

## **Chickenpox (Varicella)**

**Agent:** Varicella-zoster virus

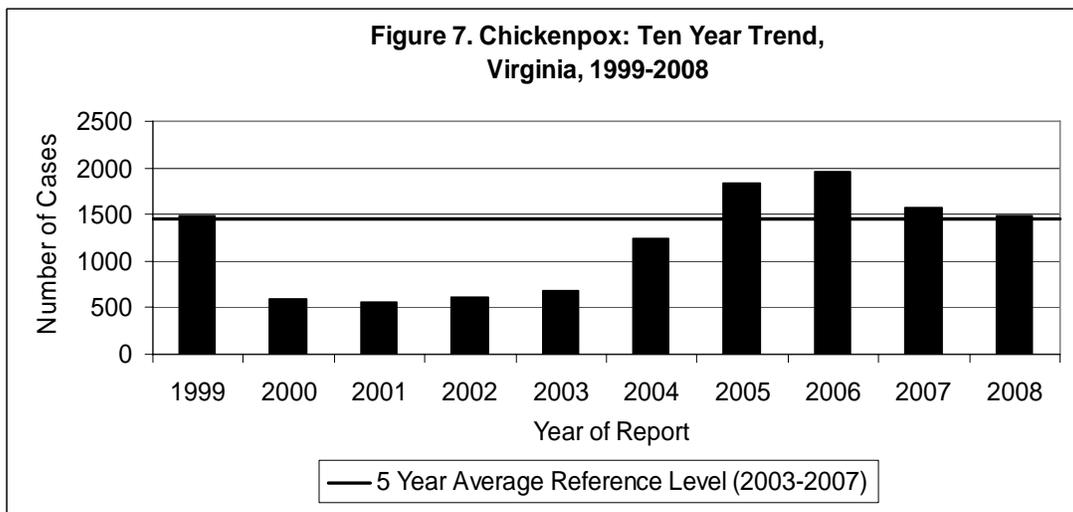
**Mode of Transmission:** Person-to-person by direct contact or through droplet or airborne spread of vesicle fluid or respiratory secretions from an infected person.

**Signs/Symptoms:** Acute onset of mild fever and vesicular rash. 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:** Vaccination of 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. Acute varicella is generally mild and self-limited, but severe complications may occur.

The 1,489 cases of chickenpox reported in Virginia during 2008 represented a 6% decrease from the 1,582 cases in 2007, and were similar to the five year average of 1,459.4 cases per year (Figure 7). The increased number of cases seen between 2002 and 2008 may be attributed to more complete reporting by physicians and school personnel.



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 occur despite high vaccination coverage, as the vaccine is 80%-85% effective in preventing infection.

The majority of cases (91%) were reported in those less than 20 years of age. The 1-9 year age group had the highest incidence rate (82.1 per 100,000). This was followed by the 10-19 year age group (54.1 per 100,000) and the less than 1 year age group (46.3 per 100,000). The other age groups had between 0.5 cases per 100,000 (50-59 year age group) and 5.3 cases per 100,000 (20-29 year age group). Race data were not provided for 22% of the reported cases. Among cases where race was known, incidence in the

“other” population was highest (23.3 per 100,000), followed by rates in the white and black populations (15.9 and 9.4 per 100,000, respectively). Rates were similar between females and males (18.0 and 20.1, respectively).

The highest incidence rate (21.7 per 100,000) occurred in the central region and rates ranged between 17.1 and 19.4 cases per 100,000 in the other regions. Cases occurred throughout the year, with the highest proportion of cases (60%) occurring during the first and second quarters of the year. This is consistent with the traditional seasonal fluctuation seen in chickenpox, with the highest incidence occurring in winter and early spring.

Twenty-four outbreaks were reported in 2008, with an average of 8.0 cases per outbreak. All of the outbreaks involved school-aged children. Despite high one-dose vaccination coverage, outbreaks of varicella have continued to occur, especially in elementary schools, where a large percentage of the students are vaccinated. This mirrors a nationwide trend and has led to new recommendations for a two-dose varicella vaccination schedule. While breakthrough infections have continued to occur in vaccinated individuals, on average, the illness in vaccinated individuals is much milder (less than 50 skin lesions, low or no fever, and a shorter duration of illness). Among the cases reported in 2008, one death was attributed to varicella in a female child less than 10 years of age.