

Zika Virus: Global Health Considerations

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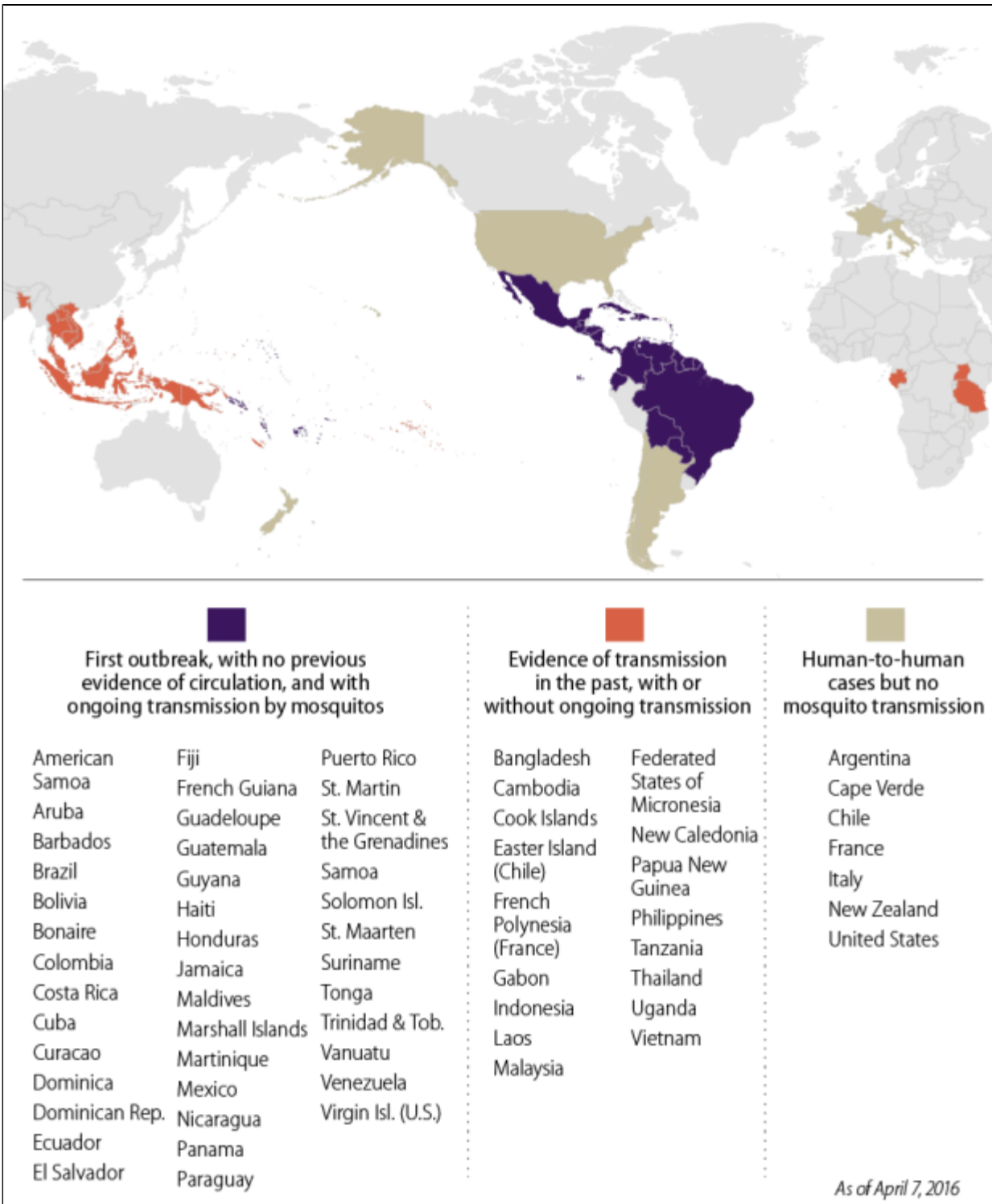
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Background

[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. From January 1, 2007, to [April 7, 2016](#), Zika has spread to 62 countries and territories ([Figure 1](#)), and the World Health Organization (WHO) expects the disease to spread to more countries where Aedes mosquitos reside. Scientists are also exploring whether other vectors can spread the disease.

