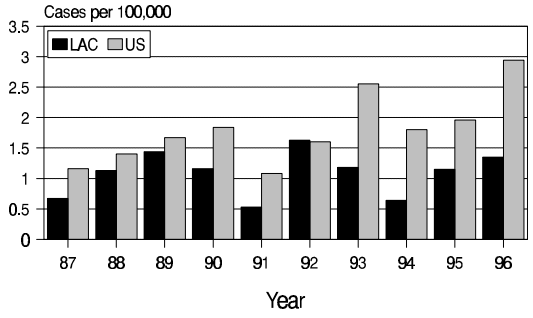
PERTUSSIS (WHOOPING COUGH)

CRUDE DATA	
Number of Cases	120
Annual Incidence[a]	
LA County	1.35
California	2.30
United States	2.94
Age at Onset	
Mean	15.6 mos.
Median	3 mos.
Range	1 day - 14 yrs
Case Fatality	
LA County	0.0%
United States	N/A

[a]Cases per 100,000 population.

Figure 1

Pertussis
Incidence Rates by Year
LAC and US, 1987-1996



ETIOLOGY

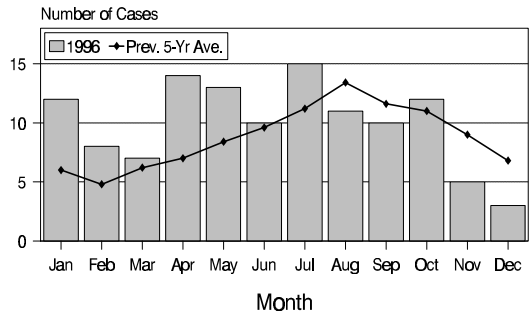
Bordetella pertussis.

DISEASE ABSTRACT

The incidence rate of pertussis increased slightly from 1995 to 1996. The pertussis rate was highest among children less than one year of age, and age-adjusted rates were highest among Hispanics. Reported complications included pneumonia, seizures, and encephalopathy; no deaths were reported this year.

Figure 2

Pertussis
Cases by Month of Onset
Los Angeles County, 1996



STRATIFIED DATA

Trends: The incidence of pertussis in 1996 was 1.35 per 100,000 population. Pertussis rates have fluctuated from 1987 to 1996 (Figure 1) with the highest rate occurring in

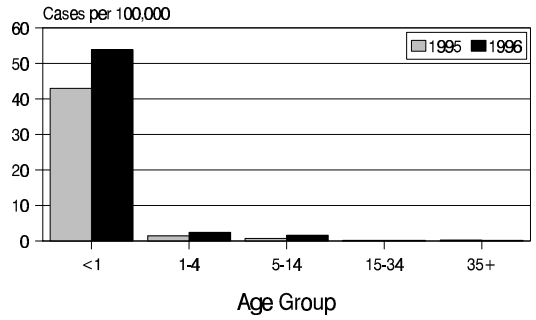
1992 (1.60 cases per 100,000).

Seasonality: No distinct seasonal pattern was observed for pertussis in 1996. The mean five-year trend (1992-1996) shows an increase during the summer months (Figure 2).

Age: The age-specific incidence rate among children less than one year old (61.74 per 100,000 population) was much higher than the rate among children aged 1-4 (2.04 per 100,000) and children aged 5-14 (0.77 per 100,000) (Figure 3). The highest incidence was seen in infants less than one month (158.2 per 100,000). Sixty-nine percent of the cases occurred in infants less than 6 months (Figure 4). No cases were reported in anyone older than 14 years.

Figure 3

Pertussis
Incidence Rates by Age Group
Los Angeles County, 1995-1996



Sex: The male-to-female rate ratio was 1:1.2.

Race/Ethnicity: The pertussis age-adjusted incidence rate was highest for Hispanics (2.16 per 100,000 population) followed by Blacks (1.68 per 100,000) (Figure 5). The greatest number of cases was reported among Hispanics (n = 84), followed by Whites (n = 18) and Blacks (n = 14). The lowest number was found among Asians (n = 4).

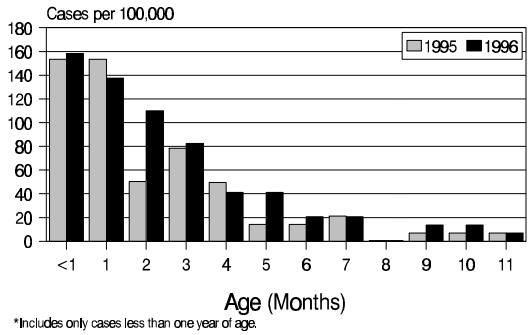
Location: The highest rates were in the Southeast (3.82 per 100,000 population) and Central (3.37 per 100,000) Health Districts.

COMMENTS

Infants are at highest risk for complications from pertussis. Complications developed in 27 (22.5%) cases in 1996. The major complications seen were pneumonia (n = 24), seizure (n = 4), and encephalopathy (n = 1). Eighty-four percent of infants under 12 months were hospitalized. Only eight (9%) of 87 hospitalized cases were over 12 months of age. The average hospital stay was 8.6 days (range 1-72 days). There were no deaths reported.

Figure 4

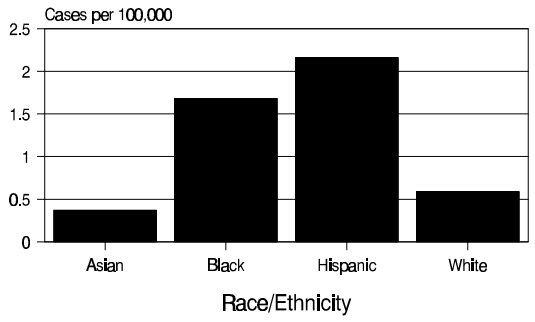
Pertussis
Incidence Rates by Age*
Los Angeles County, 1995-1996



*Includes only cases less than one year of age.

Pertussis-containing vaccine should be given at two months, four months, six months, 15-18 months, and 4-6 years of age. Forty-four of the cases (37%) were less than two months of age, too young for the first vaccine dose. Fifty-two cases (68%) two months of age and older were up to date for their age. Twenty-four cases (31%) two months of age and older were not up to date for their age; they included 12 cases who had never received a dose of vaccine and 12 cases who had received at least one dose, but were not up to date. One child over the age of two months had unknown immunization status.

Figure 5



Adults and adolescents with pertussis may have mild or atypical disease that is not diagnosed. Unimmunized or underimmunized infants often are infected by undetected adult cases. Lack of diagnosis of adult pertussis results in intrafamilial disease and is likely a major factor in the increase of pertussis currently observed in infants around the country. Forty-three percent of 1996 cases had known contact with someone with a chronic cough. Most often (38.5%) this contact was a parent. This was followed by contact with a relative (27%), a sibling (25%), and a family acquaintance (13.5%). Very few of these contacts were investigated and subsequently diagnosed with pertussis.

Fifty-five percent (66) of the cases were confirmed with a positive nasopharyngeal swab culture for *Bordetella pertussis.* The remaining cases met the CDC minimal case definition - a cough lasting at least two weeks with one of the following: paroxysms of coughing, inspiratory “whoop,” or post-tussive vomiting, without other apparent causes.