



# OSAC Health Security Snapshot: Dengue Epidemic in the Philippines



A product of the OSAC Research and Information Support Center (RISC)

## Background

Dengue fever is endemic in over 100 countries and generally non-fatal. According to the [World Health Organization](#), dengue infects 390 million people every year. So far this year, the [Philippines](#) has reported 146,000 cases and over 600 deaths. Mosquito-borne illnesses [have been on the rise](#) across the East Asia Pacific region, although in most countries the death toll has stayed beneath 100. Aside from the Philippines, the highest death rate from dengue this year was in Malaysia, where there have been 76,000 cases and 111 deaths. While most patients recover, severe dengue cases sometimes result in shock, internal bleeding and possibly death. . The most effective protective measure is to avoid mosquito bites. This report addresses the outbreak in the Philippines, and notes what travelers can do to keep themselves safe.

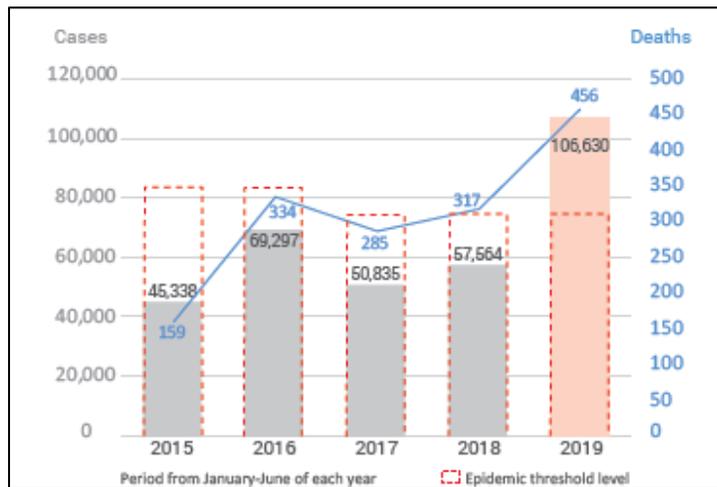


Figure 1: Graph of dengue cases in the Philippines from UNOCHA.

## Economic Effects

[Dengue fever](#) involves one of four dengue virus strains transmitted by female *Aedes* mosquito bites in tropical and subtropical regions. The mosquito is identifiable by white bands on its legs and silvery scales. Dengue [transmission](#) is possible only via a mosquito biting an infected patient (up to 12 days after their own infection) and then biting a healthy person approximately eight days later; it is not transmissible from human to human. Dengue cases in the Philippines have historically surged in three- to four-year spikes.

Diagnosing dengue is very difficult, as its symptoms are similar to the flu. Nearly three-quarters of those infected are

asymptomatic. However, classic symptoms can include lasting and relapsing high fever, headache, pain in the eyes, muscle/joint/bone pain (dengue was once called “break bone disease”), nausea, vomiting, rash, minor skin/mucosal hemorrhages, and fatigue. **Most patients recover.**

Severe dengue, which manifests in about 5% of patients, can set in after the fever begins to subside (defervescence) and lasts about two days. During this time, blood plasma begins to leak from the capillaries, making the infection far more serious. Symptoms include intense stomach pain, repeated vomiting possibly with blood, bleeding from nose/mouth or internally, drowsiness, irritability, and difficulty breathing. This generally requires protracted hospitalization and intravenous (IV) fluid replacement.

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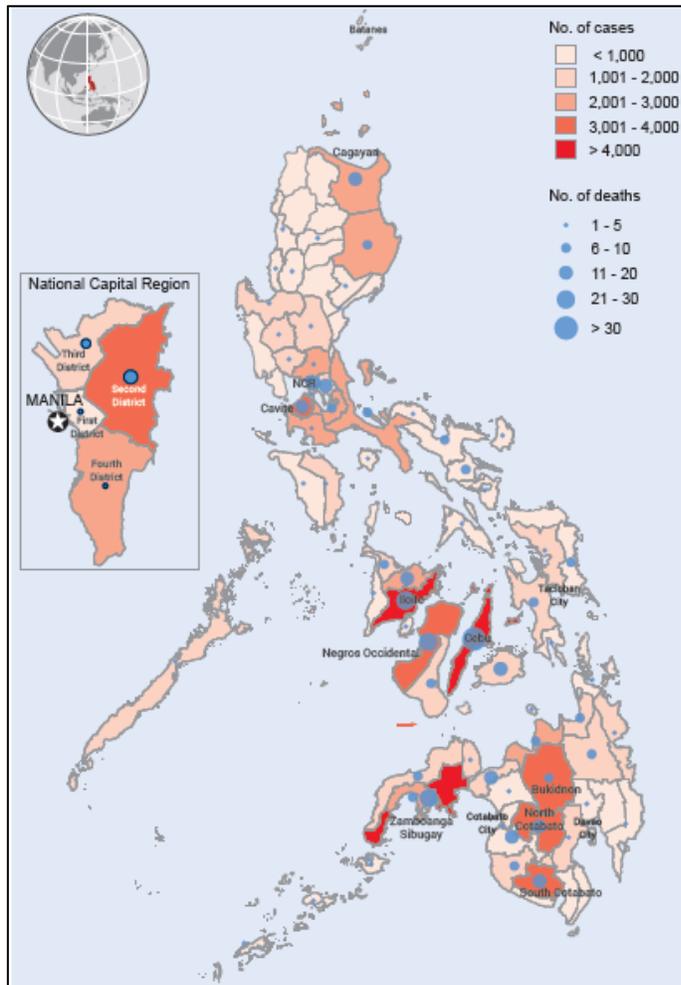


Figure 2: Map of 2019 Dengue cases from UNOCHA.

