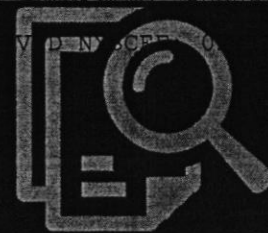
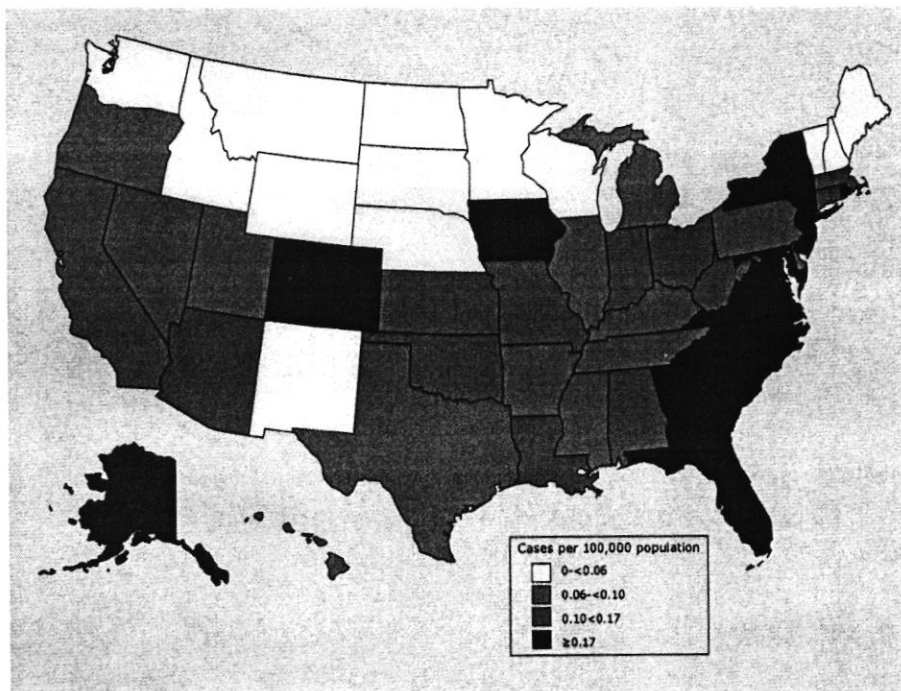


2023 EMDS Surveillance Report



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



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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 college[‡]

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>.