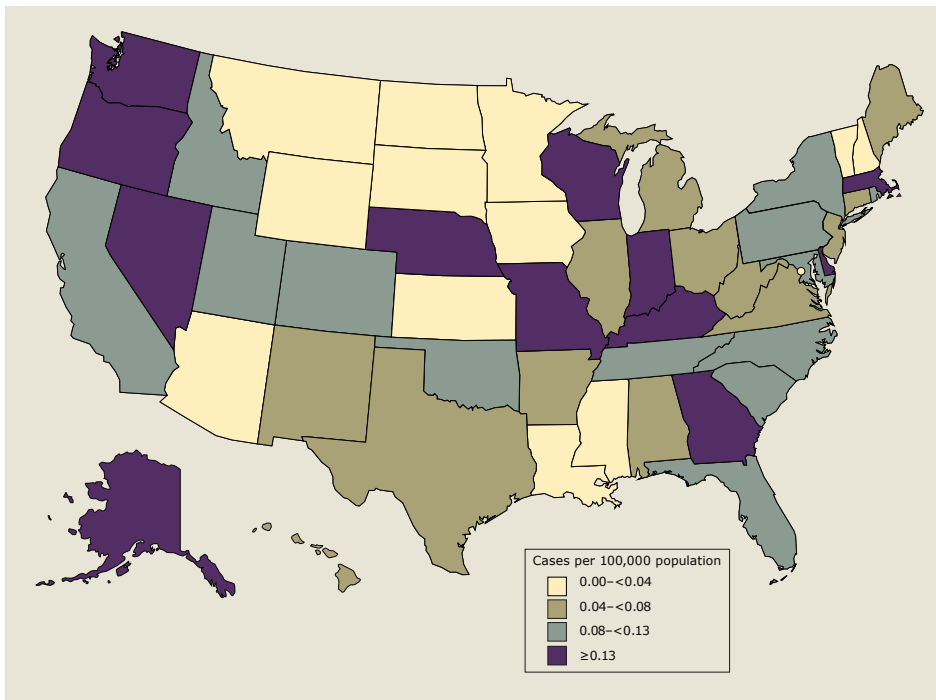


Enhanced Meningococcal Disease Surveillance Report, 2018*



Confirmed and Probable Cases Reported to the National Notifiable Diseases Surveillance System, 2018



As part of Enhanced Meningococcal Disease Surveillance (EMDS)**, additional data and isolates were collected from 45 state and 3 large jurisdiction health departments. In 2018, the population under surveillance was 320,863,137 or 98 % of the U.S. population. EMDS focuses on: (1) collecting isolates from all cases; and (2) collecting complete case information, with an emphasis on college attendance for cases 15–24 years; history of sex with men for male cases ≥16 years; and HIV infection status 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.

*Delaware, Hawaii, Idaho, South Dakota, Wyoming, and the District of Columbia did not participate in EMDS; cases reported from these jurisdictions are only included in the map, incidence, and CFR tables (n=5). All other information is for cases from participating EMDS jurisdictions only (n=324).

**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	21 (0.55)	6 (0.16)	2 (0.05)	1 (0.03)	2 (0.05)	0 (0.00)	32 (0.83)
1–4	12 (0.08)	10 (0.06)	1 (0.01)	4 (0.03)	1 (0.01)	1 (0.01)	29 (0.18)
5–10	2 (0.01)	4 (0.02)	0 (0.00)	1 (0.00)	2 (0.01)	0 (0.00)	9 (0.04)
11–15	6 (0.03)	1 (0.00)	0 (0.00)	0 (0.00)	0 (0.00)	0 (0.00)	7 (0.03)
16–23	21 (0.06)	3 (0.01)	0 (0.00)	0 (0.00)	8 (0.02)	2 (0.01)	34 (0.10)
24–44	16 (0.02)	21 (0.02)	3 (0.00)	9 (0.01)	6 (0.01)	10 (0.01)	65 (0.07)
45–64	25 (0.03)	22 (0.03)	7 (0.01)	14 (0.02)	3 (0.00)	8 (0.01)	79 (0.09)
≥65	16 (0.03)	23 (0.04)	4 (0.01)	19 (0.04)	5 (0.01)	7 (0.01)	74 (0.14)
Total	119 (0.04)	90 (0.03)	17 (0.01)	48 (0.01)	27 (0.01)	28 (0.01)	329 (0.10)

Includes all confirmed and probable cases reported from all jurisdictions; [†]Cases per 100,000 population; and [‡]includes 1 serogroup E case.

