

Chickenpox (Varicella)

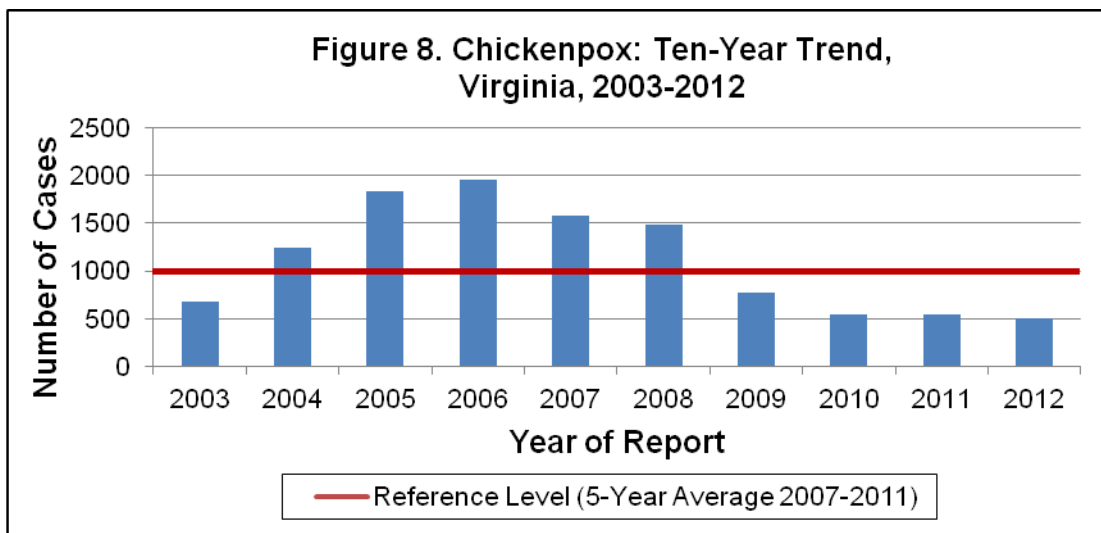
Agent: Varicella-zoster virus (VZV)

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 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. Lesions can appear on the scalp, armpit, and mucous membranes of the mouth, respiratory tract, and eye.

Prevention: Administration of vaccine should occur for children starting at age 12 months 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. In healthy children, acute varicella is generally mild and self-limited, but severe complications may occur, especially in adults. Herpes zoster, or shingles, occurs when latent VZV reactivates and causes recurrent disease.



The 505 cases of chickenpox reported in Virginia during 2012 represent an 8% drop from the 549 cases reported in 2011, and a 49% decrease from the five-year average of 988.2 cases per year (Figure 8). The decline in the number of cases in recent years 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, and the school entry requirement was updated to include a second dose in 2010.

The vast majority of cases occurring in 2012 (83%) were reported in young children and teens, which is consistent with historical data. Incidence was highest in children less than one year of age (36.5 per 100,000), followed by children 1-9 years of age and adolescents age 10-19 years (26.0 and 13.2 per 100,000, respectively). The other age groups had lower incidence rates, ranging from 0.1 to 3.6 cases per 100,000, confirming that this disease occurs primarily in children and adolescents. Race was not provided for 26% of the reported cases. Among cases where race was known, incidence in the “other” race population was highest (6.4 per 100,000), followed by rates in the white and black populations (4.7 and 3.7 per 100,000, respectively). The rate in males was only slightly higher than the rate in females (6.3 and 6.1 per 100,000, respectively).

By region, the highest incidence occurred in the southwest region (9.2 cases per 100,000); incidence in all other regions ranged from 3.6 to 7.5 cases per 100,000. Cases occurred throughout the year. Traditionally in the U.S., the highest incidence has occurred between March and May, although the seasonality of chickenpox is less apparent since vaccination became common.

Five outbreaks were attributed to chickenpox in 2012, the same number as the previous year. An average of 11.8 cases was reported per outbreak, and all outbreaks involved school-aged children. With the exception of 2012, 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 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).