Figure 1. Global Transmission of Zika

(as of April 7, 2016)



Source: Created by CRS from WHO, *Zika Situation Report*, April 7, 2016.

An ongoing outbreak in Latin America began in Brazil in May 2015 and has since [spread](#) to 33 countries and territories in the region. No instances of local transmission have been reported in the continental [United States](#), but cases have been reported in the United States among travelers who visited Central and South America, and transmission is ongoing in Puerto Rico. Outside of Latin America, Vietnam began to report new Zika cases in late March 2016 and [Cape Verde](#)—islands off the West African coast—has ongoing transmission, with nearly 7,500 suspected cases.

Scientists are unsure how many people have been infected by Zika in the Western Hemisphere. Experts at the 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

- a relatively small proportion (about 1 in 4) of infected people develop symptoms;
- the virus is detectable for only a few days in infected people's blood; and
- 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. The U.S. Centers for Disease Control and Prevention (CDC) has [concluded](#) that Zika causes [microcephaly](#) (a potentially severe birth defect involving brain damage), [Guillain-Barré syndrome](#) (GBS, a neurological condition that can lead to paralysis), and other neurological and autoimmune conditions. Scientists are also researching whether Zika can cause neurological problems in adults. A small [study](#) found that six adults had developed neurological complications after contracting Zika.

Brazil has reported the highest incidence of microcephaly, with over 4,000 suspected cases (944 of which have been confirmed), up from roughly 150 cases in previous years. Microcephaly has also been detected among women who contracted Zika in Cape Verde (2 cases), Colombia (32 cases), French Polynesia (8 cases), Martinique (1 case), and Panama (1 case). As of April 6, 2016, [CDC reports](#) 346 travel-associated Zika cases in the continental United States; 32 of these are pregnant, including 2 cases of microcephaly.

U.S. and International Responses

After the rise in Zika-related microcephaly and GBS cases, WHO raised the risk profile of Zika "from a mild threat to one of [alarming proportions](#)." The WHO Director-General found four issues particularly troubling:

- the 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 signals 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.

In February 2016, WHO released a global [Strategic Response Framework and Joint Operations Plan](#) to guide the international response to the spread of Zika virus infection and the neonatal malformations and neurological conditions associated with it. The \$56 million plan provides a framework for helping affected countries to

- strengthen disease surveillance,
- build laboratory capacity to detect the virus,
- bolster mosquito control,
- provide care for infected persons, and
- define and support 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. [CDC](#) and PAHO, for example, are partnering with Brazil's Ministry of Health to study the impacts of Zika during pregnancy. 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

The ongoing Zika outbreak emerged while the international community was still working to contain an Ebola outbreak

in West Africa. In addition, Latin America and the Caribbean had just emerged from successive dengue and chikungunya outbreaks. The rapid pace at which global disease outbreaks have occurred in recent years has deepened support for accelerating implementation of [the Global Health Security Agenda](#) (GHSA). 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 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](#).

Table 1. International Pandemic Preparedness Funds: FY2014-FY2016

(current \$U.S. millions)

Agency/Program	FY2014 Enacted	FY2015 Enacted	FY2016 Request	FY2016 Enacted	FY2017 Request
USAID Global Health Security	73	73	50	73	73
CDC Global Public Health Protection	63	55	77	55	65

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.

On February 8, 2016, President Barack Obama requested [\\$1.9 billion](#) in FY2016 emergency funds to address the ongoing Zika outbreak, including over \$375 million for international efforts. The Zika emergency request is outlined in [Table 2](#) and is detailed in CRS Report R44460, [Zika Response Funding: In Brief](#). The [press](#) has reported that some Members of the House Appropriations Committee expect the Administration to expend unobligated Ebola funds before considering the Zika request. Other Members oppose this idea and maintain that remaining Ebola funds should be preserved and used to strengthen the weak health systems in West Africa that initially failed to detect and contain the outbreak. Citing concerns about an [impending spread](#) of Zika to the United States and a pressing need to address Zika immediately, President Obama [announced](#) on April 6, 2016, that his Administration would redirect \$510 million of emergency Ebola funds to reimburse agencies already responding to the Zika outbreak and to ensure continuity of these efforts. Congress is considering whether the Administration has sufficient authority to the \$510 million.

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.