

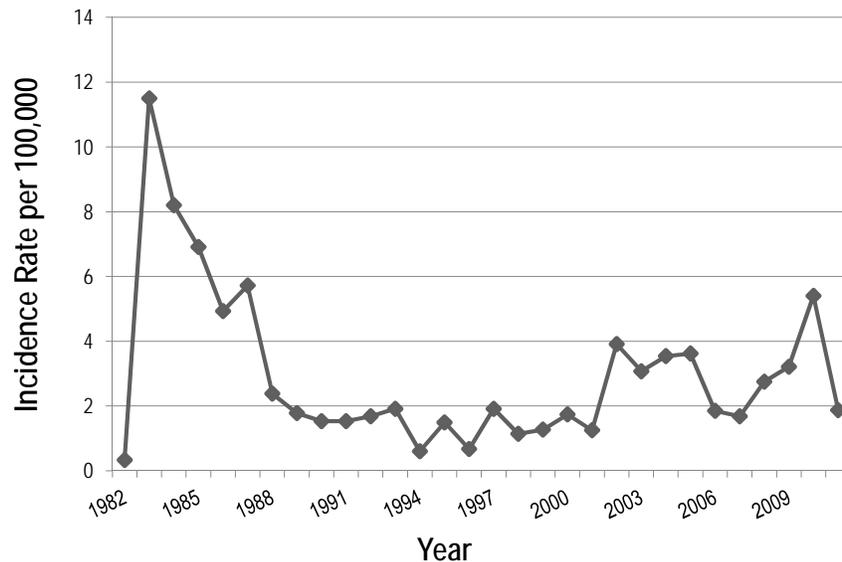
Pertussis

2011 Case Total 70
2010 Case Total 199

2011 Rate 1.87 per 100,000
2010 Rate 5.40 per 100,000

The number of pertussis cases in 2011 was a 65% decrease from the 199 cases reported in 2010. During 2010, Oklahoma saw the highest incidence rate of pertussis since 1987 (see Figure 1). During 2010, several local community clusters were observed in different parts of the state contributing to the large number of overall cases seen in the state; this was fortunately not the case during 2011. During 2011, pertussis cases were identified throughout the state with the highest rates occurring in Pawnee County (12.06 per 100,000, n = 2), Love County (10.61 per 100,000, n = 1), and Okmulgee County (7.49 per 100,000, n = 3). Pertussis is known to often have a more severe clinical presentation in children. Nearly half of all cases in 2011 were in children less than five years of age, with 26% in infants less than one year of age, followed by 19% in children one to four years of age. Twenty-eight percent of infants less than one year of age were hospitalized compared to 6% of cases that occurred among all other age groups.

Figure 1: Incidence Rate of Reported Pertussis Cases by Year, Oklahoma, 1982-2011



Polymerase chain reaction (PCR) testing has become the most prevalent type of testing conducted for pertussis. Of the 70 cases in 2011, 27 (39%) had a positive PCR test. Culture for *Bordetella pertussis* accounted for 1% of cases (n = 1). Fifteen (21%) of the pertussis cases had a positive serology or direct fluorescent antibody (DFA) test, although these testing methodologies are not considered confirmatory because they have not been standardized. Twenty-seven (39%) cases did not have any laboratory testing; however, they met the clinical case definition. The clinical case definition consists of a cough lasting for at least two weeks and at least one of the following hallmark symptoms: paroxysmal cough, inspiratory whoop, or post-tussive vomiting.

County health department (CHD) nurses conduct investigations of all reported cases of pertussis. Contacts to a case are assessed to determine whether they should be recommended to receive post-exposure prophylaxis (PEP) to prevent development of illness and to control continued transmission. PEP is typically recommended only for household members or those having close contact. The case's association with a high-risk setting is also assessed to identify any outbreaks and recommend implementation of control measures to limit the continued spread of pertussis. In 2011, CHD nurses assessed a total of 365 case contacts for PEP recommendation (Median = 3; Range: 1 – 52). Twenty-five cases were associated with a high-risk setting such as a child care center, school, or healthcare setting.

Demographic and Clinical Summary of Reported Pertussis Cases, Oklahoma, 2011 (N = 70)

	Frequency (%)	Rate/100,000
Gender		
Male	24 (34%)	1.29
Female	46 (66%)	2.43
Age	Median Age: 8 years (Range: 1 Day – 75 years)	
Race		
White	51 (73%)	1.88
Black	4 (6%)	1.44
Asian	1 (1%)	1.54
American Indian or Alaska Native	3 (4%)	0.93
Two or More Races	4 (6%)	1.81
Unknown	7 (10%)	--
Ethnicity		
Hispanic or Latino	14 (20%)	4.22
Not Hispanic or Latino	51 (73%)	1.49
Unknown	5 (7%)	--
Cough Duration	Median: 25 days (Range: 14 days to 347 days)	
Hallmark Symptoms (not exclusive)		
Paroxysmal Cough	65 (93%)	--
Inspiratory Whoop	37 (53%)	--
Post-Tussive Vomiting	45 (64%)	--
Hospitalized for Disease	8 (11%)	--
Deaths Due to Pertussis	0	--

Pertussis vaccine is recommended for all children beginning with the primary 3-dose series at 2, 4, and 6 months of age followed by a booster vaccination at 12 – 15 months of age. Additionally, a single dose of Tdap is recommended for persons 10 through 64 years of age. Tdap is recommended for children 7 – 10 years of age who are not fully vaccinated against pertussis. Adults 65 years of age and older who have not previously received Tdap and will be in close contact with an infant are also recommended to receive a single dose of Tdap.

Figure 2: Incidence Rate of Reported Pertussis Cases by Age Group, Oklahoma, 2011

