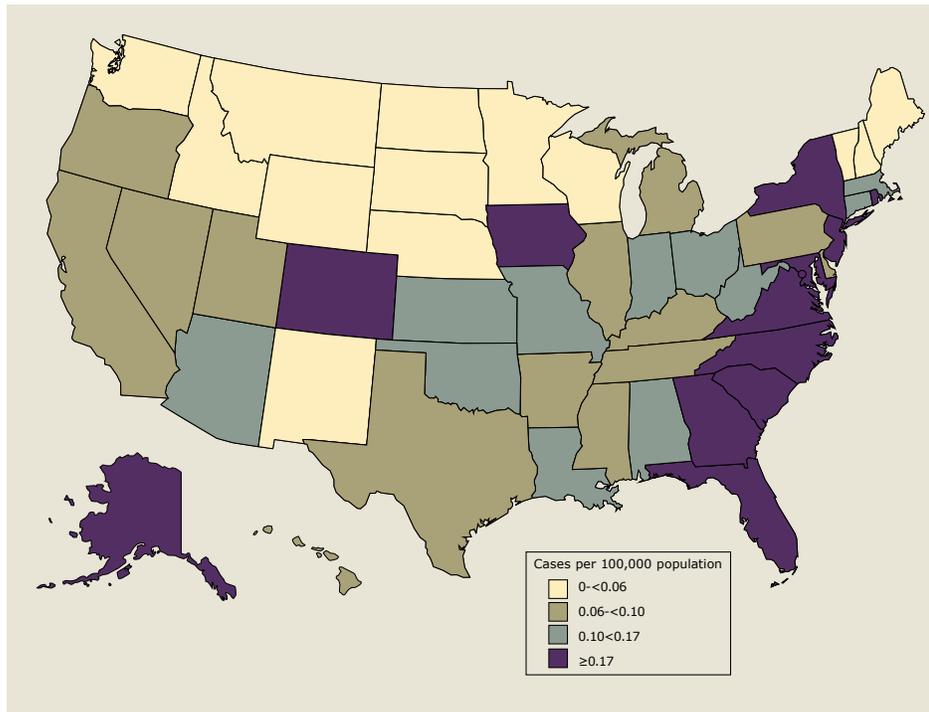


2023 EMDS Surveillance Report



Confirmed and Probable Cases Reported to the National Notifiable Diseases Surveillance System, 2023



As part of Enhanced Meningococcal Disease Surveillance (EMDS)*, additional data and isolates were collected from 50 state and 3 large jurisdiction health departments. In 2023, the population under surveillance was 334,914,895. EMDS focuses on: (1) collecting isolates from all cases; and (2) collecting complete case information, with an emphasis on college attendance for cases in people aged 15–24 years; history of sex with men for cases in males aged ≥16 years; and information on homelessness for all cases.

CSTE case definition: A confirmed case was defined as isolation of *Neisseria meningitidis* or detection of *N. meningitidis* by PCR from a normally sterile body site.

A probable case was defined as detection of *N. meningitidis* antigen by latex agglutination or immunohistochemistry.

** Funding for EMDS is provided by CDC through the Epidemiology and Laboratory Capacity for Infectious Diseases (ELC) Cooperative Agreement.

Meningococcal Disease Cases and Incidence by Serogroup and Age

Age (years)	B No. (Incidence [†])	C No. (Incidence [†])	W No. (Incidence [†])	Y No. (Incidence [†])	Nongroupable No. (Incidence [†])	Other/ Unknown No. (Incidence [†])	Total No. (Incidence [†])
<1	4 (0.11)	2 (0.05)	0 (0.00)	3 (0.08)	0 (0.00)	3 (0.08)	12 (0.33)
1–4	8 (0.05)	4 (0.03)	1 (0.01)	3 (0.02)	0 (0.00)	1 (0.01)	17 (0.11)
5–10	0 (0.00)	3 (0.01)	0 (0.00)	3 (0.01)	0 (0.00)	1 (0.00)	7 (0.03)
11–15	1 (0.00)	1 (0.00)	0 (0.00)	0 (0.00)	2 (0.01)	1 (0.00)	5 (0.02)
16–23	11 (0.03)	0 (0.00)	0 (0.00)	5 (0.01)	18 (0.05)	4 (0.01)	38 (0.11)
24–44	11 (0.01)	17 (0.02)	8 (0.01)	69 (0.07)	12 (0.01)	7 (0.01)	124 (0.13)
45–64	14 (0.02)	18 (0.02)	7 (0.01)	88 (0.11)	12 (0.01)	11 (0.01)	150 (0.18)
≥65	6 (0.01)	7 (0.01)	1 (0.00)	59 (0.10)	4 (0.01)	7 (0.01)	84 (0.14)
Total	55 (0.02)	52 (0.02)	17 (0.01)	230 (0.07)	48 (0.01)	35 (0.01)	437 (0.13)

Includes all confirmed and probable cases reported from all jurisdictions. [†] Cases per 100,000 population. ^{*}Includes 1 serogroup A case and 1 serogroup E case

Case Fatality

Serogroup	No. deaths	CFR [†]
B	9	16.4
C	5	9.6
W	3	17.7
Y	22	9.6
NG	4	8.3
Unknown	3	9.1
Overall	46	10.5

Age (years)	No. deaths	CFR [†]
<1	2	16.7
1–4	1	5.9
5–10	0	0.0
11–15	0	0.0
16–23	0	0.0
24–44	17	13.7
45–64	12	8
≥65	14	16.7
Overall	46	10.5

Includes all confirmed and probable cases reported from all jurisdictions

[†] Case fatality ratio (CFR): deaths per 100 cases with known outcome; 0 cases with unknown outcome.

