Nebraska Department of Health and Human Services

Health Alert Network

Update

June 4, 2025

Measles Detected in Nebraska

Summary
On May 27, 2025, the Nebraska Department of Health and Human Services reported the first measles case in Nebraska since 2017. Panhandle Public Health District identified a confirmed case of measles in an age-appropriately vaccinated child that had not had any recent out-of-state travel history, indicating potential spread within the community. Locations of potential public measles exposure can be found here. The symptom monitoring period for most contacts of this case will end June 11, 2025.

The United States began experiencing a large domestic outbreak in January 2025. Providers can check the CDC's Measles Cases and Outbreaks Website to see the current locations of cases.

Background
Measles is a highly contagious, acute respiratory viral illness. The typical incubation period for measles is 11-12 days from exposure to the appearance of prodromal symptoms, which include a fever with cough, coryza (runny nose), and/or conjunctivitis (pink eye), lasting 2-4 days prior to rash onset. Koplik spots (tiny white spots on the buccal mucosa) may appear 2-3 days after prodrome begins. A maculopapular rash (rash with both flat and raised skin lesions) begins on the face and spreads down the body, lasting 5-6 days; it is not typically pruritic. **Note: maculopapular rash may be harder to identify on darker skin tones**; erythema may not be evident, and the skin may instead appear hyperpigmented with darker or purple macules and papules. Fever may spike up to 105°F when the rash appears. As it spreads, the rash spots may become confluent into large patches. **Note: severely immunocompromised patients may not develop a rash.**
Measles virus can remain infectious in the air and on surfaces for up to two hours after an infected person leaves an area. Infected people are contagious from four full days before the rash appears through four full days afterwards (nine day infectious period).
With recent global declines in measles vaccination rates, measles outbreaks are occurring in all World Health Organization (WHO) Regions. Providers and patients can check the CDC's Travelers' Health Website to see a list of countries with current outbreaks.

Recommendations for Healthcare Providers

- Schools, early childhood education providers, daycares, and healthcare providers should work to ensure students and employees have immunity against measles.
  - At least one of the following is considered presumptive evidence of measles immunity:
    - Birth before 1957

        - Documented administration of two doses of measles virus-containing vaccine (MMR, MMRV, or other measles-containing vaccine)
        - Serologic (IgG antibodies) proof of immunity or confirmed prior measles infection
    - The routine recommended MMR schedule is administration of the first dose at age 12-15 months and the second dose at 4-6 years.
- Additional MMR recommendations for U.S. residents who live in an outbreak area, **including Nebraska residents of Sheridan and Dawes counties**, or are planning to travel internationally or to a domestic area with known measles transmission:
    - Early dose of MMR vaccine for infants 6-11 months of age, ideally two weeks prior to travel. Infants who receive a dose of MMR vaccine prior to 12 months should receive two more doses of MMR vaccine according to the routinely recommended schedule.
    - Second dose of MMR vaccine for anyone >12 months who has received only one dose of MMR vaccine. Doses must be separated by at least 28 days with receipt of the second dose, ideally two weeks prior to travel.
    - Those >12 months with no documented vaccine history should receive two doses, separated by at least 28 days, at least two weeks prior to travel.
    - Individuals born prior to 1957 are presumed to have natural immunity to measles but should talk to their provider if they have concerns about their immune status.

Identification, testing, and management of suspected measles cases

- Consider measles as a diagnosis in anyone with fever (≥101°F or 38.3°C) AND a generalized maculopapular rash AND preceding prodrome (cough, coryza, or conjunctivitis) who lives in or recently traveled to an area with circulating measles or had exposure to a measles case. A lack of immunity to measles should raise clinical suspicion with compatible clinical signs. When considering measles:
    - **Isolate:** Do not allow patients with suspected measles to remain in the waiting room or other common areas of a healthcare facility; isolate patients with suspected measles immediately, ideally in a single-patient airborne infection isolation room (AIIR) if available, or in a private room with a closed door until an AIIR is available.
        - If able, offer testing outside of facilities to avoid transmission in healthcare settings. If the patient requires a hospital referral for a higher level of care, call ahead to ensure immediate isolation for patient upon arrival to another facility.
        - Healthcare providers should be adequately protected against measles and should adhere to standard and airborne precautions (including wearing a fit-tested N95 mask) when evaluating suspect cases, regardless of their vaccination status. Healthcare providers without evidence of immunity should be excluded from work from day five after the first exposure until day 21 following their last exposure.
    - **Notify:** Immediately notify your local health department about any suspected case of measles to ensure rapid testing and investigation. If unable to reach your local health department, contact **DHHS's 24-hour Epi On-Call number 402-471-2937.** DHHS reports confirmed measles cases to CDC.
    - **Test:**
        - Providers should collect a nasopharyngeal swab or oropharyngeal swab AND urine for reverse transcription polymerase chain reaction (RT-PCR). A blood sample is optional.
            - If within 72 hours of rash onset, a urine specimen should be collected only if the patient is able to self-void.

    - If >72 hours from rash onset, a urine specimen should be collected even if catheterization is necessary, as urine is the more sensitive specimen type.
    - Only collect a blood specimen for IgM serology if >72 hours from rash onset and the patient has NOT been vaccinated within the past eight weeks.
        - Collect blood in a Serum Separator Tube (Gold top) or in a Clot Tube (Red top). Separate serum following manufacturer's guidance.
  - Respiratory specimens, urine, and serum are stable at 2-8°C for up to 48 hours.
  - If a patient has a compatible clinical presentation and is uninsured or has concerning exposures such as contact with a known measles case or recent travel, DHHS will pay for the testing via the Nebraska Public Health Laboratory (NPHL).
    - Providers MUST get prior approval from DHHS before sending specimens to NPHL. Instructions for submission to NPHL.
        - NOTE: NPHL and the regional VPD lab do NOT perform serology testing; serum will need to be sent to a commercial lab (for IgG and IgM) or a local laboratory (for IgG).
        - PCR Specimens will need to be sent on ice packs to NPHL and the testing request submitted via NUlirt. Samples may be sent via NPHL to the regional VPD lab in Minnesota for PCR testing or run in-house.
  - If a patient is insured and does not have compatible clinical presentation or any concerning exposures for measles, RT-PCR and serology laboratory testing should be performed by a commercial or local laboratory.
    - RT-PCR and serology (IgG and IgM) are available at ARUP, Mayo, Quest, and LabCorp.
    - IgG testing is additionally available at many local hospital laboratories if evidence of immunity testing is required.
- **Manage:** In coordination with local or state health departments, provide appropriate measles post-exposure prophylaxis (PEP) as soon as possible after exposure to close contacts without evidence of immunity, either with MMR (within 72 hours) or immunoglobulin (within six days). The choice of PEP is based on elapsed time from exposure or medical contraindications to vaccination.

For More Information

- Parents and International Travelers
    - Measles Vaccines for Children
    - Plan for Travel Measles
    - Global Measles Situation
- Healthcare Providers
    - Measles Clinical Overview
    - Measles One-Pager for Healthcare Providers
    - Immunization Schedules
    - Safety Information for Measles, Mumps, Rubella (MMR) Vaccines
    - Interim Measles Infection Prevention Recommendations in Healthcare Settings
    - Nebraska ICAP Infection Control Recommendations
    - CDC Yellow Book 2024: Measles (Rubeola)
    - Measles, Mumps, Rubella, and Varicella Testing Recommendations for Clinicians

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