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Date: October 20, 2016

To: Local, Tribal and Regional Public Health Officials, Infection Preventionists and Clinicians

From: Jeffrey P. Davis, M.D.
Chief Medical Officer and State Epidemiologist for Communicable Diseases

Re: Meningococcal serogroup B disease among University of Wisconsin-Madison students

PLEASE DISTRIBUTE WIDELY

Summary: Two cases of meningococcal disease have been detected among students attending the University of Wisconsin-Madison. All UW-Madison undergraduate students should get vaccinated with meningococcal serogroup B vaccine to protect against serogroup B meningococcal disease, and the University Health Services will be holding vaccination clinics on campus. Local public health professionals have already identified persons who require antibiotic prophylaxis for this situation. We urge all students to always contact their health care provider immediately if they think they are experiencing signs and symptoms of meningitis. Attached is the [Invasive Meningococcal Disease Management Protocol](#) for your reference.

Background and Recommendations

Two cases of meningococcal disease have been detected among students attending the University of Wisconsin-Madison. Both illnesses were caused by the bacterium *Neisseria meningitidis* serogroup B, and molecular testing has determined that the strains that caused these two illnesses were identical. After exhaustive investigation there have been no links detected between the two cases. This suggests that this specific strain of the bacterium is circulating among the campus community.

Overall rates of meningococcal disease have been decreasing nationally and in Wisconsin since 2003 because of the widespread use of recommended vaccines that protect against other serogroups (A, C, Y and W-135) of *Neisseria meningitidis*. However, serogroup B antigen was not included in vaccines available before 2014, and serogroup B strains now cause about 50% of nationally reported cases. New vaccines have recently been developed to protect solely against serogroup B strains.

Neisseria meningitidis is spread by direct contact with saliva or respiratory secretions. The Centers for Disease Control and Prevention (CDC) estimates that 5-10% of the population carries *N. meningitidis* in their throat at any given time without becoming ill. Invasive disease caused by *N. meningitidis* is uncommon, but it typically results in blood stream infections (sepsis) and meningitis. It is not well understood why relatively few people develop serious

illness, but this may be influenced by genetic, immune, antecedent illness, societal (i.e., overcrowding, smoke exposure) or physical factors.

Signs and symptoms of meningococcal disease

Signs and symptoms of meningococcal disease may include the sudden onset of fever, severe headache and stiff neck. Additional signs and symptoms may include rash, nausea, vomiting, sensitivity to light, or confusion. The time interval from exposure to the bacteria to the time of illness onset is generally 2-10 days, but is most commonly 3-7 days. We urge all students to always contact their health care provider immediately if they think they are experiencing signs and symptoms of meningitis.

Control measures: caring for exposed person

Regardless of immunization status, close contacts of all people with invasive meningococcal disease, whether endemic or in an outbreak situation, are at high risk of infection and should receive chemoprophylaxis.

A link and attachment are provided for the Wisconsin Division of Public Health (DPH) [Invasive Meningococcal Disease Management Protocol](#) which describes signs and symptoms of meningococcal disease, provides a definition of **close contacts** and a detailed listing of high and low risk activities, and includes recommendations for chemoprophylaxis. Please use this document as a resource for the management of patients with potential cases of meningococcal disease and their contacts. People with high risk contact should receive preventive antibiotic chemoprophylaxis as a precautionary measure. Persons with casual contact and other low risk exposures are generally NOT at risk for developing meningococcal disease and do not need antibiotic chemoprophylaxis. Inappropriate use of antibiotics can cause adverse side effects and result in antibiotic resistance. In the current situation, local public health professionals have already identified persons who require antibiotic prophylaxis.

Meningococcal disease in Wisconsin

The vast majority of cases of meningococcal disease are sporadic and occurrence of secondary cases is rare. During 1998-2004 and prior to the approval and use of meningococcal conjugate vaccine after 2005, the mean annual number of confirmed cases of meningococcal disease reported to DPH was 40 (range 29-53 cases). Serogroups B, C and Y each comprised about 1/3 of the cases, illness caused by serogroup W-135 rarely occurred and serogroup A disease occurred in Africa. During 2005-2015, following the approval and increased use of conjugate vaccine for serogroups A, C, Y and W-135, the mean annual number of confirmed cases of meningococcal disease reported to DPH decreased to 19 cases (range 10-26 cases). Accordingly, serogroup C and Y disease decreased significantly statewide while serogroup B disease was unaffected. Serogroup B disease now comprises about 50% of the annually reported cases.

Vaccination activities planned at the University of Wisconsin-Madison

The University of Wisconsin-Madison University Health Services (UHS) in consultation with the DPH Immunization Program, Bureau of Communicable Diseases staff and the CDC are recommending that all UW-Madison undergraduate students get vaccinated with meningococcal serogroup B vaccine to protect against serogroup B meningococcal disease. CDC will be providing vaccine for this mass campaign and UHS will be conducting clinics on five days

beginning October 21, 2016. UHS will be distributing additional information regarding the free vaccination clinics to UW undergraduate students and their parents. It is presumed that because the students are on campus, there is not a need to provide local health departments (LHDs) throughout Wisconsin with vaccine for outbreak management. However, of note, because of the proximity of Public Health Madison Dane County to the UW Madison campus, this health department will be receiving a small quantity of meningococcal serogroup B vaccine which may be used for UW-Madison students who present to their clinic.

FDA- licensed meningococcal serogroup B vaccines

There are two FDA-licensed serogroup B meningococcal vaccines (MenB vaccines) available, Bexsero® (GSK) and Trumenba® (Pfizer). The vaccines are approved and may be administered at any time to adolescents and young adults ages 16 through 25 years to provide short-term protection against meningococcal disease caused by most serogroup B strains. The Advisory Committee on Immunization Practices (ACIP) recommends the vaccine be administered to persons aged 16-23 years, with a preferred age range of 16-18 years to maximize the likelihood that protection would last during the years when they are at greatest risk of meningococcal disease. MenB vaccines are routinely recommended only for persons aged 10 years and older who are identified as being at increased risk because of medical conditions such as complement component deficiencies and functional or anatomic asplenia.

Bexsero® is administered as a two-dose series. Dose 2 is administered at least 1 month following dose 1. Trumenba® is administered as a three-dose series. Dose 2 is administered at least 2 months after dose 1, and dose 3 is administered at least 6 months after dose 1. Of note, the two MenB vaccines are not interchangeable; the same vaccine product must be used for all doses. Please see the CDC website for additional information: <http://www.cdc.gov/vaccines/hcp/acip-recs/vacc-specific/mening.html>

LHDs may continue to order and administer MenB vaccine to children under the current VFC guidelines (Appendix B) and adults aged ≥ 19 years (Appendix B1) located in the Policy & Procedure Manual. Persons who do not qualify for the vaccine under these guidelines should be referred to their health care provider for vaccination.

Useful Links

Wisconsin DPH Invasive Meningococcal Disease Management Protocol:
<https://www.dhs.wisconsin.gov/publications/p01626.pdf>

<https://www.dhs.wisconsin.gov/invasive-bacteria/meningococcaldisease.htm>

<https://www.dhs.wisconsin.gov/immunization/index.htm>

<https://www.cdc.gov/meningococcal/>