

Meningococcal Disease

Agent: *Neisseria meningitidis* (bacteria)

Mode of Transmission: Transmission occurs through contact with respiratory droplets from the nose or throat of an infected person (e.g., through coughing or kissing).

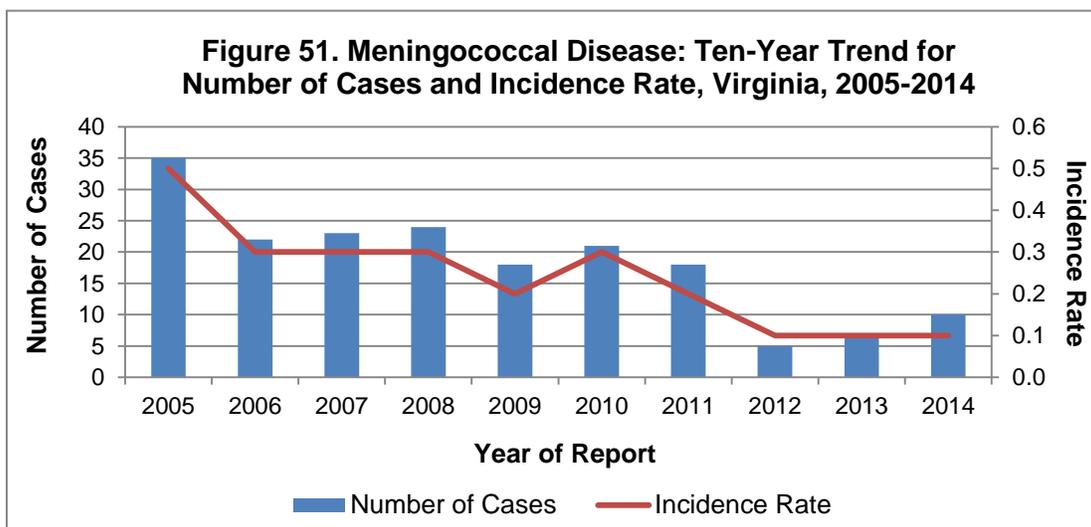
Signs/Symptoms: Meningitis is the most common presentation of invasive disease and includes sudden onset of fever, headache, and stiff neck, and often nausea, vomiting, sensitivity to light, and confusion. A rash may be present. A bloodstream infection may also occur (without meningitis), leading to abrupt onset of fever and a rash; it is often associated with shock and multi-organ failure. Less commonly, meningococcal disease can lead to pneumonia, arthritis, middle ear infections, or inflammation of the epiglottis.

Prevention: Almost all invasive disease is caused by one of five serogroups: A, B, C, W, and Y. The Advisory Committee on Immunization Practices (ACIP) recommends routine vaccination with a quadrivalent (protects against serogroups A, C, W, and Y) meningococcal conjugate vaccine for adolescents 11-18 years, and vaccination of those older than two months for certain groups at increased risk for meningococcal disease. In October 2014, the FDA approved the first serogroup B vaccine as a three-dose series. ACIP recommends use of a serogroup B meningococcal vaccine in certain persons aged 10 years or older who are at increased risk for meningococcal disease. Vaccination is also recommended to control outbreaks.

Other Important Information: Crowding, exposure to tobacco smoke, and preceding upper respiratory tract infections increase the risk of disease. Individuals with certain medical conditions, such as complement component deficiency (immunodeficiency disorders) and asplenia (no spleen), are also at increased risk for disease. Meningococcal disease is more commonly diagnosed among infants, adolescents, and young adults than other age groups. Five to ten percent of people carry *N. meningitidis* in their nose without having any symptoms of disease; those who develop the disease are usually infected by a carrier who does not have symptoms. The case-fatality for meningococcal disease is eight to fifteen percent, even with appropriate antibiotic therapy.

Meningococcal Disease: 2014 Data Summary	
Number of Cases:	10
5-Year Average Number of Cases:	13.8
% Change from 5-Year Average:	-28%
Incidence Rate per 100,000:	0.1

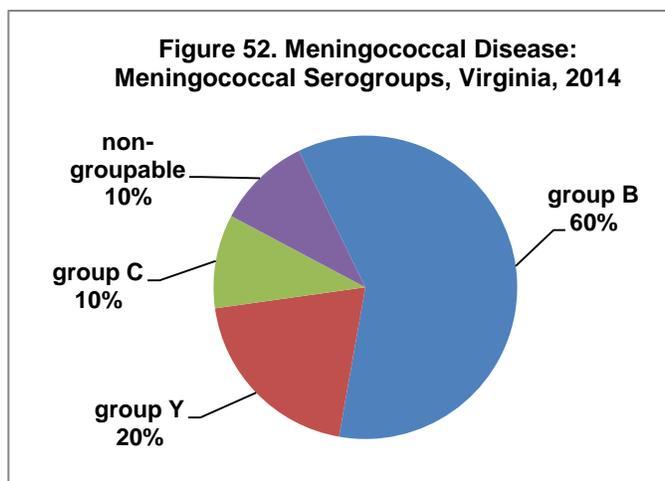
During 2014, ten cases of meningococcal disease were reported in Virginia, with a statewide incidence rate of 0.1 per 100,000 (Figure 51). The ten cases reported in 2014 represent an increase over the seven cases reported in 2013, but a 28% decrease from the five-year average of 13.8 cases per year. Rates of meningococcal disease have been declining in the U.S. and Virginia over the last two decades.



In Virginia, the 60 year and older age group accounted for four cases and an incidence rate of 0.3 cases per 100,000 persons. The 10-19 and 20-29 year age groups each accounted for two cases and an incidence rate of 0.2 per 100,000. The remaining two cases occurred in the 1-9 and 40-49 year age groups. Three cases occurred in the black population (0.2 per 100,000), and seven cases occurred in the white population (0.1 per 100,000). The incidence rate among males and females was similar (0.1 per 100,000, respectively).

Cases were reported from each health planning region with the northwest region having a slightly higher incidence (0.2 per 100,000), compared to the incidence of 0.1 per 100,000 in the remaining regions. See the map below for incidence rates by locality. While cases occurred throughout the year, four cases (40%) were reported during the fourth quarter.

Serogroup was reported for nine of ten (90%) cases. Group B was the most common serotype identified (six cases, 60%). Two cases (20%) were identified as serogroup Y, one (10%) case was serogroup C, and one (10%) case was non-groupable (Figure 52). Vaccination with a quadrivalent meningococcal vaccine was reported for three individuals. All three vaccinated cases were linked to disease caused by serogroup B. Two deaths were attributed to meningococcal disease in 2014, including one death in the 20-29 year age group, and one death in the 60 year and older age group. No outbreaks attributed to meningococcal disease were reported in 2014 in Virginia.



Meningococcal Disease Incidence Rate by Locality Virginia, 2014

