

Pertussis

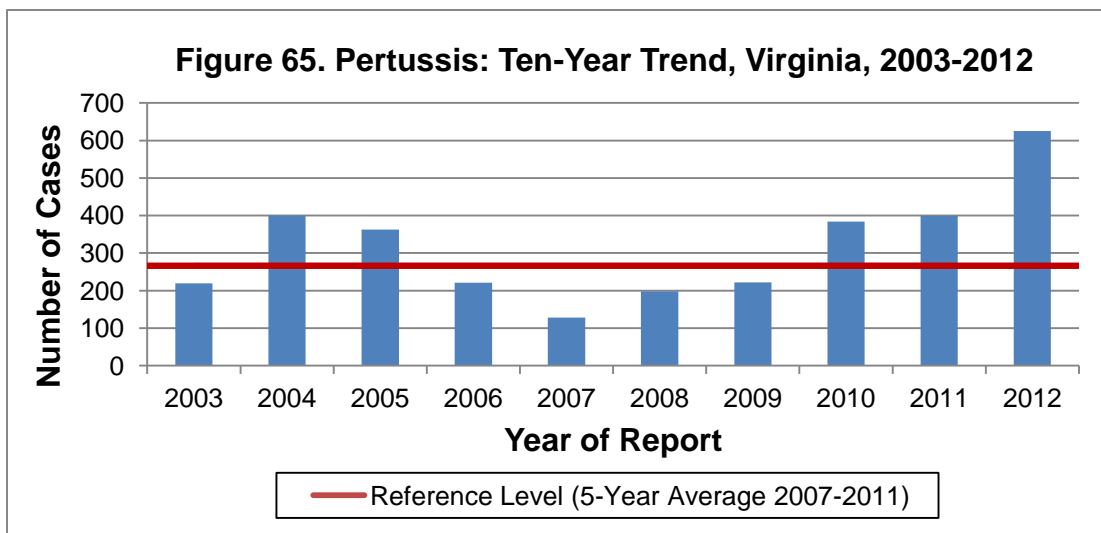
Agent: *Bordetella pertussis* (bacteria)

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.

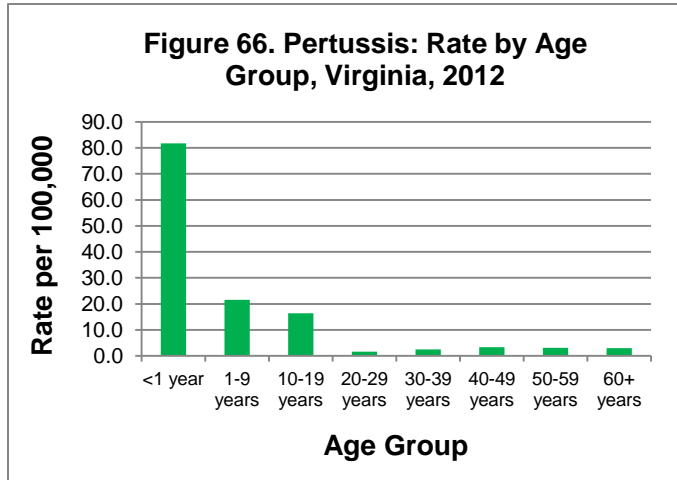
Other Important Information: Pertussis is also known as whooping cough. Coughing fits can last up to 10 weeks or more. In vaccinated populations, the case-fatality rate is low. When deaths occur, they are generally in children less than six months old who are too young to have been vaccinated.



In 2012, 625 cases of pertussis were reported in Virginia. This is a 57% increase from the 399 cases reported in 2011 and a 135% increase from the five-year average of 266.2 cases per year (Figure 65). Cases of pertussis typically occur in waves, with peak numbers appearing every 3-5 years. But for the past 20-30 years, the peaks have been getting higher and overall case counts have been going up. The number of pertussis cases has been increasing since 2007 in Virginia and across the country. The number of pertussis cases in 2012 was the highest reported in Virginia since 1959 when 1,114 cases were reported. In addition, the 48,277 cases reported nationally in 2012 are the highest since 1955.

Several factors may help explain this sustained recent increase. These include increased awareness, improved diagnostic tests and their wider availability, better reporting, increased circulation of the bacteria and waning immunity in all age groups. It is also becoming apparent that the acellular pertussis vaccine currently used in the United States may not protect for as long as the whole cell vaccine that was used earlier. As discussed below, the highest incidence rates, nationally and in Virginia, are in children (i.e., born after 1996) who received only acellular vaccine.

In Virginia, pertussis cases were reported from every age group. However, the less than one year age group had a substantially higher incidence rate than any of the others, with 81.8 cases per 100,000 population (Figure 66). The next highest incidence rates were observed in the 1-9 and 10-19 year age groups, with 21.5 and 16.4 cases per 100,000, respectively. Forty percent of cases were missing race data. Among cases with race reported, incidence in the white population was more than four times the rate in the black population (5.8 and 1.4 per 100,000, respectively), and more than three times the rate in the “other” race population (1.8 per 100,000). Females had a higher incidence rate than males (8.4 and 6.9 per 100,000, respectively).



Among regions, the northwest region had the highest number of cases and incidence (214 cases, 17.1 per 100,000). Rates in other regions ranged from 5.2 per 100,000 in the southwest region to 7.3 per 100,000 in the eastern region. While cases occurred throughout the year, the largest proportion (32%) had onset in the second quarter of the year. Seventeen pertussis outbreaks were reported in 2012. Over half the outbreaks (59%) were linked to school settings, while the largest outbreak was community-based and involved 21 cases from the eastern region. One death due to pertussis was reported in 2012 in an individual over 50 years of age.