Pertussis Report
May 11, 2017

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 and death in infants.

- **1,830 cases with onset in 2016** were reported to CDPH for a state rate of 4.7 cases per 100,000 population (Table 1, Figures 1-3). Data for 2016 are still provisional.
  - 108 cases were hospitalized; 18 (19%) of these required intensive care
    - 44 (47%) of hospitalized patients were infants <4 months of age.
  - Two deaths have been reported in infants that younger than 3 months of age at the time of disease onset.
  - Overall pertussis rates were 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).

- **495 cases with onset in 2017** have been reported to CDPH for a state rate of 1.3 cases per 100,000 population (Figure 2).
  - On possible death was reported in a 7 year-old child that had multiple severe underlying medical complications as well as RSV infection.

  - [Historical surveillance data](https://www.cdph.ca.gov/Programs/CID/DCDC/Pages/Immunization/disease.aspx) is available at:

    https://www.cdph.ca.gov/Programs/CID/DCDC/Pages/Immunization/disease.aspx

Table 1. Pertussis cases and rate* by year of onset and local health jurisdiction -- California 2016**

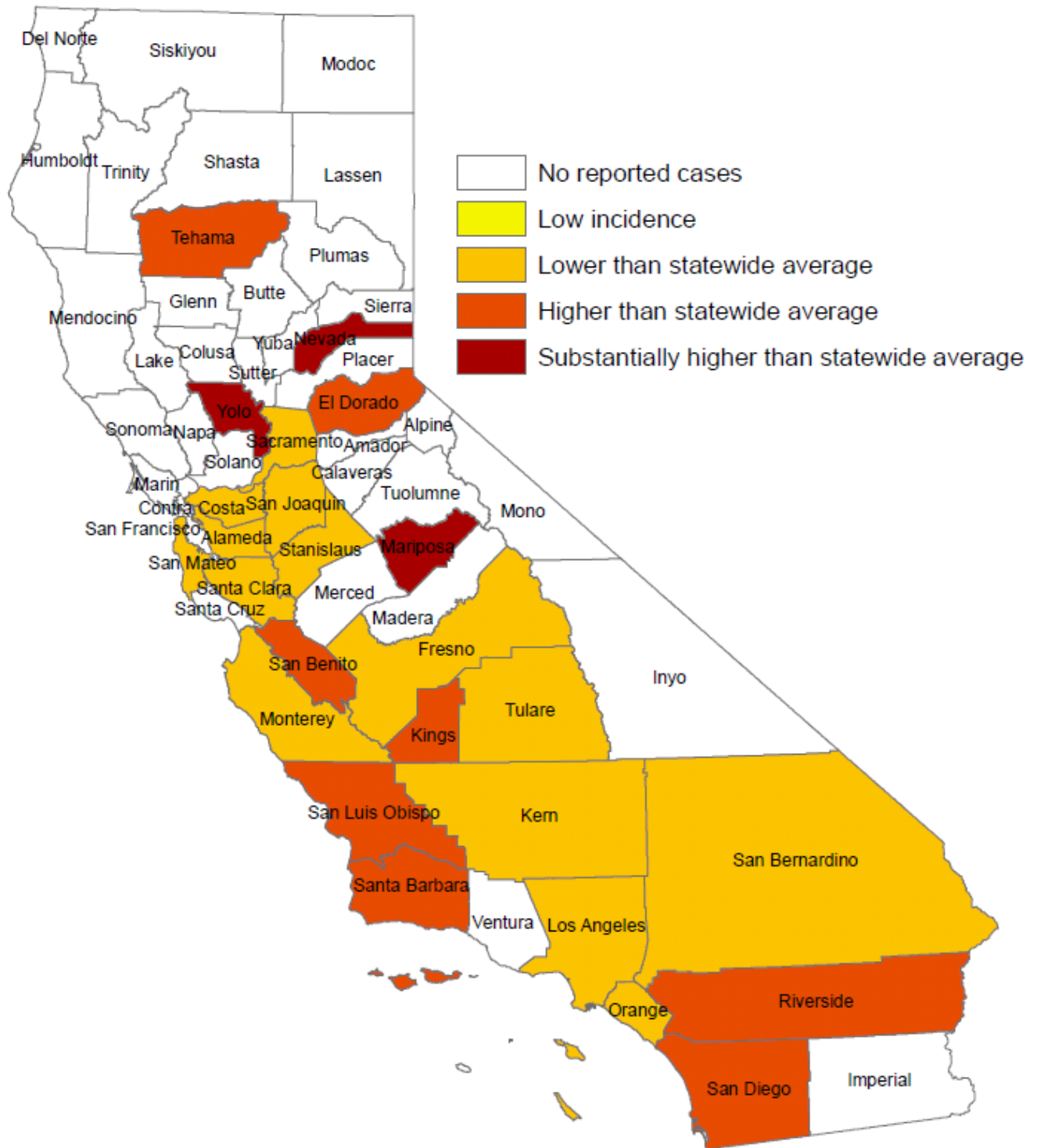|	All ages				Infants <4 months of age	
	Cases	Hospitalizations	Deaths	Rate**	Cases	Rate§
CALIFORNIA	**1830**	**108**	**2**	**4.7**	**118**	0.7
ALAMEDA	77	0		5.1	3	0.5
City of Berkeley‡	4	0		3.3	0	—
ALPINE	0	0		0.0	0	—
AMADOR	2	0		5.4	0	—
BUTTE	2	1		0.9	0	—
CALAVERAS	2	0		4.5	0	—
COLUSA	0	0		0.0	0	—
CONTRA COSTA	48	4		4.3	3	0.7
DEL NORTE	0	0		0.0	0	—
EL DORADO	9	1		4.9	1	1.9
FRESNO	16	1		1.6	1	0.2
GLENN	1	0		3.4	0	—
