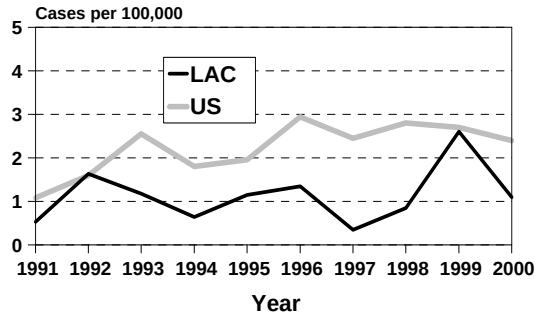
PERTUSSIS (WHOOPING COUGH)

CRUDE DATA	
Number of Cases	102
Annual Incidence [a]	
LA County	1.1
California	1.8
United States	2.4
Age at Onset	
Mean	10 years
Median	3 years
Range	1 week - 70 years
Case Fatality	
LA County	0.0%
United States	N/A

[a] Cases per 100,000 population.

Figure 73

Pertussis
Incidence Rates by Year
LAC and US, 1991 - 2000



ETIOLOGY

Pertussis, or whooping cough, is a vaccine-preventable disease spread by close contact with the respiratory secretions of infected individuals. Common symptoms include paroxysmal coughing, inspiratory whooping sound, and post-tussive vomiting. Complications from pertussis include pneumonia, seizures, and encephalopathy. Infants under 1 year of age are at highest risk for developing severe complications from pertussis.

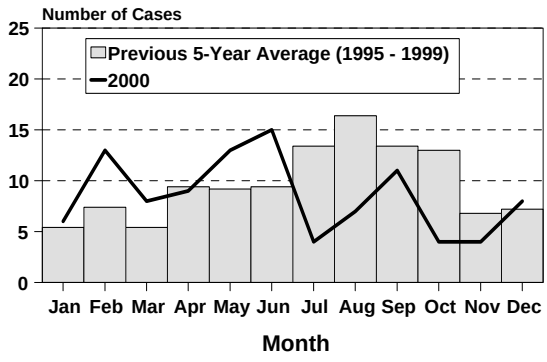
The minimum clinical criteria for pertussis is a cough lasting at least two weeks with either paroxysms of coughing, inspiratory "whoop," or post-tussive vomiting, without other apparent causes. Pertussis cases can be confirmed by either a positive *B. pertussis* culture or PCR.

DISEASE ABSTRACT

- The 102 total cases of pertussis reported in 2000 represented a 57% reduction from 1999.
- The incidence of pertussis was highest among infants under one year of age.
- The majority (59%) of reported cases for 2000 were in infants aged less than 6 months.
- Complications included pneumonia and seizures, but no deaths.
- Only 30% of reported cases were laboratory confirmed.

Figure 74

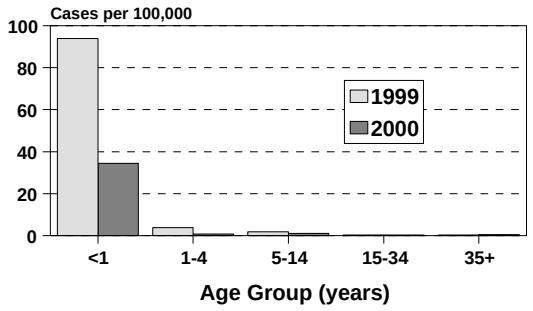
Pertussis
by Month of Onset
LAC, 2000



STRATIFIED DATA

Seasonality: There were significantly more cases reported during the first half of 2000 than the previous five years, with activity peaking in May and June. July and August are traditionally months of highest pertussis incidence in LAC, yet significantly fewer cases were reported during these months in 2000 compared with the previous five years (Figure 74). Possible reasons for this seasonal inversion are unclear.

Figure 75



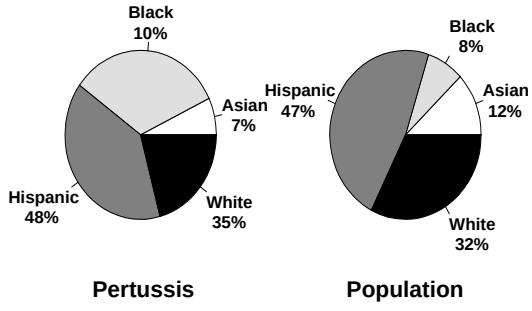
Age: The highest age-specific incidence rate was among infants less than one year of age (Figure 75). Fifty-nine percent of cases occurred in infants aged less than 6 months.

Sex: The male-to-female rate ratio was approximately 1:1.

Race/Ethnicity: Cases of pertussis were distributed proportionally among all race/ethnic groups (Figure 76).

Location: The only SPA with enough cases (24) to calculate a stable SPA-specific incidence rate was SPA 2, at 1.3 cases per 100,000. SPAs 3 and 6 had 17 cases each, followed by SPA 4 with 16, SPA 8 with 12, SPA 5 with 8 cases, SPA 7 with 6, and SPA 1 with 2.

Figure 76



COMMENTS

Complications/Hospitalization: Sixty-two cases (61%) were hospitalized, with an average hospital stay of 9 days (range 1-42 days). Ninety percent (n=56) of hospitalized cases were less than one year of age. Of the seven cases who developed pneumonia, 6 were infants aged less than six months. Two cases with seizures were reported, 1 in an infant aged less than six months. No pertussis deaths were reported in 2000.

