# Health Advisory: Meningococcal Cases and Travel to the Kingdom of Saudi Arabia (KSA)

Minnesota Department of Health, Tue, May 21 12:00 CDT 2024

## Action Steps

***Local and tribal health department***: Please forward to hospitals, clinics, urgent care centers, emergency departments, and convenience clinics in your jurisdiction. Consider outreach to local communities to promote meningococcal vaccination for Hajj and Umrah pilgrims to the Kingdom of Saudia Arabia (KSA).
***Hospitals, clinics and other facilities:*** Please forward to infection preventionists, infectious disease physicians, emergency department staff, hospitalists, and primary care clinicians.
***Health care providers***:

- Recommend vaccination with MenACWY conjugate vaccine for people 2 months of age and older traveling to the Kingdom of Saudia Arabia (KSA) to perform Hajj or Umrah (pilgrims) in addition to routine meningococcal vaccination for adolescents and other people at increased meningococcal disease risk.
    - Follow the Advisory Committee on Immunization Practices (ACIP) vaccine recommendations for travel under the special situations section of CDC's Child Immunization Schedule (https://www.cdc.gov/vaccines/schedules/hcp/imz/child-schedule-notes.html#note-mening) and Adult Immunization Schedule (https://www.cdc.gov/vaccines/schedules/hcp/imz/adult-schedule-notes.html#note-mening).
    - KSA requires all travelers one year of age or older performing Hajj or Umrah to have received one dose of either a:
        - MenACWY conjugate vaccine within the last 5 years administered at least 10 days prior to arrival.
          OR
        - 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.
    - Refer to CDC: Meningococcal Vaccination: Information for Healthcare Professionals (https://www.cdc.gov/vaccines/vpd/mening/hcp/index.html), CDC Yellow Book 2024 (https://wwwnc.cdc.gov/travel/yellowbook/2024/infections-diseases/meningococcal-disease#prevent) and KSA's Hajj Health Requirements (https://www.moh.gov.sa/en/HealthAwareness/Pilgrims_Health/Pages/default.aspx) for additional details.
- Counsel patients to immediately seek medical attention if they, their child, or another close contact develops symptoms of meningococcal disease (https://www.cdc.gov/meningococcal/symptoms/index.html):
    - Symptoms of meningococcal meningiti**s** 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.
- 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.
- **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 (3 of the 11 isolates tested were ciprofloxacin resistant).**
- Report meningoccal disease immediately by phone 24 hours a day, seven days a week by calling 651-201-5414 or 877-676-5414.

## Background

The Centers for Disease Control and Prevention (CDC) has issued a Health Alert Network (HAN) Health Advisory to alert healthcare providers to cases of meningococcal disease linked to Umrah travel to the Kingdom of Saudi Arabia (KSA). Umrah is an Islamic pilgrimage to Mecca, KSA, that can be performed any time in the year; the Hajj is an annual Islamic pilgrimage this year 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, including one case who resides in Minnesota and whose isolate was resistant to ciprofloxacin), 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. 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.

Meningococcal disease (https://www.cdc.gov/meningococcal/index.html), 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** (CDC Treatment Options: https://www.cdc.gov/meningococcal/hcp/clinical-guidance/index.html#cdc_clinical_guidance_selecting_medicine-treatment-options) for meningococcal disease is critical. Blood and cerebrospinal fluid (CSF) cultures are indicated for patients with suspected

meningococcal disease. Healthcare providers should not wait for diagnostic testing or receipt of laboratory results before initiating treatment for suspected cases of meningococcal disease.

**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. CDC recently released implementation guidance for the preferential use of other recommended prophylaxis antibiotics in areas with multiple cases caused by ciprofloxacin-resistant strains. (CDC: Selection of Antibiotics as Prophylaxis for Close Contacts of Patients with Meningococcal Disease in Areas with Ciprofloxacin Resistance, https://www.cdc.gov/mmwr/volumes/73/wr/mm7305a2.htm) Health departments 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.

In the United States, quadrivalent meningococcal (MenACWY) conjugate vaccination is routinely recommended for adolescents in a 2-dose series at ages 11-12 and 16 years old. Since 2002, KSA has required that all travelers one year of age or older performing Hajj or Umrah to have received one dose of either a) a quadrivalent MenACWY conjugate vaccination within the last 5 years administered at least 10 days prior to arrival OR b) a MenACWY polysaccharide (MPSV4) vaccination within the last 3 years administered at least 10 days prior to arrival. (MPSV4 is no longer available in the United States). This requirement aligns with ACIP recommendations for people traveling to countries with hyperendemic or epidemic meningococcal disease, including countries in the African meningitis belt or during the Hajj or Umrah. Anyone 2 months of age and older who has not received a meningococcal vaccine and is traveling during Hajj or Umrah should get vaccinated. Children between 2-23 months of age and people with certain medical conditions may need more than one dose of meningococcal vaccine. Meningococcal vaccine is not licensed for use in children less than 2 months old.

## For More Information

- CDC: Meningococcal Vaccination: Information for Healthcare Professionals (https://www.cdc.gov/vaccines/vpd/mening/hcp/index.html)
- CDC Yellow Book 2024 (https://wwwnc.cdc.gov/travel/yellowbook/2024/infections-diseases/meningococcal-disease#prevent)
- KSA's Hajj Health Requirements (https://www.moh.gov.sa/en/HealthAwareness/Pilgrims_Health/Pages/default.aspx)
- MDH: Reporting Meningococcal Disease (https://www.health.state.mn.us/diseases/meningococcal/report.html)

- CDC: Child Immunization Schedule (https://www.cdc.gov/vaccines/schedules/hcp/imz/child-schedule-notes.html#note-mening)
- CDC: Adult Immunization Schedule (https://www.cdc.gov/vaccines/schedules/hcp/imz/adult-schedule-notes.html#note-mening)

A copy of this HAN is available at: MDH Health Alert Network (https://www.health.state.mn.us/han)
The content of this message is intended for public health and health care personnel and response partners who have a need to know the information to perform their duties.