HUMBOLDT	1	0		0.7	0	—
IMPERIAL	4	2		2.2	0	—
INYO	0	0		0.0	0	—
KERN	27	4	1	3.1	2	0.4
KINGS	7	2		4.7	1	1.3
LAKE	1	1		1.5	0	—
LASSEN	0	0		0.0	0	—
LOS ANGELES	205	10		2.1	19	0.4
City of Long Beach‡	13	5		2.7	3	—
City of Pasadena‡	5	1		3.5	1	—
MADERA	3	1		1.9	0	—
MARIN	30	0		11.5	0	—
MARIPOSA	1	1		5.5	1	19.2
MENDOCINO	8	0		9.1	0	—
MERCED	1	0		0.4	0	—
MODOC	0	0		0.0	0	—
MONO	0	0		0.0	0	—
MONTEREY	16	1		3.7	2	0.9
NAPA	5	0		3.5	0	—
NEVADA	42	2		42.9	3	11.7
ORANGE	69	17		2.2	12	1.0
PLACER	17	1		4.6	0	—
PLUMAS	0	0		0.0	0	—
RIVERSIDE	82	7		3.5	13	1.3
SACRAMENTO	71	1		4.8	3	0.5
SAN BENITO	9	1		15.6	1	3.9
SAN BERNARDINO	32	6		1.5	2	0.2
SAN DIEGO	390	13	1	11.9	27	1.9
SAN FRANCISCO	7	1		0.8	2	0.7
SAN JOAQUIN	4	0		0.5	1	0.3
SAN LUIS OBISPO	29	2		10.5	0	—
SAN MATEO	109	2		14.3	2	0.7
SANTA BARBARA	10	2		2.2	2	1.0
SANTA CLARA	232	6		12.1	4	0.5
SANTA CRUZ	46	1		16.8	0	—
SHASTA	25	0		14.0	1	1.4
SIERRA	0	0		0.0	0	—
SISKIYOU	0	0		0.0	0	—
SOLANO	14	0		3.3	0	—
SONOMA	42	0		8.4	0	—
STANISLAUS	13	1		2.4	2	0.8
SUTTER	2	0		2.0	0	—
TEHAMA	4	1		6.3	1	3.9
TRINITY	1	0		7.4	0	—
TULARE	12	2		2.6	1	0.4
TUOLUMNE	0	0		0.0	0	—
VENTURA	36	6		4.2	0	—
YOLO	43	1		20.2	4	5.0
YUBA	1	0		1.3	0	—

*Includes cases reported to CDPH as of 5/11/2017

**Incident case rate per 100,000 persons

§Incident case rate per 1,000 births

‡City health jurisdictions not included in county total

Figure 1. Pertussis incidence among infants <4 months of age per 1,000 population, by county – California, 2016*

Legend:
- No reported cases
- Low incidence
- Lower than statewide average
- Higher than statewide average
- Substantially higher than statewide average

*Reported to CDPH as of 1/23/2017; data still provisional.

