Nebraska Department of Health and Human Services

Health Alert Network

ADVISORY

March 19, 2025

CDC HAN: Ongoing Risk of Dengue Virus Infections and Updated Testing Recommendations in the United States

The following CDC Health Alert Network (HAN) emphasizes the continued ongoing risk of dengue virus infections as activity remains high in parts of the United States and globally. In 2024, the Nebraska Department of Health and Human Services (DHHS) reported 10 dengue cases. DHHS typically reports less than <5 cases annually. Since the tracking of dengue began in 2003, the second highest number of dengue cases in Nebraska was reported in 2024. All 2024 cases were travel-associated to dengue endemic regions, with 9 of the 10 cases reporting travel to areas in Central America and the Caribbean. While Nebraska does not have local dengue transmission, healthcare providers should consider dengue as a diagnosis for patients presenting with an acute febrile illness and compatible travel history to a dengue endemic area in the 14 days prior to their symptom onset.

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Ongoing Risk of Dengue Virus Infections and Updated Testing Recommendations in the United States

Summary

The Centers for Disease Control and Prevention (CDC) is issuing this Health Alert Network (HAN) Health Update to provide additional information to healthcare providers, public health departments, and the public about the ongoing risk of dengue virus (DENV) infections and updates to testing recommendations in the United States. Dengue activity remains high in some parts of the United States and globally, with many countries reporting higher-than-usual number of dengue cases in 2024 and 2025. Healthcare providers, public health departments, and the public are urged to continue to take steps to prevent, detect, diagnose, and respond to dengue as described in the June 2024 HAN Health Advisory (CDCHAN-00511) on dengue in the United States. Updates include:

1. Dengue virus transmission remains high in the Americas region, including in the U.S. territories of Puerto Rico and the U.S. Virgin Islands. Spring and summer travel coincide with the peak season for dengue in many countries, increasing the risk of both travel-associated and locally acquired cases in the United States.
2. Use the CDC DENV-1-4 real time reverse transcriptase polymerase chain reaction (RT-PCR) assay when dengue is the most likely diagnosis.
3. New resources are available for public health professionals including a job aid for reviewing medical records and guidance for investigating and responding to dengue cases in non-endemic areas of the United States.

Background

Dengue is caused by four distinct but closely related dengue viruses or serotypes (DENV-1, -2, -3, and -4). Infection with one DENV usually induces lifelong immunity to that serotype and short-term immunity to other DENV serotypes for months to years. Repeat infections with different serotypes can occur, particularly in DENV endemic areas. Approximately one in four DENV infections are symptomatic. Infection with any DENV serotype can cause severe illness, particularly in infants aged ≤1 year, pregnant women, adults aged ≥65 years, people with certain medical conditions, and people with previous DENV infections.
Globally, dengue cases have increased substantially in the last 5 years, with the most pronounced increases occurring in the Americas. In the Americas region, 4.6 million cases and 2,400 deaths were reported in 2023, followed by 13 million cases and 8,200 deaths in 2024. As of March 6, more than 760,000 dengue cases have

been reported in 2025, which is a 15% increase compared to the previous 5-year average. Epidemics in the Americas region are expected to increase both travel-associated cases and the possibility of local transmission in the continental United States in areas with competent mosquito vectors. Spring and summer travel in the United States overlaps with the months of increased seasonal dengue activity in many countries.

All four DENV serotypes were reported among travelers returning to the United States in 2024. DENV-3 was the most common serotype identified in 2024, but the proportion of cases caused by DENV-4 has been increasing in recent months. During October 2024–January 2025, DENV-4 was identified in 50% of travel-associated dengue cases among cases with DENV serotype available. In addition, DENV-3 has re-emerged after a prolonged absence in multiple countries across the Americas region during 2024 and 2025. Introductions of new serotypes have been associated with increasing size and frequency of dengue outbreaks, as well as more severe clinical outcomes in patients with previous DENV exposure.

In Puerto Rico, reported dengue cases have remained above the outbreak threshold since February 2024. A public health emergency was declared in March 2024 and remains in effect. In 2024, 6,291 cases were reported, more than 52% (3,292) required hospitalization and there were 13 deaths. As of March 7, 2025, 936 cases have been reported, representing a 113% increase compared to the same period in 2024.

