

2008 Georgia Data Summary:

MENINGOCOCCAL DISEASE



Meningococcal disease is an acute bacterial infection. The main forms of the disease are meningitis (infection of the fluid and linings around the brain and spinal cord) and meningococcal sepsis (severe illness with presence of bacteria in the blood).

WHAT CAUSES IT?

Meningococcal disease is caused by the bacterium *Neisseria meningitidis* or meningococcus. These bacteria are found only in humans. There are multiple meningococcal serogroups (types) but the most important of these are A, B, C, Y, & W-135.

WHAT ARE THE SYMPTOMS?

Meningitis is characterized by high fever, headache, and stiff neck. Other symptoms may include nausea, vomiting, confusion, sleepiness, and sensitivity to light. Sepsis causes high fever, low blood pressure, and severe malaise. Meningococcal sepsis is sometimes associated with a characteristic petechial or purpuric rash. Petechiae are pinpoint spots that do not blanch with pressure, and purpura are patches of bluish discoloration similar to bruises. Both are caused by bleeding into the skin.

HOW IS IT TRANSMITTED?

Meningococcal bacteria are spread during close contact by droplets of saliva from an infected patient or an asymptomatic carrier. Droplets may spread through kissing, sharing eating utensils or drinks, or possibly by cigarettes, toothbrushes, lip balm, etc. Meningococci are not spread through casual contact or simply being in the same room with an infected person, although intensely crowded conditions may enhance spread.

WHO IS AT RISK?

Risk groups for meningococcal disease include household contacts of case patients, military recruits, college freshmen living in dormitories, persons without a functional spleen or with complement component deficiency (a specific immune system problem), and people exposed to tobacco smoke. Rates of meningococcal disease are highest during infancy, then fall during childhood, and rise again during adolescence.

CAN MENINGOCOCCAL DISEASE BE TREATED?

Meningococcal disease must be treated with antibiotics, but early recognition and treatment are essential to a good outcome.

IS THERE A VACCINE FOR MENINGOCOCCAL DISEASE?

Yes. Currently (2009), there are two meningococcal vaccines available in the United States:

- 1) Meningococcal polysaccharide vaccine (Menomune®, or MPSV4) has been available since 1981.
- 2) Meningococcal conjugate vaccine (Menactra®, or MCV4) was licensed in 2005, and is recommended routinely for adolescents beginning at age 11 years.

MCV4 is generally preferred to MPSV4 because it is likely to trigger a more robust immune response and long-term protection. Both vaccines prevent 4 serogroups of meningococcal disease (A, C, Y, W-135), including 2 of the 3 most common types in the U.S. (serogroups B, C, Y) and protect travelers from serogroup A, which causes epidemics in Africa and other countries.

WHO SHOULD BE VACCINATED?

The Advisory Committee on Immunization Practices (ACIP) recommends routine vaccination of all persons aged 11 to 18 years with 1 dose of MCV4 at the earliest opportunity. College freshmen living in dormitories are also at increased risk for disease and should be vaccinated with MCV4 before college entry if they have not been vaccinated previously.

ACIP also recommends that children aged 2 to 10 years who are at increased risk for meningococcal disease be vaccinated with MCV4. These children include travelers to or residents of countries in which the disease is hyperendemic or epidemic, children who have terminal complement component deficiencies, and children who have anatomic or functional asplenia.