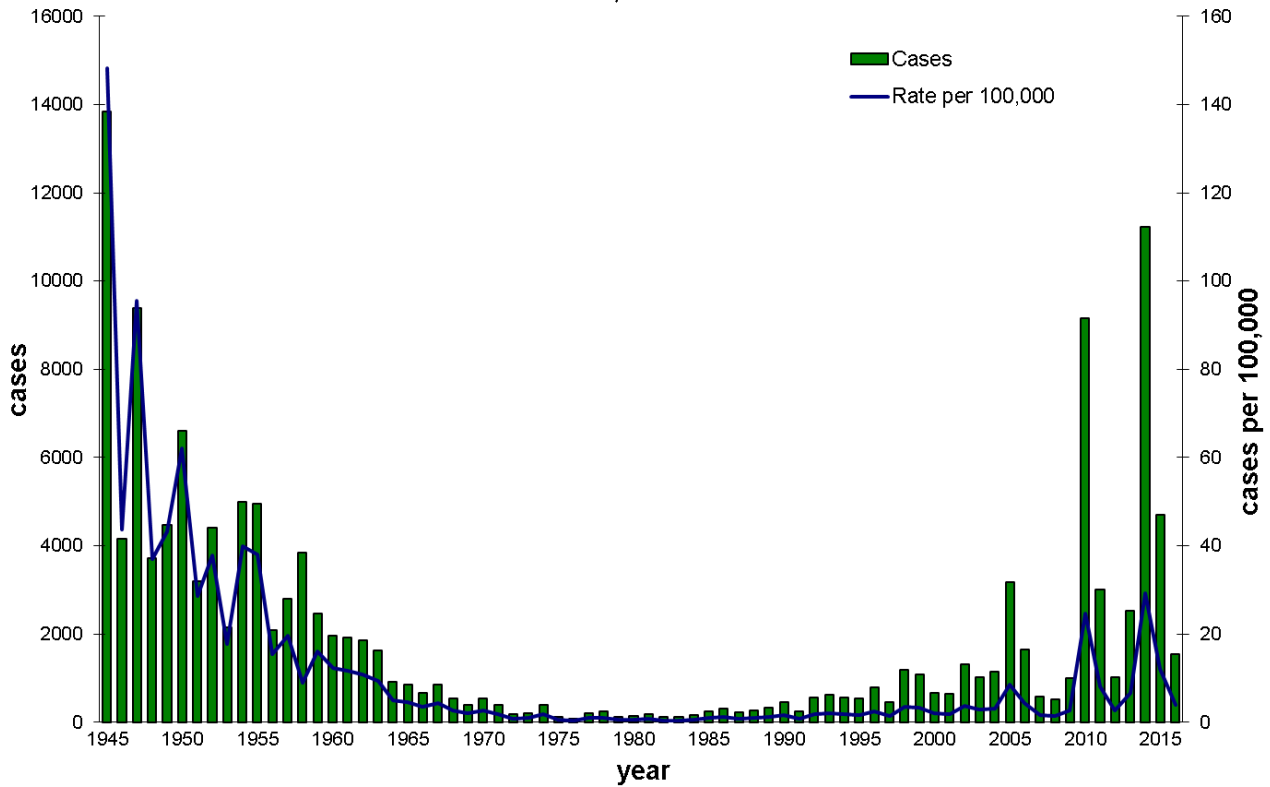**Figure 2. Number and incidence of reported pertussis cases by year of onset -- California, 1945-2016***

