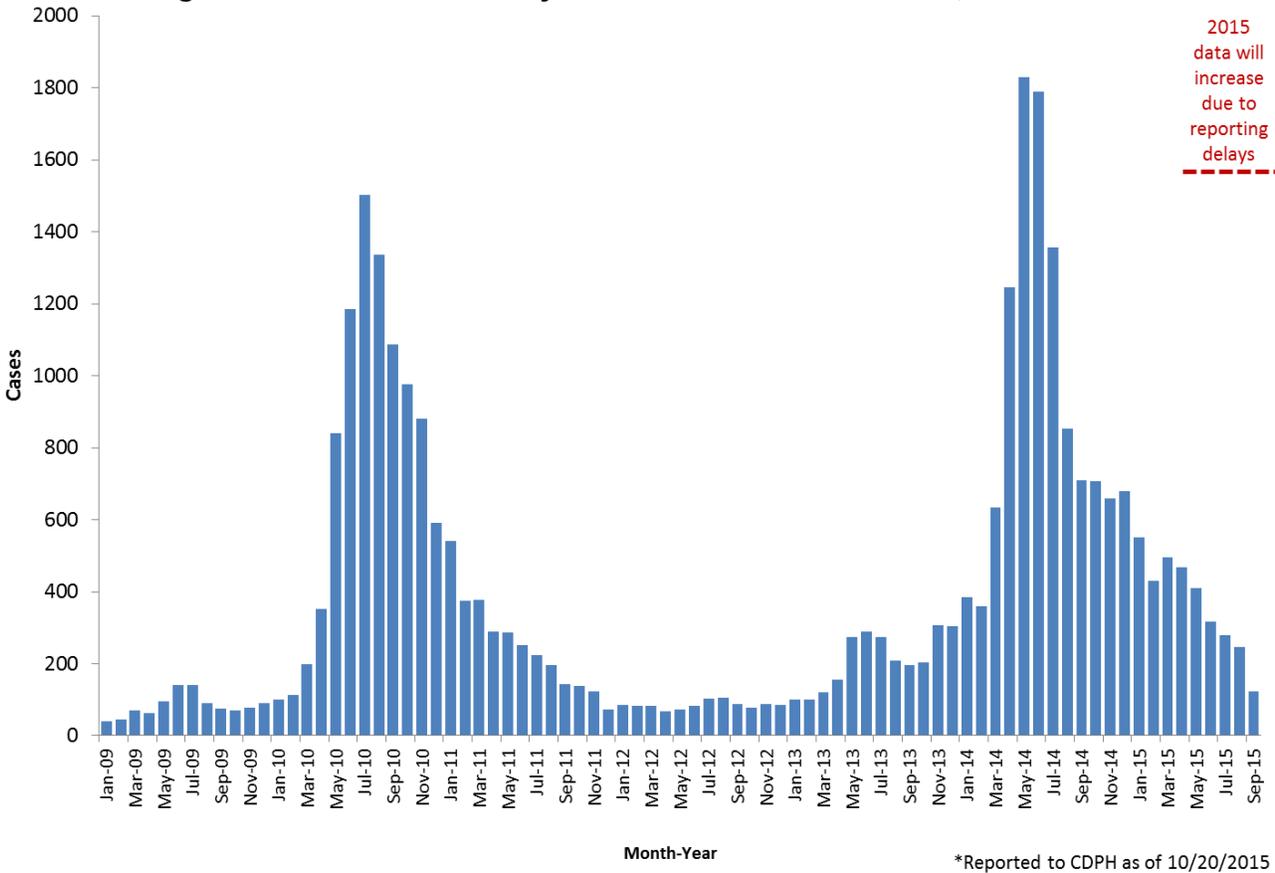


Corresponding category ranges: 0; 0.1-2.7; 2.8-10.9; 11.0-19.9; 20.0-41.5

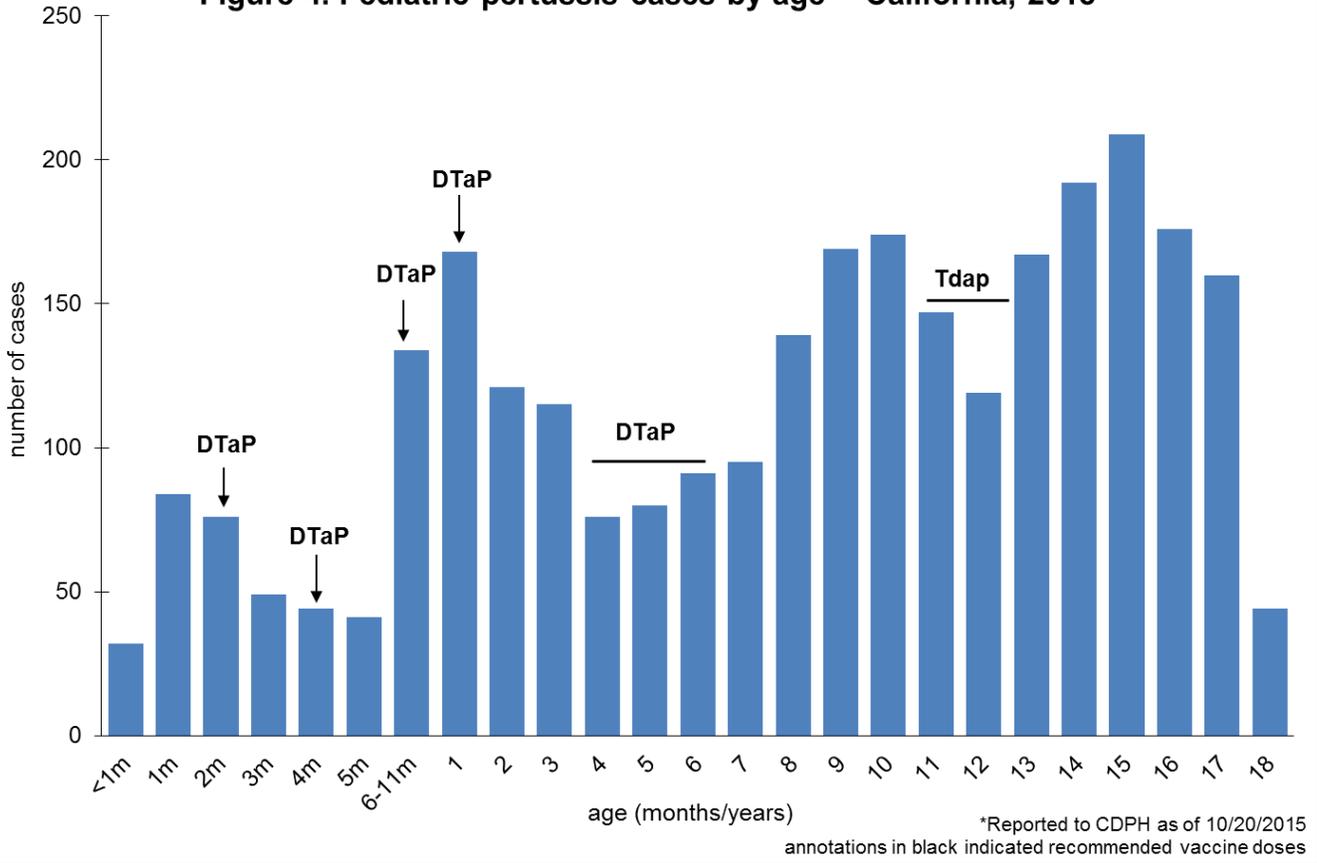
**Figure 2. Number and incidence of reported pertussis cases by year of onset -- California, 1945-2015\***



**Figure 3. Pertussis cases by month of onset -- California, 2009-2015\***



**Figure 4. Pediatric pertussis cases by age -- California, 2015\***



**Figure 5. Pertussis rates by age and race/ethnicity -- California, 2015\***