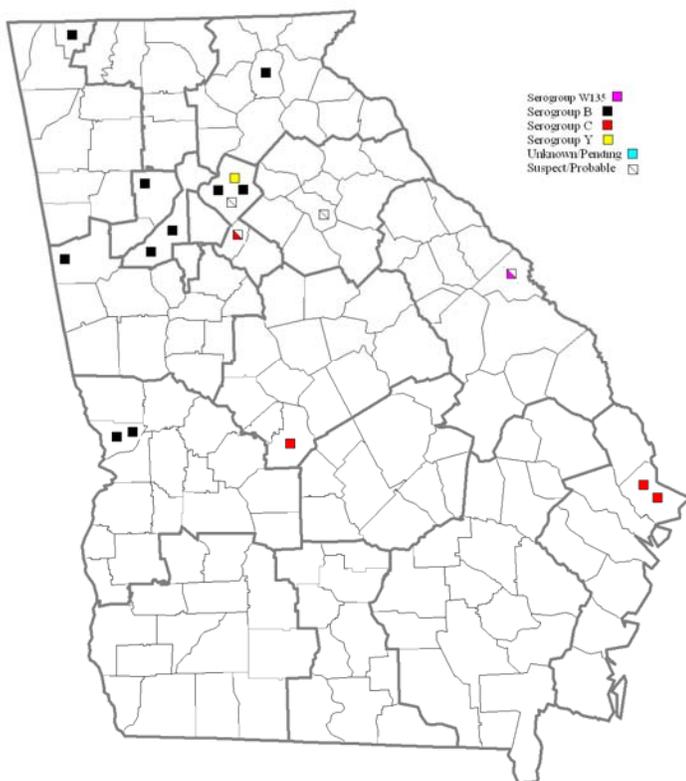
DOES THE VACCINE PREVENT ALL MENINGOCOCCAL DISEASE?

No. Currently available vaccines do not protect against serogroup B meningococcal disease.

HOW CAN SEROGROUP B MENINGOCOCCAL DISEASE BE PREVENTED?

General meningococcal prevention measures include avoiding first and second-hand tobacco smoke, using cough etiquette, and minimizing shared saliva.

Neisseria meningitidis Cases by Serogroup
Georgia, 2008

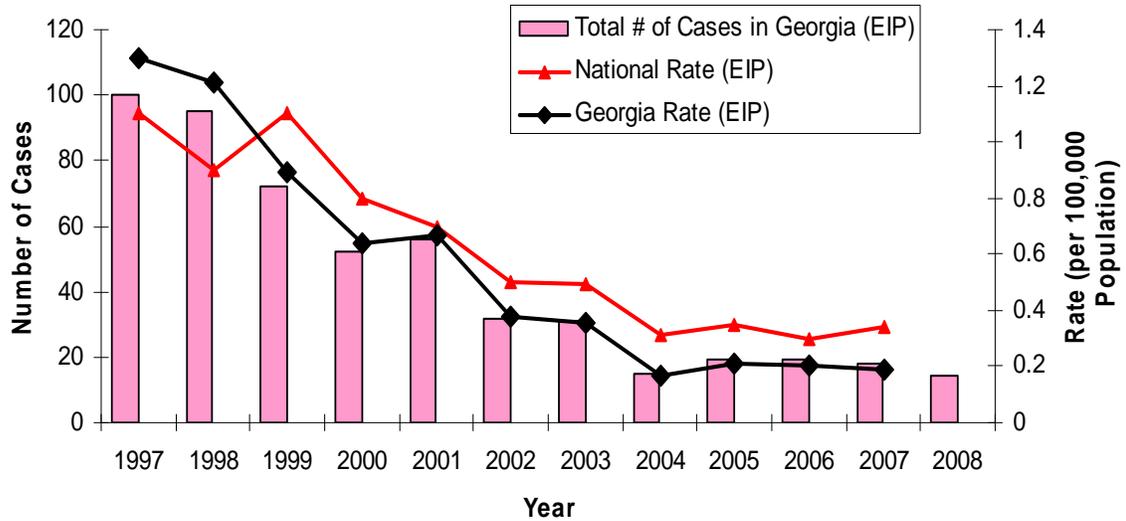


Facts about Meningococcal Disease in Georgia

- Meningococcal Disease has always been under surveillance in Georgia but became actively monitored in the entire state of Georgia since 1997, using resources provided through the Emerging Infections Program (EIP).
 - In 2008, 18 cases of meningococcal disease were reported in Georgia, including 3 deaths.
 - As indicated on the map to the left, 10 cases were caused by serogroup B, 6 cases were caused by serogroups C, Y, and W-135, and 2 were caused by unknown serogroups.
 - The rate of meningococcal disease in Georgia (defined by the number of cases per 100,000 population) has been lower than that of the U.S. for the past 9 years according to data from the Emerging Infections Program.
- Adolescents are at increased risk for meningococcal disease. Fortunately, there is a vaccine recommended for routine use in adolescents that prevents meningococcal disease caused by serogroups A, C, Y, and W-135.
 - In Georgia, two adolescents died as a result of infection by a vaccine-preventable serogroup of *Neisseria meningitidis* during 2007 and 2008.

