

Meningococcal Invasive Disease

2008 Case Total	17	2008 Rate	0.47 per 100,000
2007 Case Total	23	2007 Rate	0.67 per 100,000

Meningococcal disease incidence continues on a downward trend in the state and in the nation. Reported cases of meningococcal disease in the state decreased 35% from 2007. Age-specific incidence rates indicate the highest rates occurred among persons over 80, followed by those less than 20 years old (refer to graph). In 2008, 16 (94%) cases were hospitalized, and five deaths occurred due to meningococcal disease, resulting in a case fatality rate of 29%.

Laboratory specimens are required to be forwarded to the OSDH Public Health Lab for confirmation of the causative organism, *Neisseria meningitidis*, and for serogroup identification. Serogroups B (23.5%) and Y (23.5%) accounted for the greatest proportion of isolates for which a serogroup was confirmed.

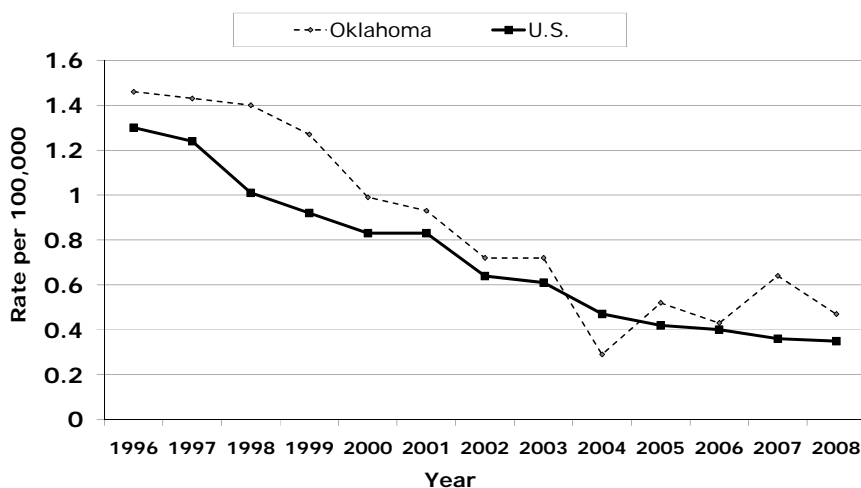
Demographic and Clinical Summary of Reported Meningococcal Invasive Disease Cases, Oklahoma, 2008

	Number (%)	Incidence Rate per 100,000
Gender (N = 17)		
Male	9 (52.94%)	0.50
Female	8 (47.06%)	0.43
Ages (N=17)	Median = 23.5 years (range: 7 months - 86 years)	
<10 years	4	0.78
10-19 years	4	0.81
20-29 years	1	0.18
30-39 years	1	0.22
40-49 years	1	0.20
50-59 years	2	0.42
60-69 years	1	0.30
70-79 years	2	0.97
80+ years	1	0.72
Race (N=15)		
White	12 (80%)	0.42
African American or Black	2 (13.33%)	0.69
American Indian or Alaska Native	1 (1.67%)	0.34
Hispanic Ethnicity (N=13)	1 (7.69%)	0.36
Specimen source		
Blood	8 (47.08%)	-
Cerebrospinal Fluid	8 (47.08%)	-
Tissue	1 (5.88%)	-
Serogroup		
Group B	4 (23.53%)	-
Group Y	4 (23.53%)	-
Group C	3 (17.65%)	-
Group W-135	1 (5.88%)	-
Nongroupable	5 (29.41%)	-

Neisseria meningitidis is an immediately notifiable disease. Suspicion or diagnosis of meningococcal invasive disease must be immediately reported to the OSDH per the Oklahoma Disease Reporting Rules (Oklahoma Administrative Code 310:515). The state health department immediately investigates reported meningococcal disease cases to identify contacts, and to facilitate prophylaxis for persons having high risk exposures, although secondary cases are extremely rare. Two hundred and nine contacts (median 5.5, range 0 – 135 per case) were identified and recommended to receive prophylaxis in 2008. One case had 135 contacts, and involved an unvaccinated college student who lived in a group setting. This case was due to serotype Y, which is included in the meningococcal vaccine.

A tetravalent (serotypes A,C,Y,W-135) meningococcal conjugate vaccine (MCV4) is licensed for persons aged 2–55 years. In 2007, the Advisory Committee on Immunization Practices (ACIP) revised recommendations for routine use of MCV4 to include children ages 11–12 years at the preadolescent vaccination visit and adolescents aged 13–18 years at the earliest opportunity. MCV4 also is recommended for college freshmen living in dormitories and other populations aged 2–55 years at increased risk for meningococcal disease.^{1,2} Beginning with the 2004-2005 academic year, Oklahoma became one of the few states with a mandated vaccination law requiring public or private post-secondary educational institutions to provide information on the risks associated with meningococcal disease and the risks and benefits of vaccination to students who plan to reside in on-campus housing.

Meningococcal Disease Incidence Rate by Year, Oklahoma and U.S., 1996 – 2008*



*2008 U.S. data provisional based on CDC, MMWR 2008;57:1420-1431

References:

1. CDC. Prevention and control of meningococcal disease: recommendations of the Advisory Committee on Immunization Practices (ACIP). MMWR 2005;54(No. RR-7), available at <http://www.cdc.gov/mmwr/pdf/rr/rr5407.pdf>
2. CDC. Notice to readers: revised recommendations of the Advisory Committee on Immunization Practices to vaccinate all persons aged 11–18 years with meningococcal conjugate vaccine. MMWR 2007;56:794–5, available at <http://www.cdc.gov/mmwr/PDF/wk/mm5614.pdf>