National Center for Immunization and Respiratory Diseases
Office of Infectious Diseases



Case Fatality

Serogroup	No. deaths	CFR [†]
B	9	7.6
C	13	14.8
W	4	23.5
Y	7	14.6
NG	2	7.4
Unknown	4	16.7
Overall	39	12.0

Age (years)	No. deaths	CFR [†]
<1	4	12.9
1–4	0	0.0
5–10	0	0.0
11–15	0	0.0
16–23	0	0.0
24–44	7	10.9
45–64	11	14.1
≥65	17	23.3
Overall	39	12.0

Includes all confirmed and probable cases reported from all jurisdictions; [†]Case fatality ratio (CFR): deaths per 100 cases with known outcome; 4 (1%) cases with unknown outcome.

Laboratory Confirmation Method

89.7% (287/320) of confirmed cases were confirmed by culture; of those 250 (87.1%) had isolates submitted to CDC.

6.3% (20/320) of confirmed cases were confirmed by PCR.

3.1% (10/320) of confirmed cases had unknown laboratory confirmation method.

Outbreaks

97.2% (315/324) of cases had information on association with an outbreak; of those, 18 (5.7%) were part of an outbreak.

Complement inhibitor use

77.8% (252/324) of cases had information on use of a complement component inhibitor; of those, 4 (1.2%) were taking eculizumab.

Homelessness

95.1% (308/324) of cases had information on homelessness; of those, 16 (5.2%) were identified as homeless.

History of sex with men among male cases

Among male cases aged ≥16 years, 73.0% (84/115) had information on history of sex with men; of those, 5 (6.0%) were identified as men who had sex with men (MSM).

College attendance among cases 18-24 years

Among cases in patients aged 18-24 years, 100% (34/34) had information on college attendance; 18 (52.9%) were attending college.

Symptoms

69.1% (224/324) of cases had symptom information available; of those 5 (2.2%) had gastrointestinal symptoms (nausea, vomiting, or diarrhea) in the absence of typical meningococcal symptoms (headache, fever, neck stiffness, rash).

Meningococcal Disease Cases and Incidence by Serogroup and College Attendance*

	B No. (Incidence [†])	C No. (Incidence [†])	W No. (Incidence [†])	Y No. (Incidence [†])	Nongroupable No. (Incidence [†])	Total** No. (Incidence [†])
Attending college [‡]	11 (0.10)	0 (0.00)	0 (0.00)	0 (0.00)	6 (0.05)	18 (0.16)
Not attending college [‡]	9 (0.05)	5 (0.03)	0 (0.00)	0 (0.00)	1 (0.01)	16 (0.08)

*Among cases 18-24 years. **Includes 1 case with unknown serogroup and 1 serogroup E case. [†]Cases per 100,000 population; and [‡]assumes 38.3% of 18-24 year olds attending college¹

Vaccination Status among cases 18-24 years

MenACWY* vaccine receipt:

College students: 100% (18/18) had information on MenACWY receipt; of those 94.4% received MenACWY.

Persons not attending college: 50.0% (8/16) had information on MenACWY receipt; of those 75.0% received MenACWY.

MenB** vaccine receipt:

College students: 77.8% (14/18) had information on MenB receipt; of those 14.3% received MenB.

Persons not attending college: 50.0% (8/16) had information on MenB receipt; of those 0 received MenB.

*MenACWY = meningococcal conjugate vaccine, **MenB = serogroup B meningococcal vaccine.

HIV Infection among Meningococcal Disease Cases*

Data collected on HIV status will allow CDC to assess the impact of the recent Advisory Committee on Immunization Practices recommendation for use of MenACWY vaccination in HIV-infected persons.²

55.9% (181/324) of cases had information on HIV status; of those, 5 (2.8%) were identified as HIV-infected.

www.cdc.gov/meningococcal



¹U.S. Department of Education. Institute of Education Sciences NCFES. Integrated Postsecondary Education Data System Fall Enrollment Survey. <https://nces.ed.gov/ipeds/Home/UseTheData>, 2015.

²MacNeil 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>.