

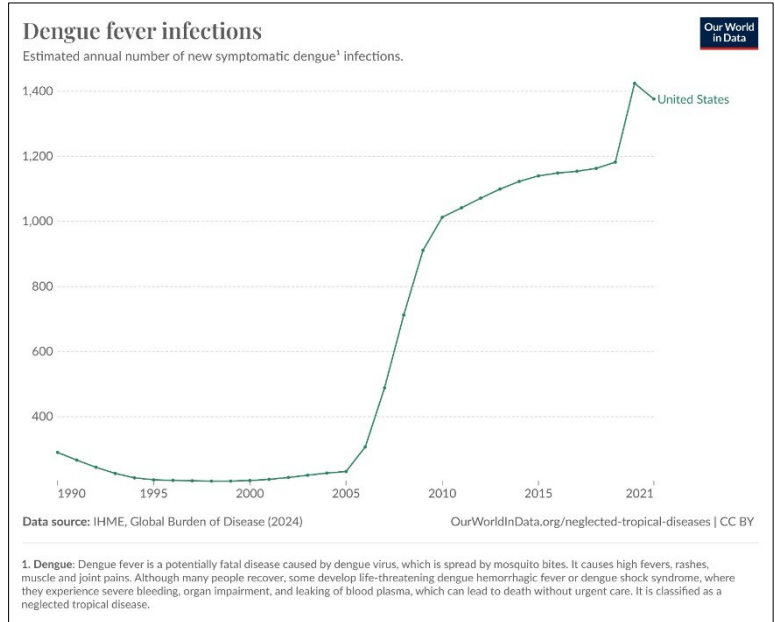
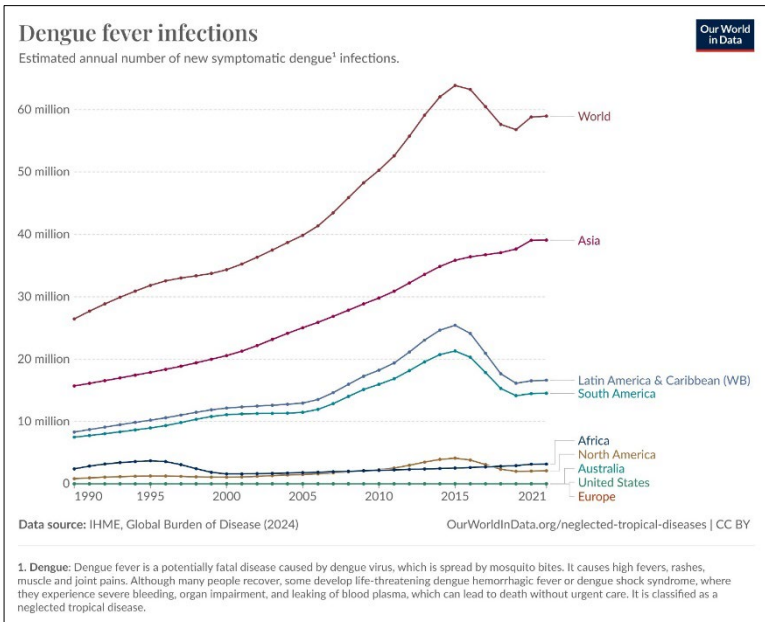
Report to the Boards of Health
Jennifer Morse, MD, MPH, FAAFP, Medical Director

Mid-Michigan District Health Department, Wednesday, August 28, 2024
Central Michigan District Health Department, Wednesday, August 28, 2024
District Health Department 10, Friday, August 23, 2024



