

May 2, 2024

Health Notice for District of Columbia Healthcare Providers Increase in Invasive Serogroup Y Meningococcal Disease in the United States

SUMMARY

The Health Advisory issued by the Centers for Disease Control and Prevention (CDC) through the Health Alert Network (HAN) aims to notify healthcare providers about a surge in invasive meningococcal disease, primarily linked to *Neisseria meningitidis* serogroup Y. In 2023, 422 cases were reported in the United States, marking the highest annual count since 2014¹. As of March 25, 2024, there were 143 reported cases for the year, reflecting a significant increase of 62 cases compared to the 81 reported during the same period in 2023¹. Notably, a particular strain of meningococcal bacteria, known as sequence type (ST) 1466, accounted for the majority (101 out of 148, 68%) of serogroup Y cases with available sequence type data reported nationwide in 2023. These cases predominantly affected people aged 30–60 years (65%), Black or African American people (63%) and those with HIV (15%). Moreover, most cases caused by the ST-1466 strain in 2023 presented with clinical symptoms other than meningitis: 64% manifested as bacteremia, with at least 4% presenting with septic arthritis¹. Among 94 patients with documented outcomes, 17 (18%) succumbed to the illness, indicating a higher case-fatality rate compared to the historical rate of 11% reported for serogroup Y cases between 2017 and 2021. Between 2022 and 2023, the DC Department of Health (DC Health) confirmed three cases of meningococcal disease, all involving people of Black-African descent. Specifically, one case, identified as an HIV-positive man who has sex with men, was conclusively linked to the outbreak of meningococcal disease caused by *Neisseria meningitidis* serogroup Y in Virginia. Healthcare providers are strongly encouraged to maintain awareness of *Neisseria meningitidis*, serogroup Y cases and promptly report suspected and confirmed cases to DC Health. Healthcare providers should:

1. Maintain a heightened suspicion for meningococcal disease, especially among populations disproportionately affected by the current increase.
2. Recognize that patients may present without typical symptoms of meningitis.
3. Ensure that all individuals recommended for meningococcal vaccination, including those with HIV, are up to date with their meningococcal vaccines.

BACKGROUND

Meningococcal disease is a serious and potentially life-threatening infection (case-fatality rate of 10-15%) caused by the bacterium *Neisseria meningitidis*¹. *N. meningitidis* can be classified into 12 serogroups based on its capsular polysaccharide; serogroups A, B, C, W, X and Y are the primary causes of meningococcal disease worldwide. The four serogroups B, C, W and Y circulate in the United States. Humans are the only natural reservoir for *N. meningitidis*¹. Meningococcal bacteria can be transmitted from person-to-person, by asymptomatic carriers or persons with invasive disease, through direct contact with large droplet respiratory secretions or saliva.

Meningococcal disease is a sudden-onset, life-threatening illness usually presenting as meningitis or meningococemia. Typical symptoms of meningitis include fever, headache and stiff neck, while symptoms

of meningococemia commonly include fever, chills, fatigue, vomiting, diarrhea, cold extremities and severe body pains, or, in later stages, a dark purple rash^{2,3,4}. While initial symptoms may be nonspecific, they worsen rapidly, with the disease becoming life-threatening within hours. Immediate antibiotic treatment is crucial, as most patients with meningococcal meningitis caused by *N. meningitidis* can fully recover with prompt antibiotic therapy. The use of antibiotics has dramatically reduced mortality due to meningococcal disease, but even with prompt and appropriate antimicrobial treatment the case-fatality ratio remains 10%–15%, and may be as high as 40% among patients with meningococemia¹. Of those who survive invasive disease, 10%–20% experience sequelae, including limb loss from gangrene, extensive skin scarring, neurosensory hearing loss, mild to moderate cognitive defects or seizure disorders.

The serogroup Y ST-1466 strain has contributed to previously reported increases in meningococcal disease in people with HIV. Based on updated surveillance data, 24 ST-1466 cases have now been reported in people with HIV in 2022–2023; only four were previously vaccinated with MenACWY and none were up to date on recommended doses¹. To date, no other ST-1466 cases have been identified in people who previously received MenACWY vaccine. Serogroup Y ST-1466 isolates tested to date have been susceptible to all first-line antibiotics recommended for treatment and prophylaxis. This strain is distinct from ciprofloxacin-resistant serogroup Y strains that are also circulating in the United States and that are disproportionately affecting Hispanic individuals¹.