In the U.S. Virgin Islands, a dengue outbreak was declared in August 2024 and remains in effect. A total of 208 locally acquired cases were identified in 2024, and 30 in 2025 as of March 7, 2025.

In the continental United States in 2024, locally acquired cases were reported in Florida (91), California (18), and Texas (1). A record number of dengue cases were identified among U.S. travelers (3,483 cases), which is an 84% increase compared to the previous year. This trend is expected to continue with increased dengue activity in endemic areas in 2025. The highest numbers of travel-associated cases in 2024 were reported in Florida (1,016) followed by California (648), and New York (327).

CDC will continue to support state, tribal, local, and territorial public health partners; clinicians; and public health laboratories in case detection, surveillance, and outreach to respond to the ongoing threat of dengue in the United States.

Recommendations for Healthcare Providers

- Review and be familiar with the recommendations for healthcare providers in the June 2024 HAN (CDCHAN-00511) on dengue in the United States. This includes information about reporting cases, clinical presentation and care (including severe dengue), vaccination, testing, and patient outreach.
- Take a thorough travel history for patients presenting with acute febrile illness as initial clinical presentation is similar among many vector-borne diseases such as dengue, Zika, chikungunya, and Oropouche.
- Advise patients who plan to travel to take steps to prevent mosquito bites during travel and for 3 weeks after returning, especially if traveling to an area with frequent or continuous dengue transmission.
- Continue to have increased suspicion of dengue among people with fever who have been in areas with frequent or continuous dengue transmission within 14 days before illness onset.
- Patients with suspected DENV infection should be tested with RT-PCR (i.e., a nucleic acid amplification test [NAAT]) or an NS1 antigen test, as well as with an IgM enzyme-linked immunosorbent assay (ELISA) antibody test. These tests are available from commercial laboratories and public health laboratories. You can contact your state or local health department to facilitate dengue diagnostic testing.

- These tests can be considered regardless of the symptom onset date, although the sensitivity of RT-PCR and NS1 antigen tests decrease after the first 7 days of symptoms.
- If the patient test negative for dengue, consider testing for other infectious diseases that might be occurring in the location where the patient was likely exposed. Zika, chikungunya, and Oropouche can all have similar clinical signs and symptoms and often circulate in the same areas as dengue.

Recommendations for Health Departments

- Review and be familiar with the recommendations for state, tribal, local, and territorial Health Departments in the June 2024 HAN (CDCHAN-00511) on dengue in the United States.
- Consider using the new job aid for reviewing dengue medical records when reviewing data from medical records for case investigations.
- When selecting an RT-PCR assay, use the CDC DENV-1-4 Real Time RT-PCR Assay when dengue is the most likely diagnosis. Use the Trioplex Real Time RT-PCR assay (approved under an Emergency Use Authorization by the Food and Drug Administration), when Zika is the most likely diagnosis. For samples testing negative for dengue, consider RT-PCR testing for Oropouche virus (OROV) based on recent OROV circulation in locations visited.
    - The Trioplex Real Time RT-PCR assay, which simultaneously tests for dengue, chikungunya, and Zika viruses, is less sensitive for DENV-4 compared to the DENV-1-4 Real Time RT-PCR assay, and DENV-4 has been detected more frequently among travelers returning to the United States in recent months.
    - Public health laboratories can request technical support and test kits at denguePCRordering@cdc.gov and trioplexPCRordering@cdc.gov.
    - Oropouche RT-PCR testing is available commercially and at selected state health departments and CDC.
- Investigate, report, and respond to dengue cases and outbreaks in endemic and non-endemic areas of the United States.
- Share guidance with the public about preventing dengue and other vector-borne disease.

Recommendations for the Public

- Review and be familiar with the recommendations for the public in the June 2024 HAN (CDCHAN-00511) on dengue in the United States and CDC's current Travel Health Notice on global dengue.
- Take steps to prevent mosquito bites during travel, particularly if traveling to an area with frequent or continuous dengue transmission. In addition, take steps to prevent mosquito bites for 3 weeks after travel to avoid possibly spreading the virus to others if you are in an area where mosquitoes are active. These activities will also lower the risk for other vector-borne diseases.

