

Haemophilus influenzae Invasive Disease

2010 Case Total	105	2010 Incidence Rate	2.85 per 100,000
2009 Case Total	92	2009 Incidence Rate	2.53 per 100,000

Invasive *Haemophilus influenzae* (*H. flu*) disease is a reportable condition in Oklahoma, and all *H. flu* sterile-site isolates are required to be submitted to the OSDH Public Health Laboratory (PHL) for confirmation and serotype identification. One hundred and five cases of invasive *H. flu* were reported to the OSDH during 2010 resulting in an incidence rate of 2.85 per 100,000 population, a 14.1% increase from 2009. *H. flu* isolates are serotyped based on the presence of a capsule (serotypes a through f) or absence of a capsule (non-typeable). Both capsulated and nonencapsulated isolates have the ability to cause severe disease. Of the 97 isolates (92% of reported cases) available for serotype identification by the PHL, 53 (54.6%) were non-typeable, 21 (21.6%) were serotype f, 9 (9.3%) were serotype a, 6 (6.2%) were serotype e, 4 (4.1%) were serotype d, and 4 (4.1%) were serotype b. Infection types of the cases included bacteremia/sepsis (97%, n = 102), meningitis (4%, n = 4), and pneumonia (59%, n = 62).

Cases of invasive *H. flu* in 2010 ranged in age from 1 day to 93 years with a median age of 70 years. The highest age-specific incidence rates per 100,000 population occurred among persons 80 years and older (refer to graph). Fourteen (13%) cases occurred among children less than 5 years of age, an age-specific incidence rate of 5.15 per 100,000 population. The highest proportion of cases occurred during the winter months, with over half of reported cases (n = 55, 52%) occurring in January, February, November, and December.

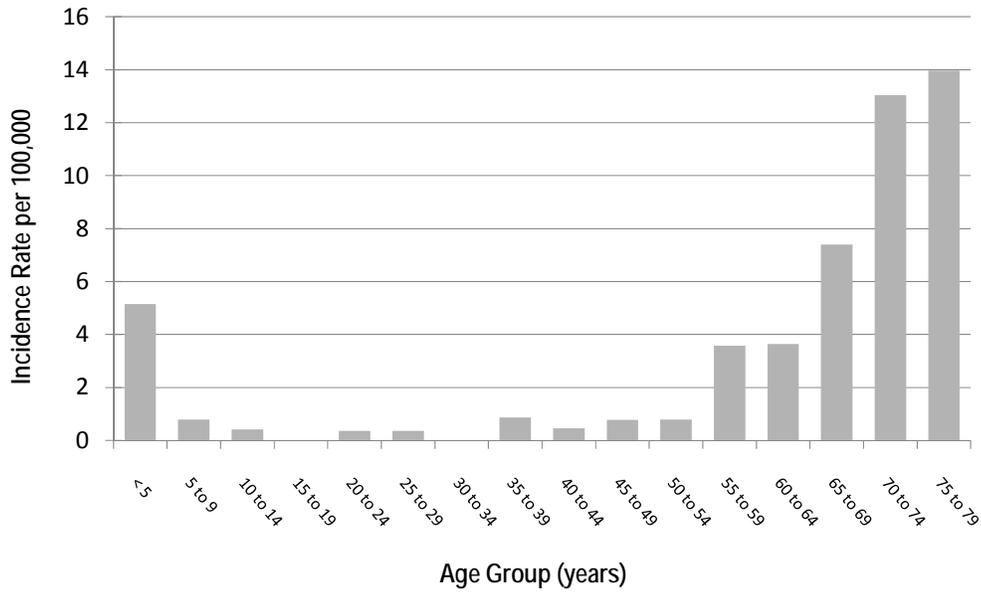
When a case of invasive *Haemophilus influenzae* type b (Hib) is identified, an active contact investigation commences to locate all close contacts less than 4 years of age, review vaccination history, and recommend antibiotic prophylaxis if needed. If any exposed children less than 4 years of age who are either unvaccinated or have not yet received the full primary series of the Hib vaccine are identified, then chemoprophylaxis is recommended to eradicate carriage of the organism. All four Hib cases reported in 2010 were over the age of 70 years. Investigations conducted by county health department public health nurses determined none of the close contacts were less than 4 years of age for three of the cases; therefore, post-exposure chemoprophylaxis was not recommended. Investigation of the fourth case revealed exposed contacts less than 4 years of age that had not yet received the full primary series of the Hib vaccine. During this investigation, OSDH recommended chemoprophylaxis to eradicate carriage of the organism to a total of 10 exposed close, personal contacts. No secondary cases occurred among cases reported during 2010.

Demographic Summary of Reported *Haemophilus influenzae* Invasive Disease Cases, Oklahoma, 2010 (N = 105)

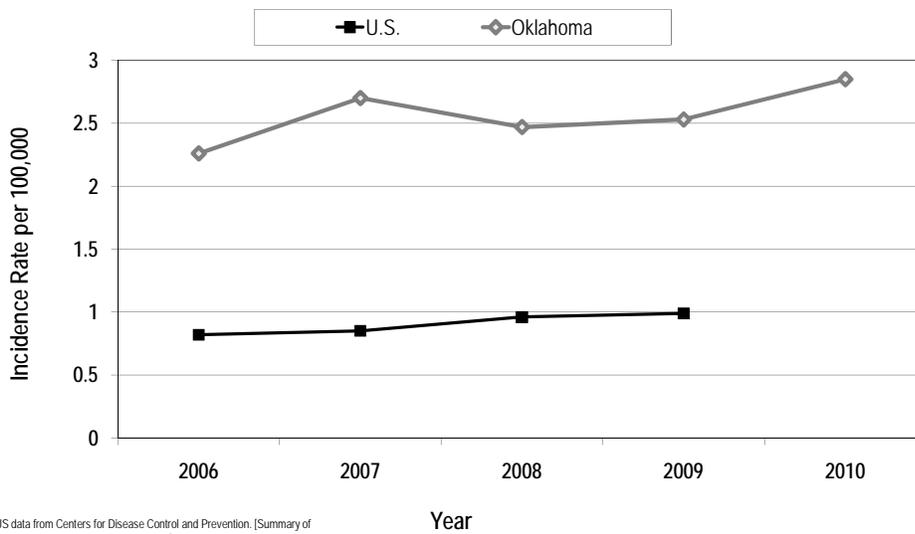
	Number (%)	Incidence Rate per 100,000
Gender		
Male	49 (47%)	2.69
Female	56 (53%)	3.00
Age	Median Age: 70 years (Range: 1 day – 93 years)	
Hospitalized for <i>H. flu</i> (n = 98)*	78 (80%)	-
Deaths due to <i>H. flu</i>	12 (11%)	-
Race		
White	84 (80%)	2.94
Black	4 (4%)	1.35
American Indian or Alaska Native	5 (5%)	1.69
Asian	-	-
Two or more races	2 (2%)	1.32
Unknown	10 (9%)	-
Hispanic Ethnicity (n = 66)	6 (6%)	1.99

*Number hospitalized for *H. flu* out of those hospitalized

Incidence Rate of Reported Invasive *Haemophilus influenzae* Cases by Age Group, Oklahoma, 2010



Haemophilus influenzae Incidence Rate by Year, Oklahoma and U.S., 2006-2010*



*US data from Centers for Disease Control and Prevention. [Summary of notifiable diseases—United States, 2009]. Published May 13, 2011 for MMWR 2009;58(No. 53):83. Data unavailable for 2010.