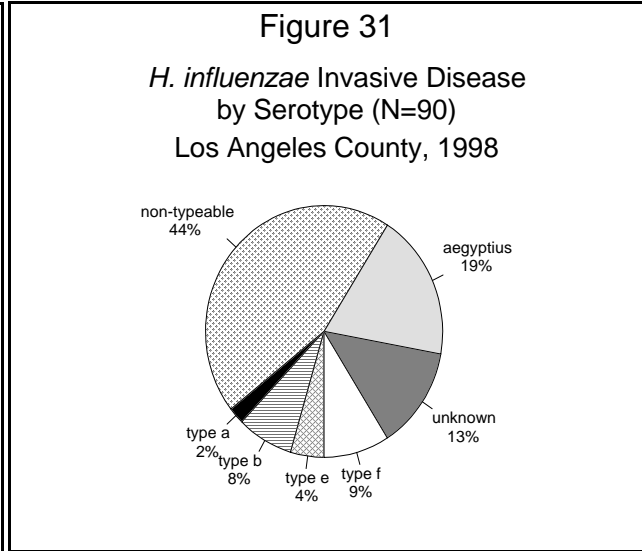


HAEMOPHILUS INFLUENZAE INVASIVE DISEASE TYPE B & OTHER TYPES

CRUDE DATA	
Number of Cases	7
Annual Incidence ^a	
LA County	0.08
California	NA*
United States	0.04
Age at Onset	
Mean	41 yrs
Median	39 yrs
Range	9 mos-80 yrs
Case Fatality	
LA County	0.0%
United States	N/A



^a Cases per 100,000 population.

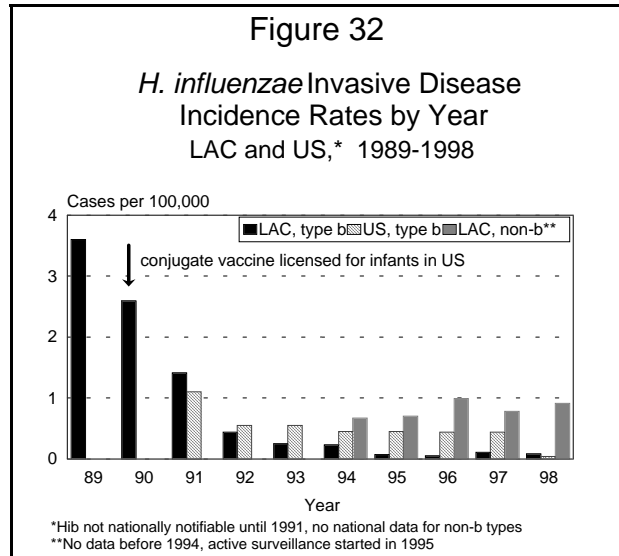
*In 1998, reporting of *H. influenzae* among persons ≥ 30 was not required in California. Rate <30 years old = 0.08.

ETIOLOGY

Haemophilus influenzae is a gram-negative coccobacillus. Several serotypes cause invasive disease, but a vaccine is only available against serotype b.

DISEASE ABSTRACT

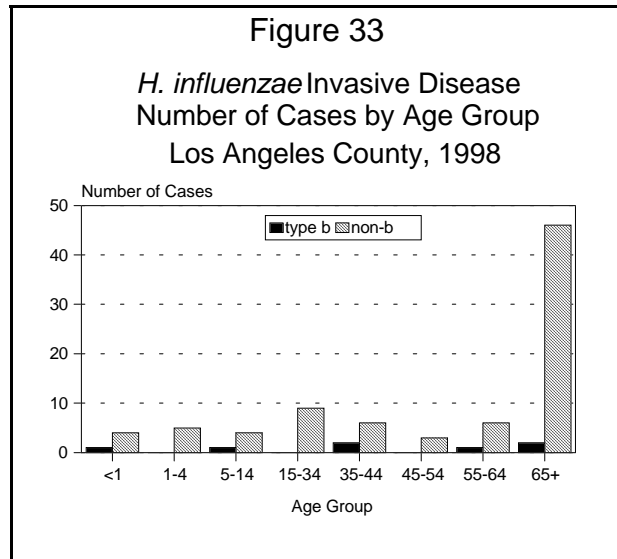
In 1998, 90 cases of *Haemophilus influenzae* invasive disease were reported. Of these 90 cases, seven were type b. Only two of the seven cases were among children 5 years of age or younger. Before the introduction of effective vaccines against *H. influenzae* type b (Hib), Hib disease was the leading cause of bacterial meningitis and other invasive illness among children less than 5 years of age. The remaining 83 cases of invasive *H. influenzae* disease were non-b and unknown serotypes (Figure 31).



STRATIFIED DATA

Trends: The incidence rate for *H. influenzae* type b of 0.08 cases per 100,000 was slightly less than the previous year's rate of 0.1 cases per 100,000. The incidence of invasive *H. influenzae* type b disease has fallen dramatically in the past 10 years primarily due to the use of Hib vaccine. Incidence rates for other types of *H. influenzae* have remained relatively steady (Figure 32).

Age: Invasive infection with *H. influenzae* type b occurs primarily in infants, young children and the elderly. Most of the cases in 1998 were in those 35 years of age or older (Figure 33).



The median age at onset for invasive non-b *Haemophilus* disease was 69 years (range: birth to 96 years) (Figure 33).

COMMENTS

Contacts of reported cases of Hib are investigated and chemoprophylaxis is administered when appropriate. There is no evidence that these measures are effective in controlling non-b serotypes. Present Hib vaccines offer no protection against other *H. influenzae* serotypes.

Non-invasive disease, such as conjunctivitis and respiratory infections, is not investigated or reported, regardless of serotype.

***H. influenzae* type b**

All seven Hib cases had sepsis demonstrated by positive blood culture. Four cases had sepsis without any other symptoms, two had pneumonia (one in conjunction with meningitis) and one had cellulitis. No deaths occurred.

The widespread use of conjugate Hib vaccines has dramatically reduced invasive disease caused by this organism. More than 95% of infants will develop protective antibody levels after a primary series of three doses. However, unvaccinated and some vaccinated persons may continue to become infected. Of the two pediatric cases, one child was fully vaccinated (but had an underlying genetic condition), and the other child's vaccine history was unknown. Children with underlying conditions appear to be more susceptible to the disease even when fully immunized. Overall, four of the seven cases had underlying conditions: Leigh's disease, cerebral palsy, lupus, and liver cancer.

***H. influenzae*, non-b serotypes**

Forty-four percent of *H. influenzae* cases in 1998 were non-typable. This serotype made up 48% of the non-b serotypes.

Most cases (94%) had sepsis. Other infections included pneumonia (n=10), meningitis (n=5), otitis media (n=1), and peritonitis (n=2). Three perinatal infections (sepsis) occurred where the mother was not confirmed with infection. Two of these infants were born prematurely; one of the two died a few hours after birth. Eight cases overall were known to have died: seven elderly, and the previously mentioned newborn.