

# Zika Virus: Global Health Considerations

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## Background

[Zika](#) is a virus that is primarily spread by *Aedes* mosquitoes—the same mosquitoes that transmit [dengue](#), [chikungunya](#), and [yellow fever](#). Zika transmission has also been [documented](#) from mother to child during pregnancy, as well as through sexual intercourse, blood transfusions, and laboratory exposure. Scientists first identified the virus in 1947 among monkeys living in the Ugandan Zika forest. Five years later, human cases were detected in Uganda and Tanzania. The first human cases outside of Africa were diagnosed in the Pacific in 2007 and in Latin America in 2015. The ongoing outbreak in Latin America began in Brazil in May 2015 and has since [spread](#) to 26 countries and territories in the region. Health experts [predict](#) that the virus will likely spread to all countries in the Western Hemisphere except Canada and Chile, the only countries in the region without *Aedes* mosquitoes. No instances of local transmission have been reported in the continental [United States](#), but cases have been reported among travelers who visited Central and South America, and transmission is ongoing in Puerto Rico. Outside of Latin America, Cape Verde—*islands off the West African coast*—has ongoing transmission and Samoa—*islands in the Western Pacific*—has reported less than a dozen imported cases.

Figure 1. Countries and Territories with Zika Cases in the Americas

(January 31-February 6, 2016)



**Source:** Created by CRS from PAHO and CDC maps of Zika cases at <http://www.paho.org> and <http://www.cdc.gov/zika/geo/index.html>, accessed on February 9, 2016.

Scientists are unsure how many people have been affected by the 2015 outbreak in Latin America. Experts at the World Health Organization (WHO) and its regional office for the Americas, the [Pan American Health Organization \(PAHO\)](#), cite several factors that complicate efforts to count Zika cases, including the following:

- A relatively small proportion (about 1 in 4) of infected people develop symptoms.
- The virus is only detectable for a few days in infected people's blood.
- Current tests cannot definitively distinguish Zika from similar viruses, such as dengue and chikungunya.

Zika typically causes mild symptoms, including fever, rash, and conjunctivitis, which usually last up to one week. Hospitalization and death following infection are [rare](#). There are neither antiviral treatments for the disease nor vaccines to prevent infection.

Health experts are uncertain whether Zika [causes microcephaly](#), a potentially severe birth defect involving brain damage. Since October 2015, Brazilian officials have reported more than 4,000 cases of microcephaly in areas with ongoing Zika transmission, up from roughly 150 cases in previous years. Health officials are concerned that this may be a result of infection in the fetus when a pregnant woman is infected.

### U.S. and International Responses

Although a direct link between Zika infection and birth defects has not been definitively established, the suspected causality has caused WHO to raise the risk profile of Zika "from a mild threat to one of [alarming proportions](#)." The WHO Director-General found four issues particularly troubling:

- the possible association of infection with birth malformations and neurological syndromes;
- the potential for further international spread given the wide geographical distribution of the mosquito vector;
- the lack of population immunity in newly affected areas; and

the absence of vaccines, specific treatments, and rapid diagnostic tests.

Citing these concerns and possible increases in mosquito populations due to El Niño, WHO Director-General Margaret Chan convened an Emergency Committee meeting on February 1, 2016, under the [International Health Regulations](#) and [declared](#) that the ongoing outbreak is a public health emergency of international concern ([PHEIC](#)). A PHEIC declaration indicates that the health event "may require immediate international action." Scientists are also considering the risk of infection to and further global spread of the virus by visitors to Brazil for the 2016 Summer Olympics.

WHO and PAHO are supporting affected countries to detect, respond, and prevent Zika infections by

- strengthening disease surveillance;
- building laboratory capacity to detect the virus;
- bolstering mosquito control;
- preparing recommendations for the care of infected persons; and
- defining and supporting priority research areas.

Several U.S. agencies are collaborating with international agencies to research the modes of transmission and complications that may arise following infection. The [U.S. Centers for Disease Control and Prevention](#) (CDC) and PAHO, for example, are partnering with Brazil's Ministry of Health to study the impacts of Zika during pregnancy, including a possible link to microcephaly. CDC and the National Institutes of Health (NIH) are working on an improved diagnostic test. The [Department of Defense](#) (DOD) is providing information to NIH to facilitate the [development](#) of vaccines and effective treatments.

#### U.S. Funding for Global Disease Threats

International outbreaks of new and reemerging diseases have prompted calls for more funds to expand global capacity to address diseases like Zika. In February 2014, Kathleen Sebelius, the former Secretary of the U.S. Department of Health and Human Services, and WHO Director-General Margaret Chan announced [the Global Health Security Agenda](#) (GHSA), an international effort to accelerate IHR implementation and pandemic preparedness worldwide, particularly in low-resource countries. U.S. resources that are available for addressing diseases with pandemic potential globally, like the ongoing Zika outbreak, are outlined in [Table 1](#). President Barack Obama has requested [\\$1.8 billion](#) to address the ongoing Zika outbreak, including over \$375 million for international efforts. The Zika Emergency request is outlined in [Table 2](#).

Table 1. International Pandemic Preparedness Funds: FY2014-FY2016

(current \$U.S. millions)

Agency/Program	FY2014 Enacted	FY2015 Enacted	FY2016 Request	FY2016 Enacted
USAID Global Health Security	73	73	50	73
CDC Global Public Health Protection	63	55	77	55

**Source:** State-Foreign Operations and CDC Congressional Budget Justifications and the FY2016 Consolidated Appropriations.

**Notes:** Includes only funds appropriated for international pandemic preparedness. U.S. agencies may use additional resources from other accounts to address global disease outbreaks worldwide. Through FY2015 Ebola Emergency appropriations, Congress provided \$597 million to CDC to establish and strengthen National Public Health Institutes and for other international preparedness

activities. It is unclear whether these resources are being used for ongoing Zika responses.

Table 2. Zika Emergency Request

Agency/Activity	Amount
U.S. Centers for Disease Control and Prevention (CDC) – domestic response	\$828 million
Puerto Rico's Medicaid Federal Medical Assistance Percentage (FMAP) – health services for pregnant women	\$250 million
National Institutes of Health (NIH) and Food and Drug Administration (FDA) – Vaccine Research and Diagnostic Development	\$200 million
Establishment of an Urgent and Emerging Threat Fund at HHS to support State responses and other emerging needs related to Zika	\$210 million
U.S. Agency for International Development (USAID) – support affected countries to respond to Zika outbreak	\$335 million
U.S. Department of State – support for U.S. citizens in affected countries, as well as Zika responses by the World Health Organization (WHO) and the Pan American Health Organization (PAHO)	\$41 million

**Source:** White House, *Preparing for and Responding to the Zika Virus at Home and Abroad*, Fact Sheet, February 8, 2016.