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Maine Health Alert Network (HAN) System

PUBLIC HEALTH ADVISORY

To: Health Care Providers

From: Dr. Isaac Benowitz, State Epidemiologist

Subject: **Meningococcal Disease Cases Linked to Travel to the Kingdom of Saudi Arabia (KSA): Ensure Pilgrims are Current on Meningococcal Vaccination**

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The U.S. Centers for Disease Control and Prevention (U.S. CDC) has issued a Health Advisory to alert health care providers to cases of meningococcal disease linked to travel to the Kingdom of Saudi Arabia (KSA) for Umrah, an Islamic pilgrimage to Mecca which may be performed at any time of year. The Hajj is an annual Islamic pilgrimage which will take place June 14–19, 2024.

Since April 2024, 12 cases of meningococcal disease have been linked to travel to KSA for Umrah. These cases were identified in the United States, France, and the United Kingdom. None were in Maine residents. Of these 12 cases, 10 were in patients who traveled to KSA, and 2 were in patients who had close contact with travelers to KSA. At least nine patients were unvaccinated. At least three isolates were resistant to ciprofloxacin.

Meningococcal disease (*Neisseria meningitidis*, invasive) is immediately reportable to Maine CDC upon recognition or strong suspicion of disease. To contact Maine CDC, please call the 24/7 disease reporting number at 800-821-5821.

Clinicians should:

- Work with patients considering travel to perform Hajj or Umrah to ensure that those aged one year or older have received a MenACWY conjugate vaccine within the last 5 years administered at least 10 days prior to arrival in KSA.
- Maintain increased suspicion for meningococcal disease in anyone presenting with symptoms of meningococcal disease, particularly after travel to KSA for Hajj or Umrah pilgrimage.
- Initiate prompt transmission-based precautions (i.e., droplet precautions) for those suspected or confirmed with invasive *N. meningitidis* infection.
- Provide antibiotic chemoprophylaxis to close contacts of people with meningococcal disease as soon as possible after exposure, regardless of immunization status, ideally less than 24 hours after the index patient is identified. Conversely, prophylaxis administered over 14 days after exposure is thought to have limited or no value.
    - For more information about selection of antibiotics as prophylaxis for close contacts of patients with meningococcal disease, refer to U.S. CDC's *Selection of Antibiotics as Prophylaxis for Close Contacts of Patients with Meningococcal Disease in Areas with Ciprofloxacin Resistance — United States, 2024*.
- Preferentially consider using rifampin, ceftriaxone, or azithromycin instead of ciprofloxacin for chemoprophylaxis of close contacts of meningococcal disease cases **associated with travel to KSA.**
- Continue use of first-line chemoprophylaxis options (i.e., rifampin, ceftriaxone, or ciprofloxacin) for close contacts of meningococcal disease patients in Maine that are **not** associated with travel to KSA.
- The gold standard for diagnosis of meningococcal disease is bacterial culture of *N. meningitidis* from a normally sterile site. Meningococcal disease may also be diagnosed through detection of *N. meningitidis* with PCR assay. PCR testing can be a useful supplement to culture, particularly when a patient was treated with antibiotics prior to specimen collection. *Neisseria meningitidis* PCR testing of CSF, and culture of CSF, synovial fluid, blood, or isolate, are available at Maine Health and Environmental Testing Laboratory (HETL). PCR testing and culture are also available at many commercial laboratories. All specimen and isolates that test positive for or identify *N. meningitidis*, with specimen collection from a normally sterile site, should be sent to HETL for serogroup testing. For information on sample submission to HETL please see the HETL website.

Meningococcal Disease Cases Linked to Travel to the Kingdom of Saudi Arabia (KSA): Ensure Pilgrims are Current on Meningococcal Vaccination

Summary

The U.S. Centers for Disease Control and Prevention (U.S. CDC) is issuing this Health Alert Network (HAN) Health Advisory to alert health care providers to cases of meningococcal disease linked to Umrah travel to the Kingdom of Saudi Arabia (KSA). Umrah is an Islamic pilgrimage to Mecca, Kingdom of Saudi Arabia, that can be performed any time in the year; the Hajj is an annual Islamic pilgrimage taking place June 14–19, 2024.

