

About Dengue



- Dengue fever is a mosquito-borne viral disease that **has spread rapidly around the world.**¹ Global incidence rates have increased about ten-fold from 2000 to 2019, and more countries are reporting their first outbreaks of the disease.¹
- Dengue is **caused by any of the four dengue virus serotypes**, each of which can cause dengue or severe dengue.²
- Most dengue infections are asymptomatic or lead to mild illness with flu-like symptoms, but occasionally severe dengue can lead to potentially life-threatening complications.¹
 - Most dengue cases are either asymptomatic or subclinical; approximately 25% lead to clinically apparent disease, and around 5% of these may develop into severe cases.^{2,3}
- Dengue is often found in tropical and subtropical regions where *Aedes aegypti* and *Aedes albopictus* mosquitoes are most common. Anyone traveling to an area with dengue is at risk of infection.⁴

The Geographical Range of Dengue is Expanding

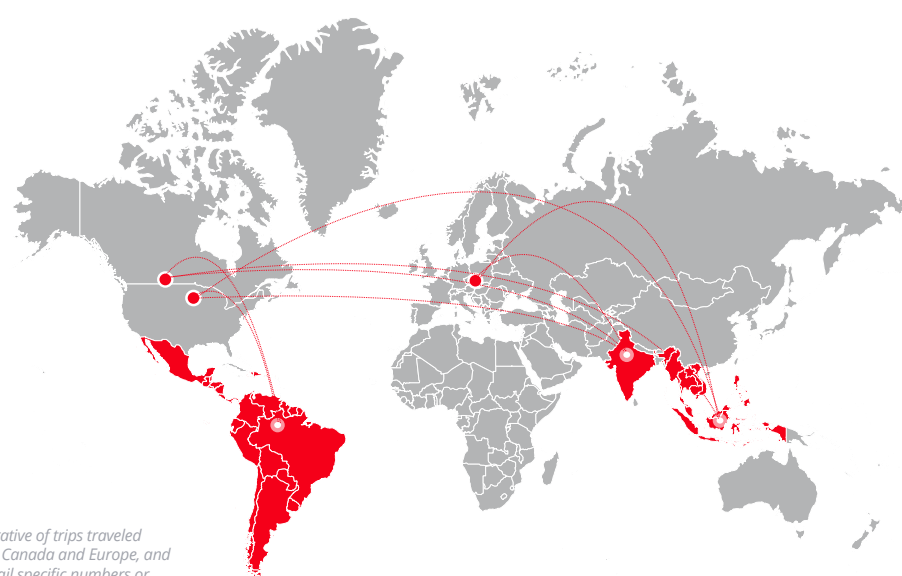
- The incidence of dengue has grown dramatically around the world in recent decades, causing an **estimated 390 million infections.**^{1,5}
- Globalization, urbanization and climate change have contributed to the global transmission of the disease in new areas, including in parts of the contiguous United States (U.S.), continental Europe and overseas territories.^{1,4}
 - Climate change can affect transmission, as dengue mosquitoes reproduce more quickly and bite more frequently at higher temperatures.⁶ Increasing temperatures may enable greater spread and transmission in low-risk or currently dengue-free parts of Asia, Europe, North America, and Australia.⁷
 - Climate change may also affect the geographic range of dengue through its effects on human and natural systems, such as water storage, land use, and irrigation.⁷

According to the World Health Organization (WHO), dengue fever is spreading to new areas in the region,¹ including reported cases in Spain in 2019 and France and Italy in 2020.⁸

In 2022 more than 2.5K cases of dengue were reported across U.S. states and territories.⁹

Risk to Travelers

- Dengue is a **leading cause of fever among travelers** returning from Southeast Asia and is the second-most diagnosed cause of fever in travelers returning to Europe from endemic countries.^{10,11}



Map is illustrative of trips traveled from the US, Canada and Europe, and does not detail specific numbers or timeframes

Controlling Dengue

- Current efforts for dengue control are directed at reducing infection rate through bite prevention and vector control methods, such as personal protection, biological control, chemical control and environmental management of mosquitoes^{1,12,13}:

- **Preventing breeding:** Removing or applying insecticide to outdoor water storage containers;
- **Personal protection measures:** Use of window screens, repellents, or wearing clothing that minimizes skin exposure;
- **Community engagement:** Educate the community on mosquito-borne diseases and mobilize together for vector control;
- **Active mosquito and virus surveillance:** Build surveillance measures to monitor mosquito population.



- An integrated dengue prevention and control strategy is important to combating dengue, as recommended by international organizations such as the World Health Organization and Pan American Health Organization (PAHO).^{12,13}

References

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