



Information Paper on the Zika Virus (ZIKV) Outbreak in the Pacific

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Brief Description of the Zika Virus (ZIKV)

The Zika Virus (ZIKV) is primarily transmitted by infected *Aedes aegypti* mosquitoes but also by *Aedes albopictus* mosquitoes, and possibly other types of mosquitoes. Zika virus can also spread 1) During sex with a person who has Zika to partners; 2) From a pregnant woman to her fetus; and, 3) Through blood transfusion (likely but not confirmed, according to the Centers for Disease Control and Prevention [CDC]). Zika Virus is present in Oceania, Central America, South America, Mexico, the Caribbean, Southeast Asia, and parts of Africa. Zika Virus is also associated with neurological complications: Guillain-Barré syndrome (GBS) and microcephaly in infants born to pregnant women infected with the virus.¹²

Many people infected with Zika won't have symptoms or will only have mild symptoms. Those with symptoms usually get sick 3-12 days after being bitten by an infected mosquito. The most common symptoms include fever, headache, muscle and joint pain, nausea, vomiting, and malaise. The illness is characterized by pink eye, a skin rash, and sensitivity to light. Treatment includes care of symptoms as there is no antiviral treatment. Symptoms can last for several days to a week and most people will recover from the illness within a week. The CDC says people usually don't get sick enough to go to the hospital, and rarely die of Zika. After a person has been infected with the virus, they are likely to be protected from future infections. In most cases, Zika infection is asymptomatic and so data on outbreaks and transmission is difficult to obtain or simply not available.³⁴

Historical background from the CDC:

- Zika virus was first discovered in a monkey in the Zika Forest of Uganda in 1947.
- Before 2007, at least 14 human cases of Zika had been documented, although other cases were likely to have occurred and not reported.
- Zika outbreaks have probably occurred in many locations, but because symptoms are similar to those of many other diseases, cases may not have been recognized.⁵

¹ French Polynesia General Health Risks: Zika Virus, <https://www.iamat.org/country/french-polynesia/risk/zika-virus>

² Zika basics and how to protect yourself, <https://www.cdc.gov/zika/pdfs/fs-zika-basics.pdf>

³ French Polynesia General Health Risks: Zika Virus, <https://www.iamat.org/country/french-polynesia/risk/zika-virus>

⁴ Zika basics and how to protect yourself, <https://www.cdc.gov/zika/pdfs/fs-zika-basics.pdf>

⁵ Zika 101 Presentation, CDC, <https://www.cdc.gov/zika/about/overview.html>

Zika in the Pacific

The Zika virus was first reported in Yap (Federated States of Micronesia) in 2007. Then in 2013, French Polynesia reported an outbreak. The virus then spread to other Pacific islands, including New Caledonia, Cook Islands, Easter Island (Chile), Fiji, Samoa, Solomon Islands and Vanuatu.⁶

A timeline by the WHO (1947-2016) shows that in the Pacific region outbreaks of the Zika virus first appeared in Yap in 2007-2009; this was followed by French Polynesia, Easter Island, Cook Islands, New Caledonia (from 2013-2014); and then by Fiji, Samoa, and the Solomon Islands (from Jan-Oct 2015). Around the same time period, Brazil and Colombia were affected by the virus and from around November 2015, the focus changed to the Americas with widespread Zika transmission being reported in the region.⁷

The Zika outbreak in French Polynesia

French Polynesia has around 72 inhabited islands grouped in five archipelagos, where some 280,000 people live.⁸

The first largest outbreak of Zika virus was recorded in French Polynesia in 2013, before widespread outbreaks were reported in the Americas. Between 2013 and early 2014, researchers estimate at least 20,000 people were infected in French Polynesia. While Zika had never been detected in French Polynesia before, there had been an outbreak 5,000 miles to the west on Yap Island in the Federated States of Micronesia. In 2007, 75 percent of the 7,000 residents on Yap got infected with Zika.⁹

Because dengue is another fairly common disease in the Pacific with similar symptoms to Zika, doctors in French Polynesia originally thought they were seeing cases of dengue. The Institut Louis Malarde, the government infectious disease lab, was part of a program to monitor for mosquito-borne viruses in the Pacific. Because of the outbreak in Yap the lab was already set up to test for Zika and confirmed that it was indeed a Zika outbreak and not dengue.¹⁰

About five weeks after the Zika outbreak started, doctors in Tahiti started seeing a rise in cases of Guillain-Barre syndrome (GBS). During the outbreak the number of GBS cases in French Polynesia jumped from an average of two a year to 42.¹¹

National authorities also reported an observed increase in neurological syndromes in the context of co-circulating dengue virus and Zika virus. Seventy-four patients presented with neurological or auto-immune syndromes after symptoms consistent with Zika infection (this includes GBS).¹²

⁶ Zika strategic response framework and joint operations plan, January-June 2016, <https://apps.who.int/iris/handle/10665/204420>

⁷ Ibid.

⁸ Infections in French Polynesia, <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6278714/>

⁹ Zika In French Polynesia: It Struck Hard In 2013, Then Disappeared, <https://www.npr.org/sections/goatsandsoda/2016/02/09/466152313/zika-in-french-polynesia-it-struck-hard-in-2013-then-disappeared>

¹⁰ Ibid.

¹¹ Ibid.