Since April 2024, 12 cases of meningococcal disease linked to KSA travel for Umrah have been reported to national public health agencies in the United States (5 cases), France (4 cases), and the United Kingdom (3 cases). Two cases were in children aged ≤18 years, four cases were in adults aged 18–44 years, four cases were in adults aged 45–64 years, and two cases were in adults aged 65 years or older. Ten cases were in patients who traveled to KSA, and two were in patients who had close contact with travelers to KSA. Ten cases were caused by *Neisseria meningitidis* serogroup W (NmW), one U.S. case was caused by serogroup C (NmC), and the serogroup is unknown for one U.S. case. Of nine patients with known vaccination status, all were unvaccinated. The isolates from the one U.S. NmC case and two NmW cases (one U.S., one France) were resistant to ciprofloxacin; based on whole genome sequencing, the remaining eight NmW isolates were all sensitive to penicillin and ciprofloxacin.

In the United States, quadrivalent meningococcal (MenACWY) conjugate vaccination is routinely recommended for adolescents, and also recommended for travelers to countries where meningococcal disease is hyperendemic or epidemic, including a booster dose of MenACWY if the last dose was administered 3–5 or more years previously (depending on the age at most recent dose received). In addition, all Hajj and Umrah pilgrims aged one year and older are required by KSA to receive quadrivalent meningococcal vaccine.

Health care providers should work with their patients considering travel to perform Hajj or Umrah to ensure that those aged one year or older have received a MenACWY conjugate vaccine within the last 5 years administered at least 10 days prior to arrival in KSA. Health care providers should also maintain increased suspicion for meningococcal disease in anyone presenting with symptoms of meningococcal disease after recent travel to KSA for Hajj or Umrah pilgrimage. U.S. health care providers should preferentially consider using rifampin, ceftriaxone, or azithromycin instead of ciprofloxacin for chemoprophylaxis of close contacts of meningococcal disease cases associated with travel to KSA.

Background

Meningococcal disease, caused by the bacterium *Neisseria meningitidis*, is a rare but severe illness with a case-fatality rate of 10–15%, even with appropriate antibiotic treatment. Meningococcal disease often presents as meningitis with symptoms that may include fever, headache, stiff neck, nausea, vomiting, photophobia, or altered mental status. Meningococcal disease may also present as a meningococcal bloodstream infection with symptoms that may include fever, chills, fatigue, vomiting, cold hands and feet, severe aches and pains, rapid breathing, diarrhea, or, in later stages, a petechial or dark purple rash (purpura fulminans). While initial symptoms of meningococcal disease can at first be nonspecific, they worsen rapidly and can become life-threatening within hours. Survivors may experience long-term effects such as deafness or amputations of the extremities. **Immediate antibiotic treatment for meningococcal disease is critical.** Blood and cerebrospinal fluid (CSF) cultures are indicated for patients with suspected meningococcal disease. Health care providers should not wait for diagnostic

testing or receipt of laboratory results before initiating treatment for suspected cases of meningococcal disease.

Meningococcal disease outbreaks have occurred previously in conjunction with mass gatherings including the Hajj pilgrimage. The most recent global outbreak of meningococcal disease associated with travel to KSA for Hajj was in 2000–2001 and was primarily caused by NmW. Since 2002, KSA has required that all travelers aged one year or older performing Hajj or Umrah provide documentation of either a) a MenACWY polysaccharide vaccine (MPSV4 is no longer available in the United States) within the last 3 years administered at least 10 days prior to arrival or b) a MenACWY conjugate vaccine within the last 5 years administered at least 10 days prior to arrival. This requirement aligns with ACIP recommendations for revaccination of U.S. travelers to endemic areas who received their last dose 3–5 or more years previously (depending on the age at most recent dose received). Nevertheless, meningococcal vaccination coverage among Umrah travelers is known to be incomplete.