### Security Effects

The Western Visayas has recorded the most cases in the Philippines, with more than [23,000 diagnoses](#). Iloilo, Cebu, and Western Mindanao all have a significant number of dengue cases as well. Many cities are seeking a “state of calamity” to access emergency funds; seven out of the country’s 17 regions, home to 40% of the Philippines population, have declared [epidemics](#). This outbreak is particularly concerning, as there has been a [98% increase of deaths](#) from dengue compared to this time last year. The most affected group has been children below the age of ten. Several issues have contributed to this surge in dengue infections. A vaccine previously used in the Philippines – Dengvaxia – poses health risks in rare cases, and led to the [death of 14](#) of the 800,000 children vaccinated between 2016 and 2017. The WHO [recommends](#) administering the vaccine only to those in high-risk areas who have already been exposed to the virus and are over the age of 9. The Philippines has banned the use of this vaccine, although another vaccine is not available to replace it, leaving the country with little means to combat the spread of dengue. The vaccine however, is still available in the U.S. with significant restrictions.

In addition, the Philippines is in a tropical zone and receives a significant amount of rain. These continuous rains can lead to large pools of standing water, where mosquitoes then lay eggs. Besides the environmental factors that allow mosquitoes to thrive, some human practices also contribute to the rise in dengue. For example in El Nino, Palawan, [water shortages](#) led people to collect and store water in containers, which created an increase in standing water where mosquitos could breed.

The rainy season in the Philippines is from [June to November](#). When temperatures dip, the infection rate begins to taper. Aedes mosquitoes cannot survive temperatures colder than 10C/50F. However, equatorial countries generally do not see a sufficient drop in temperature to eliminate the mosquito population altogether, so dengue remains a threat all year round. In an effort to counter the spread of

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mosquitoes, the government has launched “[the 4pm habit](#)” initiative, a daily clean-up drive to search out and destroy potential mosquito breeding grounds.

### Private Sector Impact?

Although many clinical trials are ongoing, there is currently no cure for dengue. Acetaminophen (also known as paracetamol outside of the United States) and sponge baths can help with pain management and fever control, but **travelers should avoid aspirin (including ibuprofen and naproxen)** due to its blood-thinning properties. Travelers should also rest and stay hydrated. Dengue infection does create a life-long immunity to that particular strain of the virus but not to the other three strains; a [secondary infection](#) with a different strain raises the risk of severe dengue and shock.

Most individuals infected with dengue experience roughly a week of acute symptoms and require about another week for recovery. However, patients with severe dengue require significantly longer recovery and may experience heightened fatigue or lethargy for weeks.

Infection in [pregnant women](#) may result in poor birth outcomes such as stillbirth, low birth weight, and premature birth.

### How do I respond?

Travelers can protect themselves by **preventing mosquito bites**. Although there is no specific treatment for dengue, early detection and access to proper medical care lowers fatality rates to [below 1%](#). The CDC offers a dedicated [website](#) to reduce the risk of a dengue infection, including preventing bites. The CDC offers the following [recommendations](#) to avoid mosquito bites:

- Cover exposed skin, including wearing long sleeves, pants, and hats.
- Use mosquito repellent with high percentages of active ingredients, like DEET, picaridin, oil of lemon eucalyptus, or IR3535, and apply it after applying sunscreen.
- Stay in well-screened or air-conditioned spaces.
- Use a bed net.
- Empty standing water and treat moist areas with insecticides. Note: [studies](#) in India and Brazil have shown that mosquitoes have developed resistance to some insecticides, so insecticide rotations and mixtures may delay resistance.

Health professionals should continue to monitor patients in the days after a fever breaks. Travelers should **seek medical care if they become ill within two weeks of visiting an infected area**.

The U.S. Embassy in Manila has not issued messaging on dengue fever. Travelers to the Philippines should remain aware of this disease’s presence and take countermeasures against infection, especially mosquito bite prevention.

### Further Information:

For additional information about the Dengue Fever in the Philippines or other security issues around the region, contact OSAC’s [Asia-Pacific Team](#) and consult the following resources.

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- OSAC: [What's Bugging Your Staff: Mosquito-borne Diseases - Mitigation Tactics](#)
- OSAC: [Snapshot: Dengue in Bangladesh 2019](#)
- OSAC: [Snapshot: Dengue in Sri Lanka 2017](#)
- CDC: [Dengue Virus: What You Need to Know](#)
- CDC: [Dengue Prevention](#)
- CDC: [Yellow Book](#)
- CDC: [Avoid Bug Bites](#)

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