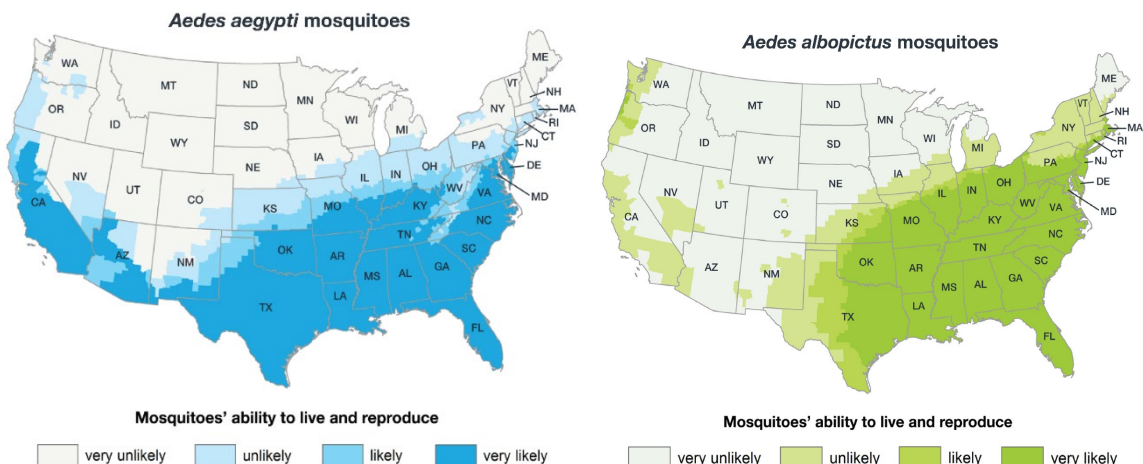
Dengue Fever

Dengue is a disease caused by any of four related viruses: dengue virus 1, 2, 3, and 4. These viruses are spread between people through the bite of infected *Aedes* species mosquitoes, mainly *Aedes aegypti* and *Aedes albopictus*. Dengue cases have risen greatly in recent years. In 2023, more than 5 million cases were reported from 80 countries, with at least 23 countries reporting dengue outbreaks. That number has more than doubled in 2024 so far, and a major outbreak is occurring in the U.S. territory of Puerto Rico.



Traditionally, most dengue occurred in tropical and subtropical parts of the world, but now about half of the world's population is at risk of infection. Many things have likely contributed to the large global rise of dengue cases. There has been a change in the distribution of the mosquitos that carry dengue, chiefly *Aedes aegypti* and *Aedes albopictus*, even into countries that never had dengue before. This has been due to increasing temperatures and high rainfall and humidity as well as the movement of population into new areas. Many cases of dengue happen because people are traveling more often to places where dengue is common.

ESTIMATED potential range of *Aedes aegypti* and *Aedes albopictus* in the United States, 2017



Dengue has become endemic (occurs frequently or continuously) in some parts of the United States and US territories. Over the past 10 years, the US has had an annual average of 869 travel associated cases of dengue and 600 locally acquired cases of dengue.

Also known as break-bone fever, most people with dengue have no or mild symptoms and will get better in 1–2 weeks. Rarely, dengue can be severe and lead to death and those who are infected for the second time are at greater risk of severe dengue. For those with symptoms, they may include high fever, severe headache, pain behind the eyes, muscle and joint pains, nausea, vomiting, swollen glands, and rash. Severe dengue symptoms usually start after the fever has gone away and include severe abdominal pain, persistent vomiting, rapid breathing, bleeding gums or nose, fatigue, restlessness, blood in vomit or stool, being very thirsty, pale and cold skin, and feeling weak. People with these severe symptoms should get care right away. After recovery, people who have had dengue may feel tired for several weeks.

