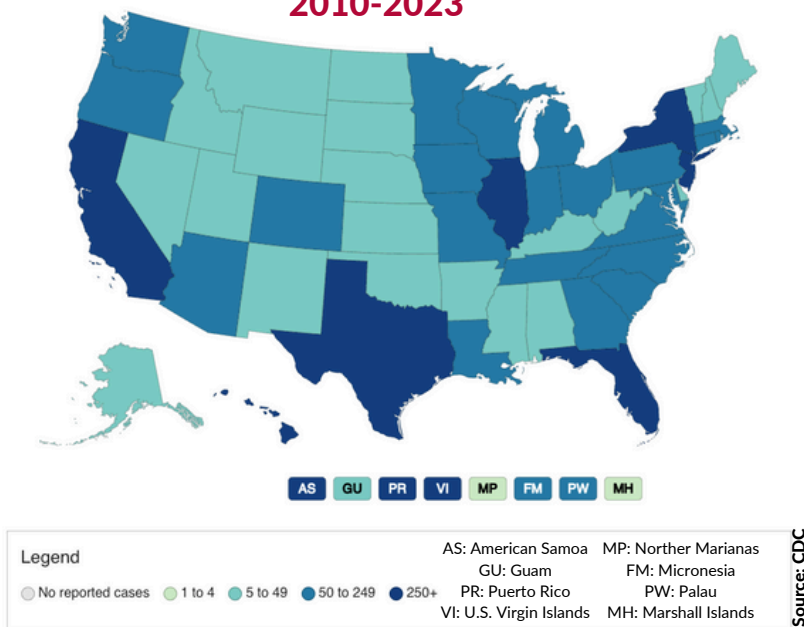


Dengue is a **neglected tropical disease** caused by a virus spread through the bite of infected *Aedes* mosquitoes. There are four strains of the virus, all of which can infect humans. **Disease severity** varies widely from asymptomatic to severe illness and death.

While most cases in the U.S. are due to foreign travel, **locally-acquired cases** of dengue have been reported in Arizona, California, Florida, Hawaii, Puerto Rico, and Texas. In **2023** there were approximately 1,200 locally-acquired cases of dengue in the United States and 1,700 travel-related cases.

All Dengue Cases in U.S. States and Territories, 2010-2023



Symptoms

1 in 4 people infected with dengue feel sick. Of those who feel sick, 1 in 20 will have a severe infection. Severe infections are more common in people who have had dengue before, infants, and pregnant women.

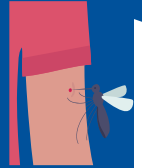
Mild Cases

- Fever
- Rash
- Nausea, vomiting
- Aches and pains
- Typically lasts about 2-7 days

Severe Cases

- Shock
- Internal bleeding
- Death
- Cases enter this stage typically 24-48 hours after fever disappears

Impact of Dengue



According to the World Health Organization, about half of the world's population is considered at risk for dengue.

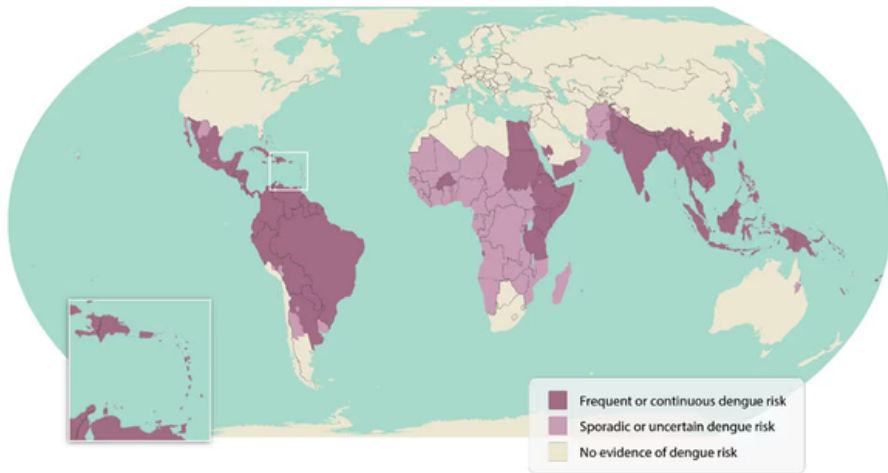
There are approximately 100-400 million cases of dengue per year, resulting in approximately 40,000 deaths.

The disease is also known as “break-bone fever” because of the severe joint pain in some cases.

Transmission generally occurs through the bite of infected mosquitoes, though an infection can be passed from mother to child in utero or during childbirth or through exposure to contaminated blood.

Infections are confirmed through a blood test, as symptoms are similar to other diseases, such as the flu.

Global Risk of Dengue



Source: CDC

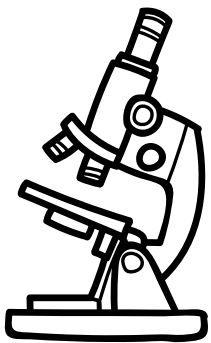
Dengue is endemic in Puerto Rico and is a growing threat in other parts of the U.S.

Cases of dengue are highest in **tropical and subtropical regions**, with approximately 70% of cases occurring in Asia. However, cases in other countries are on the rise and the disease is endemic in more than **100 countries**. The European Centre for Disease Prevention and Control reported **410 confirmed cases** of dengue in 2021. While Europe does not have high rates of the disease, it is a rising public health concern in the region. In 2023, there were the **highest rates of dengue ever recorded** in the Americas, with over 4 million cases.

Treatments and Vaccination

There is currently no **treatment** specifically for dengue infections. Instead symptoms are treated as needed, such as using acetaminophen to manage a fever. There is an **approved dengue vaccine** for children 9-16 years old that is part of routine immunizations for children in Puerto Rico.

Current Research



The **National Institute of Allergy and Infectious Diseases**, a branch of the NIH, funds dengue research, including discovering novel **treatments** and vaccines.

Current research at **Johns Hopkins University** seeks to target the mosquito vector that spreads dengue, as well as other diseases like malaria.

The **Fred Hutchinson Cancer Research Center** is currently studying potential new vaccines that could target all four strains of the virus.

Prevention through Mosquito Control

The CDC recommends some helpful tips for preventing mosquito bites.



Use an EPA-registered insect repellent



Dress appropriately



Stay indoors and only open windows fitted with mosquito screens



Sleep under a mosquito net in areas of high dengue transmission