For More Information

For Healthcare Providers

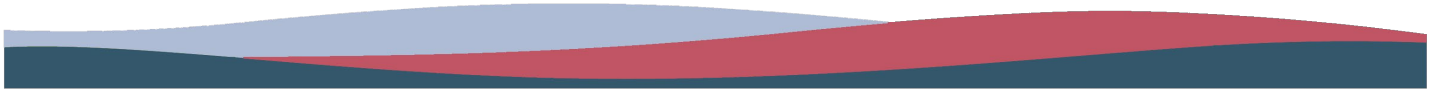
- Clinical Testing Guidance for Dengue | Dengue | CDC
- Guidelines for Classifying Dengue | Dengue | CDC
- Clinical Features of Dengue | Dengue | CDC
- Dengue Clinical Management Pocket Guide | Dengue | CDC
- Dengue During Pregnancy | Dengue | CDC
- Dengue Vaccine | Dengue | CDC
- Dengue | Yellow Book 2024 | CDC
- Dengue Clinical Management Course | Dengue | CDC
- Current Dengue Outbreak | Dengue | CDC
- Fact Sheet for Health Care Providers: Interpreting Trioplex Real Time RT-PCR Assay (Trioplex rRT-PCR) Results

For Health Departments and Public Health Professionals

- Reviewing Dengue Medical Records: Job Aid | Dengue| CDC
- Response to Dengue Cases in Non-Endemic Areas of the United States | Dengue | CDC
- Data and Statistics on Dengue in the United States | Dengue | CDC
- For Mosquito Control Professionals | Mosquitoes | CDC
- ArboNET | Mosquitoes | CDC
- Dengue Case Investigation Form | Dengue | CDC
- Dengue Communication Resources | Dengue | CDC
- Communication Resources | Mosquitoes | CDC
- Submitting Specimens for Dengue Virus Tests | Vector-Borne Diseases | CDC
- Current Dengue Outbreak | Dengue | CDC
- DENV-1-4 Real Time RT-PCR Assay | CDC

For the Public

- Preventing Dengue | Dengue | CDC
- Preventing Mosquito Bites While Traveling | CDC
- Dengue During Pregnancy | Dengue | CDC
- Caring for a Family Member with Dengue | CDC
- Mosquito Control at Home | Mosquitoes | CDC



- Get Rid of Mosquitos at Home | CDC
- Your Infant Has Dengue | CDC
- Areas with Risk of Dengue | Dengue | CDC
- Global Dengue | Travel Health Notices | CDC
- Find a Clinic | Travelers' Health | CDC
- Current Dengue Outbreak | Dengue | CDC
- About Dengue Fact Sheet | Dengue | CDC
- Fact sheet for pregnant women: Understanding results from the Trioplex Real-Time RT-PCR Assay (Trioplex rRT-PCR)

References

1. Pan American Health Organization. Report on the epidemiological situation of dengue in the Americas. February 27, 2024.
2. Pan American Health Organization. Epidemiological Update — Increase in dengue cases in the Region of the Americas. June 18, 2024.
3. Pan American Health Organization. Epidemiological Alert — Risk of dengue outbreaks due to increased circulation of DENV-3 in the Americas Region. February 7, 2025.
4. Ware-Gilmore F, Rodriguez DM, Ryff K, et al. Dengue outbreak and response — Puerto Rico, 2024. *MMWR Morb Mortal Wkly Rep* 2025;74:54–60. DOI: 15585/mmwr.mm7405a1
5. Wong JM, Adams LE, Durbin AP, et al. Dengue: A growing problem with new interventions. *Pediatrics*. 2022;149(6):e2021055522. DOI: 1542/peds.2021-055522
6. World Health Organization. Dengue – Global situation May 30, 2024.

The Centers for Disease Control and Prevention (CDC) protects people's health and safety by preventing and controlling diseases and injuries; enhances health decisions by providing credible information on critical health issues; and promotes healthy living through strong partnerships with local, national and international organizations.
Department of Health and Human Services
HAN Message Types

- **Health Alert:** Conveys the highest level of importance about a public health incident.
- **Health Advisory:** Provides important information about a public health incident.
- **Health Update:** Provides updated information about a public health incident.

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This message was distributed to state and local health officers, state and local epidemiologists, state and local laboratory directors, public information officers, HAN coordinators, and clinician organizations.
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