There is no specific treatment for dengue. It is best to try to prevent mosquito bites when in areas where dengue can spread. The mosquitos that spread dengue thrive in urban areas and are aggressive biters that mainly feed on humans both indoors and outdoors. They can lay eggs in very small amounts of water. To prevent mosquitoes, but particularly *Aedes aegypti* and *Aedes albopictus*, eliminate any site mosquitos might breed:

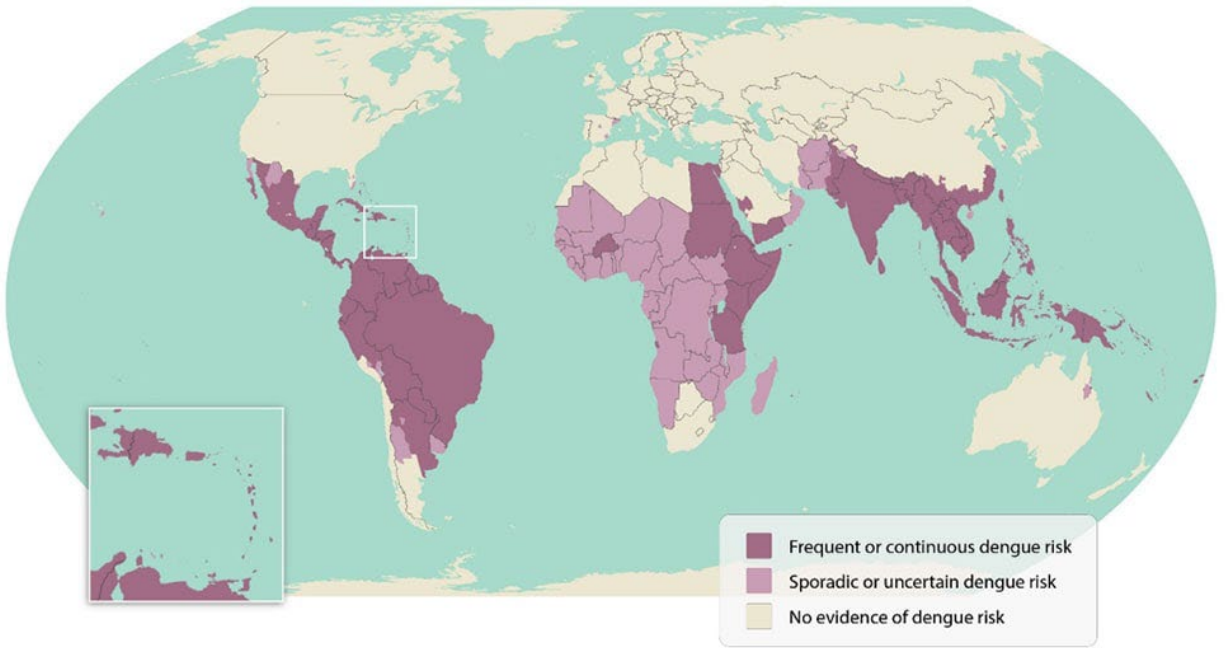
- Once a week, empty or throw out anything holding water, inside and outside
- Tightly cover any water storage containers
- Change water in bird fountains and animal dishes often
- Keep rain gutters and yard drainpipes clear of debris
- Use an outdoor insect spray in dark humid areas where mosquitos rest
- Keep windows and doors shut or be sure windows and doors have functioning screens

Protect yourself from mosquito bites while outdoors:

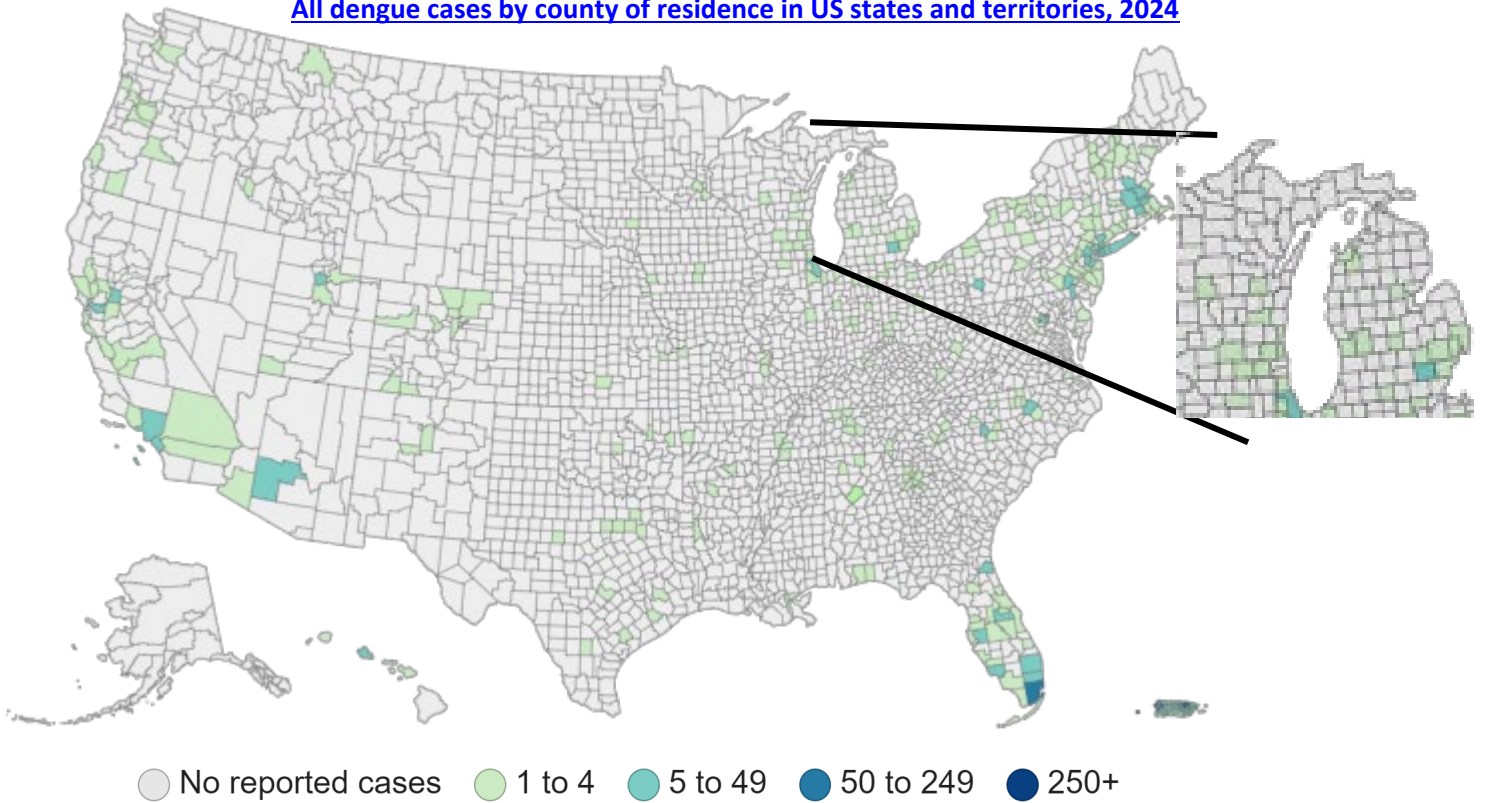
- Use EPA-registered insect repellents with one of the following active ingredients: DEET, picaridin, IR3535, oil of lemon eucalyptus, para-menthane-diol, or 2-undecanone. Follow product label instructions.
- Wear loose-fitting, long-sleeved shirts and pants.
- Treat items such as boots, pants, socks, and tents with permethrin or buy permethrin-treated clothing and gear. Do not use permethrin on skin.

Prior to travel, review general health tips and specific health concerns for your destination at <https://wwwnc.cdc.gov/travel/>. Travel information specific for dengue can be found at <https://wwwnc.cdc.gov/travel/notices/level1/dengue-global> and mosquito guidance for traveling can be found at <https://www.cdc.gov/mosquitoes/prevention/preventing-mosquito-bites-while-traveling.html>.

