

About Dengue

Dengue fever is a mosquito-borne viral disease that **has spread rapidly around the world.**¹

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

Dengue is found mostly in **urban and semi-urban areas in tropical and sub-tropical climates** where *Aedes aegypti* and *Aedes albopictus* mosquitoes are most common. Climate conditions, such as rainy season in endemic countries, can lead to increased mosquito breeding.^{5,6,7}

Dengue is caused by four distinct, but closely related, dengue virus serotypes:³



Recovery from infection with one serotype is thought to provide long lasting protection against that serotype, but not against other serotypes. Individuals who are infected for a second time with a different serotype are at greater risk of severe dengue.^{1,2,5}

Dengue is a Threat to Global Health



Over half of the world's population lives under the threat of dengue, which is responsible for an **estimated 390 million infections** globally per year and people in more than 125 countries are at risk of infection.^{1,5,8}



Global incidence rates have increased almost 30-fold from 2000 to 2024, and more countries are reporting their first outbreaks of the disease.¹



The global economic burden of dengue has been estimated to cost **\$8.9 billion per year.**⁹

Since 1970, dengue has spread from nine countries to being endemic in more than 100 countries.^{1,10}

- The Americas, South-East Asia and Western Pacific regions are the most seriously affected. In 2024, countries in the Americas reported over 86% of total cases, with Brazil representing the highest number of cases in the region.¹



- More than six billion people could be at risk for dengue by 2080 due to population growth in endemic areas based on one projection.⁵

- A vast majority of dengue cases are asymptomatic or mild and self-managed, resulting in the actual numbers of dengue cases being under-reported.^{1,11}

Dengue Can Have a Negative Impact on Endemic Regions and Put Significant Burdens on Communities

Epidemics are unpredictable and are becoming increasingly frequent.

- Severe dengue is a **leading cause of hospitalization and death** among children in some Asian and Latin American countries.¹²
- Hospitals can struggle to manage surges in cases.
 - During outbreaks, affected areas may experience sharp increases in both cases and hospital admissions.
 - Limited physical capacity can hinder care delivery and overwhelm health systems.
 - Staffing shortages may exacerbate strain, increasing stress, fatigue and absenteeism.^{13,14}



The Economic Impact of Dengue is Broad



Individuals

Dengue hospitalizations can range from **\$30-\$2,000** per patient, with families spending up to **25% of monthly household income** on care.^{15,16}



Local Governments

Local governments in dengue endemic regions face significant costs for vector control, surveillance and public health communication during dengue outbreaks.¹⁷



Countries

Dengue outbreaks can disrupt tourism and workforce productivity due to prolonged illness.¹⁷

Controlling Dengue

- Current efforts for dengue control are directed at reducing the infection rate through^{1,18,19}:
 - **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 with local governments for vector control;
 - **Active mosquito and virus surveillance:** Build surveillance measures to monitor mosquito population;
 - **Vaccination:** Personal protection measure designed to expose the vaccine recipient to a number of components of the virus that could help protect against future infection with the dengue virus.



An integrated dengue prevention and control strategy is important to combating dengue, as recommended by international organizations such as the World Health Organization (WHO) and Pan American Health Organization (PAHO).^{18,19}

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