Meningococcal Disease in Georgia & the U.S.

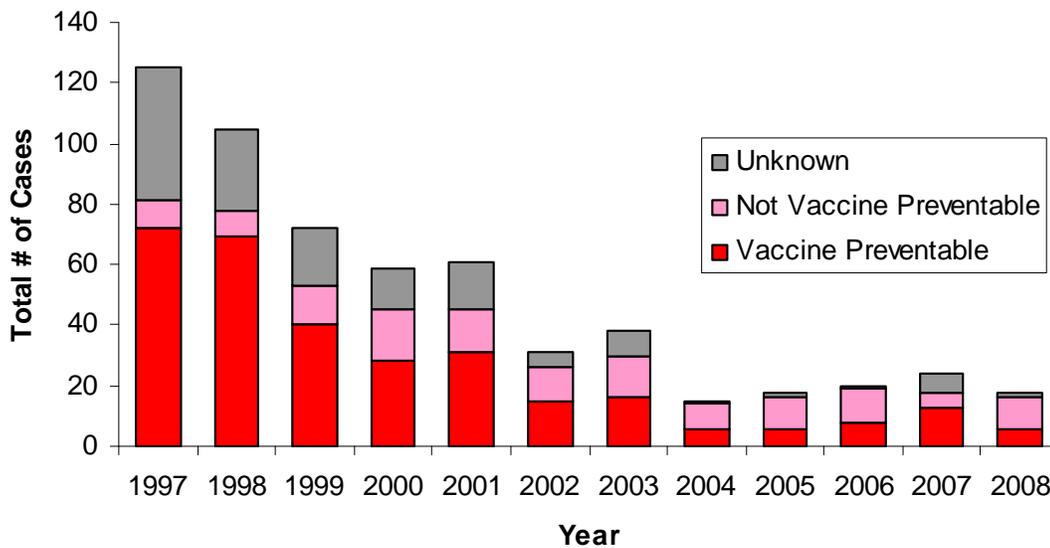
Meningococcal Disease Cases in Georgia, 1997-2008 & Disease Rate in Georgia and the U.S., 1997-2007 (EIP)



Source: Emerging Infections Program (EIP)

*The rate of disease in Georgia and the U.S. is not calculated for the year 2008 as population estimates are not yet available.

Meningococcal Disease Cases in Georgia, 1997-2008



Source: State Electronic Notifiable Disease Surveillance System (SENDSS)

Investigation of Meningococcal Disease Cases in Georgia

- In Georgia, all cases of meningococcal disease are immediately notifiable to the Georgia Division of Public Health. Cases may be reported by hospital personnel including infection control practitioners and nursing staff, lab personnel, and physicians across the state.
- All cases of meningococcal disease are investigated by district health department personnel in collaboration with the Georgia Division of Public Health.
- Investigations entail interviewing case patients and/or family members to determine any close contacts and/or determining vaccination history, reviewing medical records, and confirmation of diagnosis.
- Close contacts include household members as well as others who might have come into contact with the saliva of a case patient through sharing of utensils, cups, cigarettes, or lip balm.
- Georgia Public health departments ensure antibiotic prophylaxis to all close contacts of a case patient in order to prevent spread of the disease. Close contacts may also be offered educational materials providing information on symptoms and spread of disease as well as other useful information about the disease.
- While meningitis is one type of presentation of meningococcal disease, not all cases of meningitis result from meningococcal disease. Examples include cases of viral meningitis or meningitis caused by other bacterial pathogens such as: *Streptococcus pneumoniae*, Group B *Streptococcus*, *Staphylococcus aureus*, etc. Such cases do not require antibiotic prophylaxis for close contacts.

Web-Based Resources of Meningococcal Disease Information

Georgia Division of Public Health: Acute Disease Epidemiology Section: Invasive Bacterial Diseases:

<http://health.state.ga.us/epi/bacterial/>

Centers for Disease Control & Prevention: Meningococcal Disease:

<http://www.cdc.gov/meningitis/tech-clinical.htm>

Georgia Immunization Program:

<http://health.state.ga.us/programs/immunization/>

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