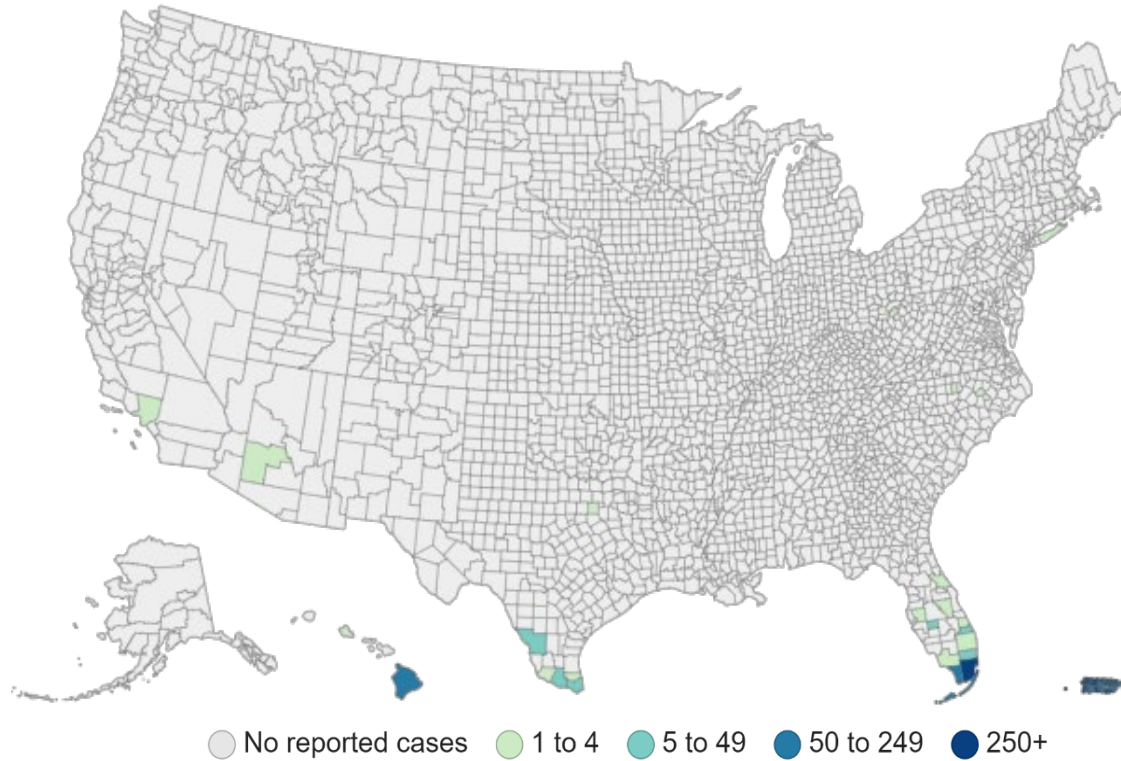
There is a [dengue vaccine](#) approved for use in children aged 9–16 years with laboratory-confirmed previous dengue virus infection *and* living in areas where dengue is endemic. This include some U.S. territories and freely associated states. The vaccine is not approved for use in U.S. travelers who are visiting but not living in an area where dengue is common.



All dengue cases by county of residence in US states and territories, 2024



Locally acquired dengue cases by jurisdiction of residence in US states and territories, 2010 - 2023



Recommendations:

1. Be aware of health risks with travel, including different areas of the United States.
2. Take steps to prevent mosquitos and mosquito bites as they can spread a number of different illnesses that vary around the world.
3. If you are ill after travelling, be sure to tell your healthcare provider your travel history.

Sources

- CDC. Dengue. <https://www.cdc.gov/dengue/index.html>
- WHO. Dengue and severe dengue. <https://www.who.int/news-room/fact-sheets/detail/dengue-and-severe-dengue#:~:text=Overview,aches%2C%20nausea%2C%20and%20rash>