Vaccination Status: A pertussis-containing vaccine should be given at 2 months, 4 months, 6 months, 15-18 months, and 4-6 years of age. Immunity conferred by the pertussis component of the DTP/DTaP vaccine decreases over time, with little or no protection 5-10 years following the last dose. Currently, there is no pertussis vaccine booster available for adults.

Thirty-seven cases (36%) were less than two months of age and were too young to receive the pertussis vaccine. Twenty-one cases (21%) were 15 years of age or older; so even if they were fully immunized in early childhood, they would not now have complete immunity against pertussis. Thus, 57% of the cases reported in 2000 could not have been directly prevented by vaccination.

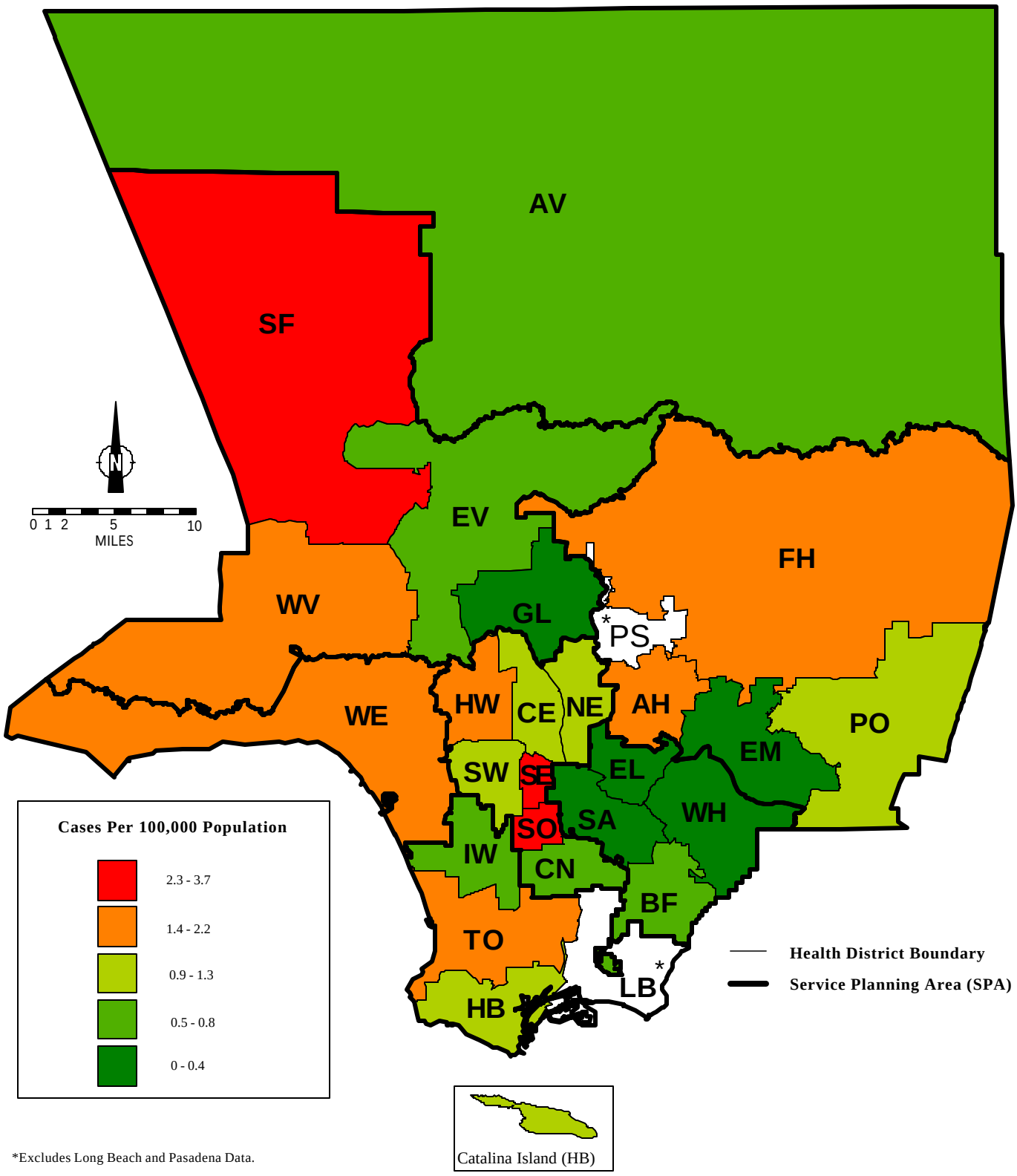
Twenty-three cases were between 2-6 months of age. Of these, 65% were up-to-date for their age, but would not have developed full immunity against pertussis. Of the children who could have had full immunity from the vaccine (7 months - 15 years old), 11 (52%) were fully up-to-date, one was underimmunized, and 8 (38%) were unimmunized. Five of these unimmunized children were not immunized because of religious/philosophical exemptions, and three for medical reasons. One child in this category had unknown immunization status.

Adolescent/Adult Cases: Adults and adolescents with pertussis are more likely to have mild or atypical disease, so they often go undiagnosed. Because immunity given by the pertussis vaccine decreases over time, adolescents and adults can serve as a source of transmission for infants who are not adequately immunized against pertussis.

ADDITIONAL RESOURCES

Additional information about pertussis is available from the National Immunization Program at www.cdc.gov/nip, the Immunization Action Coalition at www.immunize.org, and the Acute Communicable Disease Control website at http://lapublichealth.org/acd/procs/b73/b73index.htm.

MAP 10. Pertussis
Rates by Health District, Los Angeles County, 2000*



*Excludes Long Beach and Pasadena Data.