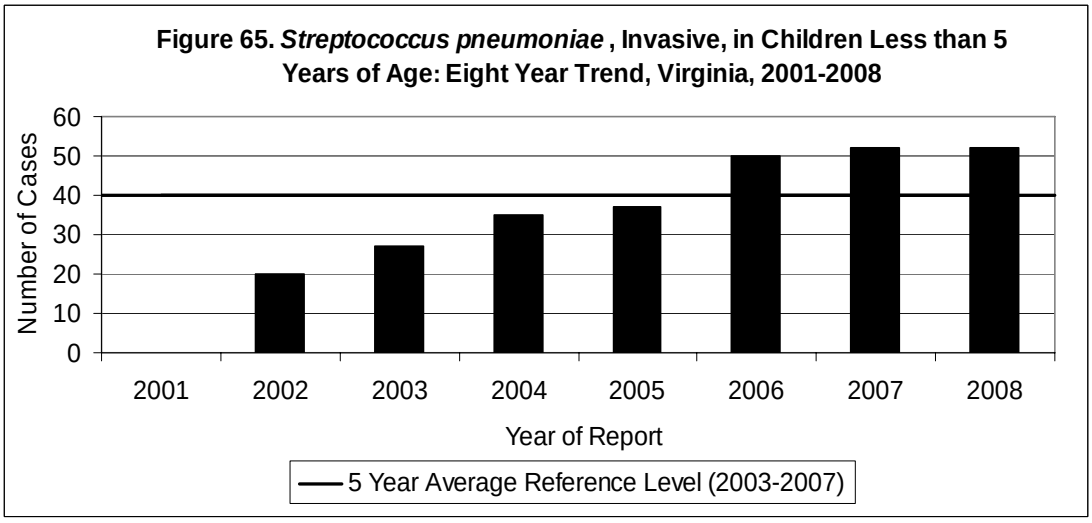
***Streptococcus pneumoniae*, Invasive, in Children Less than 5 Years of Age**

Agent: *Streptococcus pneumoniae* (bacteria)
Mode of Transmission: Person-to-person via droplet or direct contact with oral secretions from persons carrying the bacteria in their upper respiratory tract.
Signs/Symptoms: Invasive infections may affect the blood, lung, and lining of the brain and spinal cord and may cause fever, chills, and irritability. Headache, stiff neck, confusion, sleepiness, vomiting, and poor feeding can occur with meningitis.
Prevention: Routine immunization with pneumococcal conjugate vaccine as a 4-dose series for infants at 2, 4, 6, and 12 to 15 months of age. Pneumococcal infections can be hard to treat because of antibiotic resistance thus making prevention through vaccination even more important. Vaccine is also recommended for adults age 65 years or older and other persons at increased risk for infection.
Other Important Information: With the decline of invasive *Haemophilus influenzae* infections, *S. pneumoniae* has become the leading cause of bacterial meningitis among children less than 5 years of age in the United States.

Fifty-two cases of invasive *S. pneumoniae* infection in children less than 5 years of age were reported in Virginia during 2008. This represents no change from the 52 cases reported in 2007, and is the first year the number of reported cases did not increase since becoming a reportable condition in 2001 (Figure 65). However, the 52 cases do represent a 29% increase over the five year average of 40.2 cases per year.



Twenty-nine percent of the reported cases occurred in infants less than one year of age, resulting in an incidence rate of 14.5 per 100,000 for this age group. Incidence in children from the 1-4 year age group was 8.9 per 100,000. Among cases where race was reported, incidence was higher in the black population (12.7 per 100,000) than among the white and "other" populations (7.1 and 5.9 per 100,000, respectively). The rate of *S. pneumoniae* infection among males (11.0 per 100,000) was higher than the rate of infection in females (8.7 per 100,000). Although cases were reported from all regions of

the state, the highest incidence was seen in the southwest region (18.2 per 100,000). The rate in other regions ranged from 7.6 to 10.3 per 100,000. Cases occurred throughout the year, with the majority (67%) of illness having onset during the winter and early spring months, which is consistent with the pattern of pneumococcal infections. Among cases reported in 2008, one death was attributed to *S. pneumoniae* infection in a female child less than two years of age.