

Pertussis

Agent: *Bordetella pertussis* (bacteria)

Mode of Transmission: Person-to-person transmission by contact with respiratory droplets from infected patients.

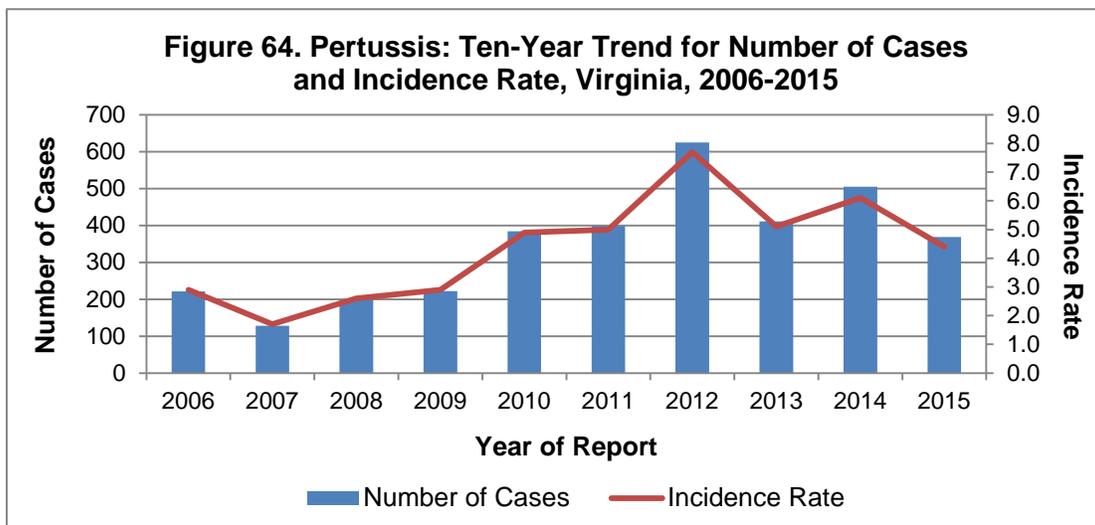
Signs/Symptoms: Insidious cough that progresses to paroxysmal coughing (i.e., severe, sequential coughs with difficulty inhaling) and may be accompanied by post-cough vomiting.

Prevention: Appropriate vaccine should be administered beginning at 2 months of age.

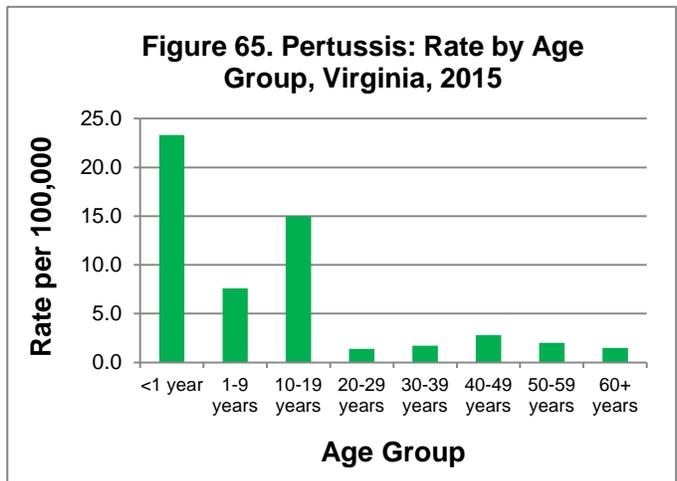
Other Important Information: Pertussis is also known as whooping cough. The occurrence of coughing fits can last up to 10 weeks or more. In vaccinated populations, the case-fatality rate is low. When deaths occur, they are generally in children less than six months old who are too young to have been vaccinated.

Pertussis: 2015 Data Summary	
Number of Cases:	369
5-Year Average Number of Cases:	466.2
% Change from 5-Year Average:	-21%
Incidence Rate per 100,000:	4.4

During 2015, 369 cases of pertussis were reported in Virginia. This represents a 27% decrease from 505 cases in 2014 and a 21% decrease from the five-year average of 466.2 cases per year (Figure 64). The overall decrease in cases since 2012 is consistent with the trend of pertussis cases occurring in waves with peaks every three to five years. The increase seen in 2014, and overall increase in cases over the past 20-30 years, may be attributed to increased awareness of pertussis, improved and more frequent diagnostic testing, increased circulation of the bacteria, and waning immunity in all age groups. While vaccination against pertussis is recommended for all ages, those receiving whole cell vaccine appear to have longer lasting protection compared to those that received only the acellular vaccine (i.e., those born after 1996) as demonstrated by incidence rates by age.



While cases were reported among all age groups, incidence rates were highest among the youngest age groups (Figure 65). The incidence rate was highest for those under one year of age (23.3 cases per 100,000), followed by the 10-19 year age group (15.0 cases per 100,000) and 1-9 year age group (7.6 cases per 100,000). Race was provided for 70% of the reported cases, and among those with a known race, incidence was highest among the white population at 3.7 cases per 100,000, followed by the black population (1.8 cases per 100,000) and the “other” race population (1.1 cases per 100,000). Sex was reported for all cases and incidence rates were higher in females (5.1 cases per 100,000) when compared to males (3.8 cases per 100,000).



Pertussis cases were reported throughout the year with a majority of cases having onset during the second quarter (38%). The incidence rate was significantly higher in the northwest region (16.9 cases per 100,000) when compared to the state incidence rate (4.4 cases per 100,000). Other regions of the state had rates ranging from 0.8 to 3.6 cases per 100,000. This regional difference can be attributed to outbreaks that occurred in the northwest region. Ten outbreaks were reported in 2015, with eight of them occurring in the northwest region. One outbreak in the northwest region accounted for 21% of the cases statewide. This outbreak occurred in a school setting and also affected the incidence rate for the 10-19 year age group. Over 90% of the outbreaks were linked to school settings. Incidence by locality can be seen in the map below. No deaths from pertussis were reported in 2015.

Pertussis Incidence Rate by Locality Virginia, 2015