*Includes cases reported to CDPH as of 1/23/2017

Figure 3. Pertussis cases by month of onset -- California, 2010-2017*

2017 data will increase due to reporting delays

*Reported to CDPH as of 5/11/2017; provisional
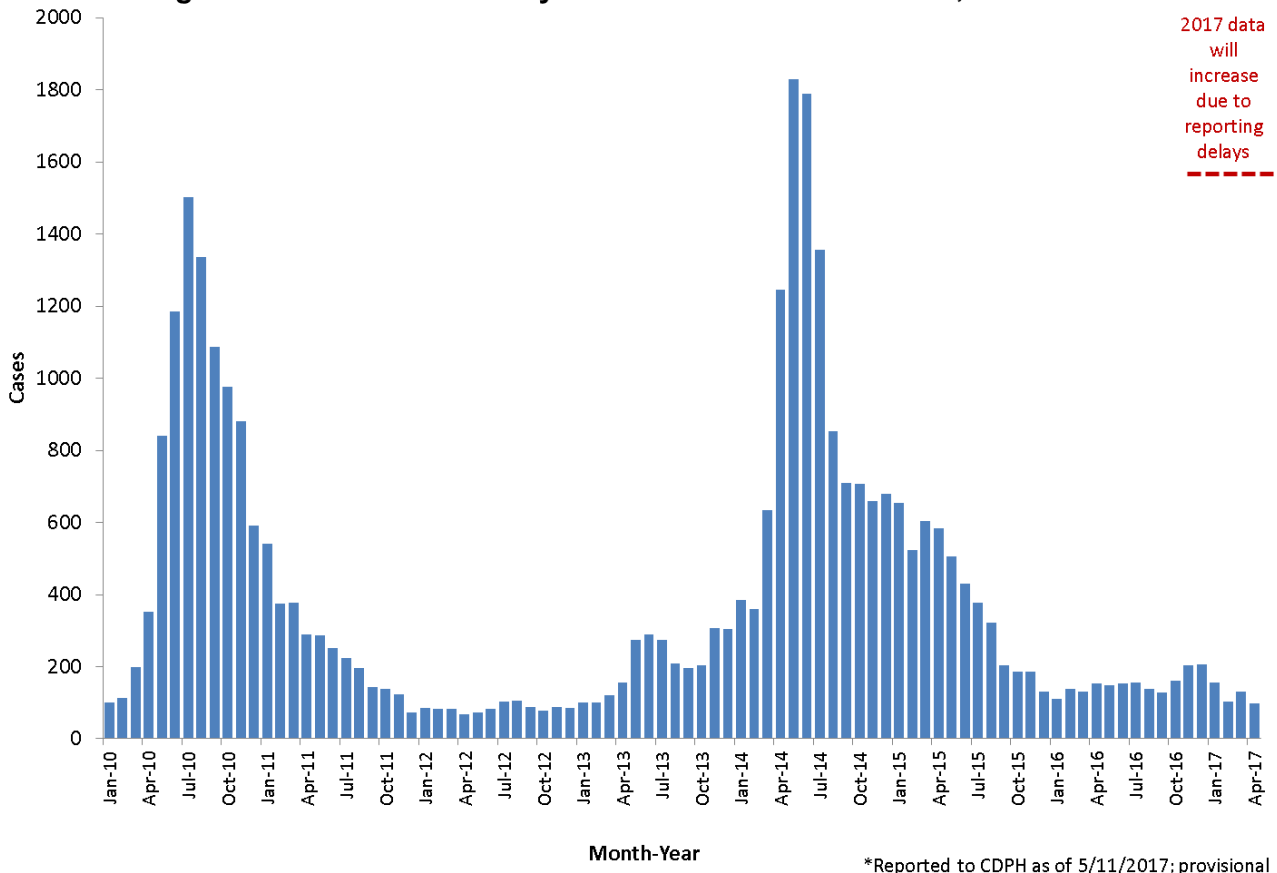
Figure 4. Pediatric pertussis cases by age -- California, 2016*

number of cases (y-axis): 0 to 140

age (months/years) (x-axis): <1m, 1m, 2m, 3m, 4m, 5m, 6-11m, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18

Annotations: DTaP (2m), DTaP (4m), DTaP (6-11m), DTaP (1), DTaP (4-6), Tdap (11-12)

