

Chickenpox (Varicella)

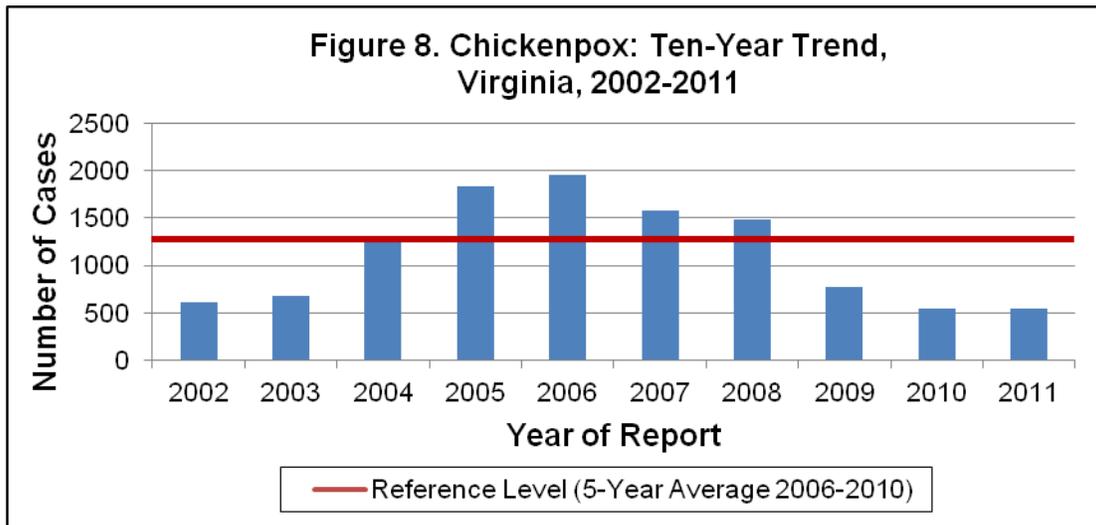
Agent: Varicella-zoster virus

Mode of Transmission: Person-to-person transmission by direct contact or through droplet or airborne spread of vesicle fluid or respiratory secretions from an infected person.

Signs/Symptoms: Acute onset of mild fever and generalized, pruritic, vesicular rash typically consisting of 250 – 500 lesions. Successive crops of lesions appear first on the head and progress to the trunk and extremities. The skin lesions can appear on the scalp, armpit, and mucous membranes of the mouth and respiratory tract.

Prevention: Administration of vaccine should occur for children starting at age 12 months and be followed by a second dose at age 4-6 years.

Other Important Information: The disease is highly transmissible; susceptible household contacts have an 80-90% risk of becoming infected. Acute varicella is generally mild and self-limited, but severe complications may occur.



The 549 cases of chickenpox reported in Virginia during 2011, almost identical to the 548 cases reported in 2010, represent a 57% decrease from the five-year average of 1,270.2 cases per year, and a 72% decrease from the most recent peak of 1,959 cases reported in 2006 (Figure 8). The drop in the number of cases in 2011 mirrors nationwide trends and may be attributed to implementation of the recommendation for a second dose of vaccine. Varicella vaccine was licensed in 1995, and in 1999 vaccination became a requirement for entry into school and daycare in Virginia for all children born on or after January 1, 1997. However, outbreaks of chickenpox continued to occur despite high vaccination coverage, as a single dose of vaccine was found to be only 70-90% effective in preventing infection. As a result, recommendations for a second dose of varicella vaccine, to be administered before kindergarten entry, were published in June, 2007.

The vast majority of cases occurring in 2011 (82%, n = 453) were reported in young children and teens. Incidence was highest in children 1-9 years of age (26.4 per 100,000) followed by infants <1 year of age and adolescents age 10-19 years (22.0 and 17.7 per 100,000 respectively). The other age groups had much lower incidence rates, ranging from 0.1 to 3.6 cases per 100,000, confirming that this disease primarily occurs in children and adolescents. Race data were not provided for 22% of the reported cases. Among cases where race was known, incidence in the white population was highest (6.1 per 100,000), followed by rates in the black and “other” race populations (3.7 and 3.5 per 100,000, respectively). The rate in males was slightly higher than the rate in females (7.6 and 6.1 per 100,000, respectively).

Five outbreaks were reported in 2011, with an average of 9.6 cases per outbreak. All outbreaks involved school-aged children, and three of the outbreaks occurred in an elementary school setting. The number of chickenpox outbreaks reported each year has continued to decline. Seven outbreaks were reported in 2010, down from 15 in 2009 and 24 in 2008, further indicating that the two-dose vaccination schedule is helping reduce the occurrence of illness in young children. While breakthrough infections have continued to occur in vaccinated individuals, on average, the illness in vaccinated individuals is much milder (*i.e.*, less than 50 skin lesions, low or no fever, and a shorter duration of illness).

By region, the highest incidence occurred in the northwest region (12.6 cases per 100,000); incidence in all other regions was similar and ranged from 5.3 to 6.2 cases per 100,000. This is consistent with outbreak data, as three chickenpox outbreaks were reported in the northwest region.

Cases occurred throughout the year, with only a slightly higher proportion of cases (53%) occurring during the first and second quarters of the year. Traditionally the highest incidence has occurred in the spring between March and May, although the seasonality of chickenpox is less apparent since vaccination became common.