Outbreaks of serogroup C meningococcal disease have occurred among MSM in the United States. MSM also face higher risk for meningococcal disease outside of outbreaks, although the overall incidence remains low. HIV infection could contribute significantly to this heightened risk, especially outside of outbreak settings³. Vaccines against serogroups A, C, W, Y (MenACWY) and serogroup B (MenB) are available in the United States. MenACWY vaccines are routinely recommended for adolescents and for people with other risk factors or underlying medical conditions, including HIV^{3,4}.

RECOMMENDATIONS FOR HEALTHCARE PROVIDERS

This health notice aims to alert healthcare providers to the increasing incidence of invasive meningococcal disease, especially among individuals aged 30–60 years and those of Black or African American descent. DC Health will continue to submit all meningococcal isolates to the CDC for whole-genome sequencing and monitoring antimicrobial disease cases. It is recommended that clinicians:

- Maintain a heightened suspicion for invasive meningococcal disease and start immediate antibiotic treatment for persons with suspected meningococcal disease. Blood and cerebrospinal fluid (CSF) cultures are indicated for patients with suspected meningococcal disease^{1,2}.
- Recognize that invasive meningococcal disease may affect people of any age or demographic group^{1,2}.
 - Current increases in disease are disproportionately affecting people ages 30–60 years, Black or African American people and people with HIV.
- Be aware that patients with invasive meningococcal disease may present with bloodstream infection or septic arthritis and without symptoms typical of meningitis (e.g., headache, stiff neck).
- Ensure that all people recommended for meningococcal vaccination are up to date for meningococcal vaccines^{1,2,3}.

- All 11–12-year-olds should receive a MenACWY vaccine. Since protection wanes, CDC recommends a booster dose at age 16 years.
- For people at increased risk due to medical conditions (e.g., with HIV), recommended vaccination includes a 2-dose primary MenACWY series with booster doses every 3–5 years, depending on age.
- Menactra has been discontinued from the immunization schedule in the US, with remaining doses expired in October 2023. It has been replaced by the new pentavalent meningococcal vaccine, Penbraya⁵.

ADDITIONAL RESOURCES

- [Meningococcal Disease Surveillance | CDC](#)
- [Meningococcal Disease Outbreaks and Public Health Response | CDC](#)
- [Selection of Antibiotics as Prophylaxis for Close Contacts of Patients with Meningococcal Disease in Areas with Ciprofloxacin Resistance — United States, 2024 Clinical information | Meningococcal Disease | CDC](#)
- [Meningococcal Vaccination: Information for Healthcare Professionals | CDC](#)
- [Signs and Symptoms | Meningococcal Disease | CDC](#)
- [Meningococcal Vaccination | CDC](#)

REPORTING REQUIREMENTS

Confirmed and suspected cases of Meningitis (*Neisseria meningitidis*) must be reported immediately (within 24 hours) by telephone at 844-493-2652 or by submitting a [Notifiable Disease and Condition Case Report Form](#) online using the DC Reporting and Surveillance Center (DCRC), which can be found on our Infectious Diseases website dchealth.dc.gov/node/143092

REFERENCES

1. Centers for Disease Control and Prevention. (2024). Increase in Invasive Serogroup Y Meningococcal Disease in the United States. Retrieved from <https://emergency.cdc.gov/han/2024/han00505.asp>
2. American Academy of Pediatrics. Summaries of infectious diseases: meningococcal infections. [Section 3]. In: Kimberlin DW, Barnett ED, Lynfield R, Sawyer MH, eds. Red book: 2021–2024 report of the Committee on Infectious Diseases. Itasca, IL: American Academy of Pediatrics; 2021:519–32.
3. Mbaeyi SA, Bozio CH, Duffy J, et al. Meningococcal Vaccination: Recommendations of the Advisory Committee on Immunization Practices, United States, 2020. *Morbidity and Mortality Weekly Report Recommendations and Report* 2020;69(No. RR-9):1–41. DOI: <http://dx.doi.org/10.15585/mmwr.rr6909a1>
4. Rubis AB, Howie RL, Marasini D, Sharma S, Marjuki H, McNamara LA. Notes from the Field: Increase in Meningococcal Disease Among Persons with HIV — United States, 2022. *Morbidity Mortality Weekly Report* 2023; 72:663–664. <https://www.cdc.gov/mmwr/volumes/72/wr/mm7224a4.htm>
5. Wodi AP, Murthy N, McNally V, Daley MF, Cineas S. Advisory Committee on Immunization Practices Recommended Immunization Schedule for Children and Adolescents Aged 18 Years or Younger —

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**Please contact the DC Health Division of Epidemiology-Disease Surveillance and Investigation
at: Phone: (202) 535-1825/442-8141 (8:15 am-4:45 pm) | 844-493-2652 (after-hours calls) |
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