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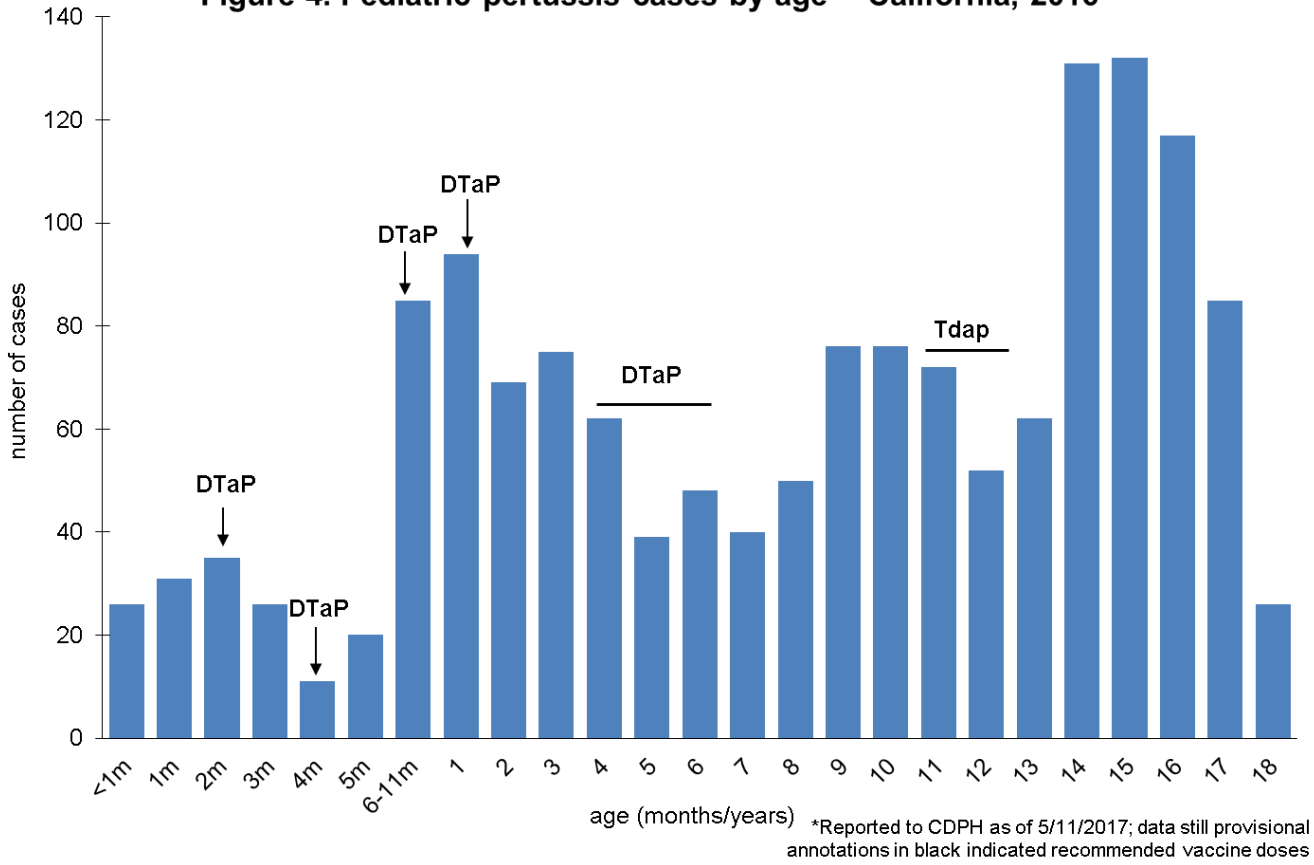annotations in black indicated recommended vaccine doses

Figure 5. Pertussis rates by age and race/ethnicity -- California, 2016*

rate by race/ethnicity per 100,000 (left y-axis): 0 to 70
overall rate per 100,000 (right y-axis): 0 to 70

Legend:
- White, non-Hispanic
- Hispanic, all races
- Black, non-Hispanic
- Asian/Pacific Islander
- All race/ethnicities

age (months/years) (x-axis): 0-5m, 6-11m, 1-3y, 4-6y, 7-9y, 10-13y, 14-17y, 18-64y, 65+y

All race/ethnicities values: 58.8, 33.6, 15.9, 9.9, 10.8, 13.0, 22.7, 1.0, 1.1

*Reported to CDPH as of 5/11/2017