Laboratory Confirmation Method

92.0% (402/437) of confirmed cases were confirmed by culture; of those 347 (86.3%) had isolates submitted to CDC.

6.9% (30/437) of confirmed cases were confirmed by PCR.

1.1% (5/437) of confirmed cases had unknown laboratory confirmation method.

Outbreaks

98.6% (431/437) of cases had information on association with an outbreak; of those, 38 (8.8%) were part of an outbreak. 21 of these 38 cases (55.3%) were related to a large NmY community outbreak in Virginia.¹

Complement inhibitor use

84.2% (368/437) of cases had information on use of a complement component inhibitor; of those, 7 (1.9%) were in people taking a complement inhibitor.

Homelessness

97.3% (425/437) of cases had information on homelessness; of those, 21 (4.9%) were among people experiencing homelessness.

History of sex with men among cases in men

Among cases in men aged ≥16 years, 69.9% (158/226) had information on history of sex with men; of those, 21 (13.3%) were identified as men who had sex with men (MSM).

Antibiotic-resistant serogroup Y

230 NmY cases were reported. 212 (92.2%) had isolates available for characterization at CDC; of those, 24 (11.3%) were found to be ciprofloxacin- and penicillin-resistant, and 22 (10.4%) were found to be penicillin-resistant only. 1 additional ciprofloxacin- and penicillin-resistant case was identified in a non-United States resident who sought care in the United States.

College attendance among cases in people aged 18-24 years

Among cases in people aged 18-24 years, 100% (33/33) had information on college attendance; 13 (39.4%) were in people attending college.

Meningococcal Disease Cases and Incidence by Serogroup and College Attendance*

College Attendance	B No. (Incidence [†])	C No. (Incidence [†])	W No. (Incidence [†])	Y No. (Incidence [†])	Nongroupable No. (Incidence [†])	Total** No. (Incidence [†])
Attending college [‡]	2 (0.02)	0 (0.00)	0 (0.00)	0 (0.00)	10 (0.09)	13 (0.11)
Not attending college [‡]	6 (0.03)	0 (0.00)	0 (0.00)	4 (0.02)	7 (0.04)	20 (0.11)

*Among cases in people aged 18-24 years. ** Includes 3 cases with unknown serogroup and 1 serogroup E case. [†] Cases per 100,000 population. [‡] Assumes 38.3% of 18-24 year olds attending college²

Vaccination Status among patients 18-24 years

MenACWY (meningococcal conjugate vaccine) receipt:

College students: 92.3% (12/13) had information on MenACWY receipt; of those 91.7% received ≥1 dose of MenACWY.

Persons not attending college: 90% (18/20) had information on MenACWY receipt; of those 72.2% received ≥1 dose of MenACWY.

MenB (serogroup B meningococcal vaccine) receipt:

College students: 84.6% (11/13) had information on MenB receipt; of those 45.5% received ≥ 1 dose of MenB.

Persons not attending college: 45% (9/20) had information on MenB receipt; of those 11.1% received ≥ 1 dose of MenB.

HIV Infection among Meningococcal Disease Cases

Data collected on HIV status will allow CDC to assess the impact of the Advisory Committee on Immunization Practices recommendation for use of MenACWY vaccination in people with HIV (PWH)³

58.8% (257/437) of cases had information on HIV status; of those, 27 (10.5%) were identified as PWH.

¹ Robinson M, Crain J, Kendall B, et al. Statewide Outbreak of Neisseria meningitidis Serogroup Y, Sequence Type 1466 — Virginia, 2022–2024. *MMWR Morb Mortal Wkly Rep* 2024;73:973–977. DOI: <http://dx.doi.org/10.15585/mmwr.mm7343a3>.

² U.S. Department of Education. Institute of Education Sciences NCES. Integrated Postsecondary Education Data System Fall Enrollment Survey. <https://nces.ed.gov/ipeds/Home/UseTheData,2015>.

³ MacNeil JR, Rubin LG, Patton M, Ortega-Sanchez IR, Martin SW. Recommendations for Use of Meningococcal Conjugate Vaccines in HIV-Infected Persons — Advisory Committee on Immunization Practices, 2016. *MMWR Morb Mortal Wkly Rep* 2016;65:1189–1194. DOI: <http://dx.doi.org/10.15585/mmwr.mm6543a3>.