Close contacts of people with meningococcal disease should receive antibiotic chemoprophylaxis as soon as possible after exposure, regardless of immunization status, ideally less than 24 hours after the index patient is identified. Ciprofloxacin, rifampin, and ceftriaxone are the first-line antibiotics recommended for use as chemoprophylaxis. However, ciprofloxacin-resistant strains of *N. meningitidis* have been emerging in the United States and globally. U.S. CDC recently released implementation guidance for the preferential use of other recommended prophylaxis antibiotics in areas with multiple cases caused by ciprofloxacin-resistant strains. Health care providers should discontinue using ciprofloxacin as prophylaxis for close contacts when, in a catchment area during a rolling 12-month period, both a) ≥2 invasive meningococcal disease cases caused by ciprofloxacin-resistant strains have been reported, and b) cases caused by ciprofloxacin-resistant strains account for ≥20% of all reported invasive meningococcal disease cases. Though a catchment area is defined as a "single contiguous area that contains all counties reporting ciprofloxacin-resistant cases," in this circumstance, it is more appropriate to determine the catchment population based on travel history rather than geographic location at the time of diagnosis. Among the 11 global cases associated with travel to KSA that have antimicrobial sensitivity results available, 3 cases (27%) were caused by ciprofloxacin-resistant strains. Rifampin, ceftriaxone, or azithromycin should be preferentially considered instead of ciprofloxacin as prophylaxis for close contacts in the United States of meningococcal disease cases associated with travel to KSA.

Recommendations for Health care Providers

- Recommend vaccination with MenACWY conjugate vaccine for people considering travel to KSA to perform Hajj or Umrah (pilgrims) in addition to routine meningococcal vaccination for adolescents and other people at increased meningococcal disease risk.
- Maintain a heightened index of suspicion for meningococcal disease among symptomatic people who have recently been in KSA and among close contacts of people who have recently been in KSA, regardless of vaccination status.
- **Immediately notify Maine CDC at 800-821-5821** about any suspected or confirmed cases of meningococcal disease in the United States.
- Preferentially consider using rifampin, ceftriaxone, or azithromycin instead of ciprofloxacin as prophylaxis for close contacts in the United States of meningococcal disease cases associated with travel in KSA.

Recommendations for the Public

- People considering travel to KSA to perform Hajj or Umrah should ensure they are current on vaccination with MenACWY vaccine as required by KSA. All travelers aged one year or older

performing Hajj or Umrah should have received either a) a MenACWY polysaccharide vaccine (MPSV4, no longer available in the United States) within the last 3 years administered at least 10 days prior to arrival or b) a quadrivalent MenACWY conjugate vaccine within the last 5 years administered at least 10 days prior to arrival.

- Immediately seek medical attention if you, your child, or another close contact develops symptoms of meningococcal disease:
    - **Symptoms of meningococcal meningitis** may include fever, headache, stiff neck, nausea, vomiting, photophobia (eyes being more sensitive to light), or altered mental status (confusion).
    - **Symptoms of meningococcal bloodstream infection** may include fever and chills, fatigue, vomiting, cold hands and feet, severe aches and pains, rapid breathing, diarrhea, or, in later stages, a dark purple rash.
    - **Initial symptoms of meningococcal disease** can at first be vague, but worsen rapidly, and can become life-threatening within hours.

For More Information

Health care Providers

- Meningococcal Disease | Maine CDC
- Clinical Information | Meningococcal Disease | U.S. CDC
- Meningococcal Vaccination: Information for Healthcare Professionals | U.S. CDC
- Meningococcal Disease | U.S. CDC Yellow Book 2024

Public

- Meningococcal Vaccination | U.S. CDC
- Signs and Symptoms | Meningococcal Disease | U.S. CDC
- Travelers' Health: Saudi Arabia | U.S. CDC
- Ministry of Health, Kingdom of Saudi Arabia
- Visit CDC-INFO or call 1-800-232-4636

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