¹² Zika strategic response framework and joint operations plan, January-June 2016, <https://apps.who.int/iris/handle/10665/204420>

Additionally, following the Zika outbreak, health authorities reported an unusual increase in the number of congenital malformations in babies born between March 2014 and May 2015. Eighteen cases were reported, nine of which were diagnosed as microcephaly.¹³

Luckily, the outbreak seemed to quickly die down. There were no laboratory confirmed cases since April 2014. However, doctors say it is possible the virus may still be circulating in the country although people may not be going to the doctor because symptoms are mild. Additionally, French Polynesia was hit afterwards by a chikungunya outbreak which diverted attention and health resources to the new outbreak.¹⁴ The chikungunya virus is also spread to people by the bite of an infected mosquito. The most common symptoms of infection are fever and joint pain. There have been outbreaks of chikungunya reported in the Pacific as well as in Asia and other areas of the world, according to the CDC.

In comparison to most of the Pacific Island countries, French Polynesia was at a comparative advantage to deal with the Zika outbreak largely in part due to the presence of advanced medical and research facilities and because it has the capability to conduct surveillance and research programs. This capacity also extends to having the capability to provide support to other countries in the region.¹⁵

Public Health Emergency of International Concern (PHEIC) – 2016, by the World Health Organization (WHO)

On February 1, 2016 WHO Director-General Margaret Chan declared that the spread of Zika virus constituted a Public Health Emergency of International Concern (PHEIC). On February 14, 2016, WHO launched a global Strategic Response Framework and Joint Operations Plan¹⁶, subsequently updated on July 15, 2016, in which WHO and partners set out their strategy for preventing, detecting, and responding to Zika.¹⁷

WHO Efforts

In its “Zika strategic response framework and joint operations plan, January-June 2016,” the WHO cautioned that: “Major, epidemics of Zika virus disease may occur globally since environments where mosquitoes can live and breed are increasing due to recent trends including climate change, rapid urbanization and globalization.”

The outbreak was mainly centered in the Americas and the response has largely been coordinated by WHO’s Regional Office for the Americas (AMRO/PAHO). AMRO/PAHO worked with affected countries in the Americas on the investigation of and response to the outbreak since mid-2015. AMRO/PAHO

¹³ Zika strategic response framework and joint operations plan, January-June 2016, <https://apps.who.int/iris/handle/10665/204420>

¹⁴ Zika In French Polynesia: It Struck Hard In 2013, Then Disappeared, <https://www.npr.org/sections/goatsandsoda/2016/02/09/466152313/zika-in-french-polynesia-it-struck-hard-in-2013-then-disappeared>

¹⁵ Infections in French Polynesia, <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6278714/>

¹⁶ Zika strategic response framework and joint operations plan, January-June 2016, <https://apps.who.int/iris/handle/10665/204420>

¹⁷ WHO’s response to Zika virus and its associated complications, <https://www.who.int/emergencies/zika-virus-tmp/response-zika-2017.pdf?ua=1>

mobilized staff and members of the Global Outbreak Alert and Response Network (GOARN) to assist regional Ministries of Health in strengthening detection.¹⁸

To care for those affected, the WHO worked with the Epidemic Diseases Clinical Assessment Response Network (EDCARN) and the International Severe Acute Respiratory and Epidemic Infection Consortium (ISARIC) on a standardized data collection and centralized database.

The WHO also works with the UN Office for the Coordination of Humanitarian Affairs (OCHA) to ensure coordination is in sync with existing humanitarian response mechanisms.

United States Government (USG) response to the Zika Virus

Overall, USG response to the Zika Virus outbreak was focused on the Americas. **U.S. Southern Command (SOUTHCOM)** along with the Department of Health and Human Services (DHHS), U.S. Agency for International Development, CDC and the State Department among others, partnering with the international community to support the response to the outbreak.

U.S. Southern Command (SOUTHCOM)

SOUTHCOM supported DHHS experts who led the counter-Zika campaign. SOUTHCOM personnel in Honduras, Peru and around the region also worked with local and international groups to further research, discuss mosquito eradication, and efforts to halt transmission.¹⁹

Although total numbers of service members affected by the Zika virus is difficult to acquire, SOUTHCOM reported in early August 2016 that a total of 33 service members had contracted Zika, including 10 from SOUTHCOM. SOUTHCOM spokesman said those 10 got infected in Brazil, Colombia, the Dominican Republic, Jamaica and Martinique and served in the Army, Navy, Air Force, Coast Guard and Marines.²⁰ *(See below under “Naval Infectious Diseases Diagnostic Laboratory (NIDDL)” for more numbers from an expanded period of time)*

As a precautionary measure, SOUTHCOM offered voluntary relocation of pregnant service members and pregnant-eligible family members from Zika-affected areas until delivery.²¹

Naval Infectious Diseases Diagnostic Laboratory (NIDDL)

The Naval Infectious Diseases Diagnostic Laboratory (NIDDL) supports Department of Defense (DoD) military treatment facilities in the detection and identification of high-risk and emerging infectious diseases, including Zika. The NIDDL has been a central hub for ZIKV testing for DoD personnel and beneficiaries. The lab provided support to military treatment facilities in testing patients for ZIKV and other arboviruses (e.g., dengue) and chikungunya.

Between January 29, 2016 and December 31, 2017, samples from 1,420 individuals were received from DoD medical facilities including the U.S., Japan, Germany, Cuba, Guam, Spain, and Italy. Four hundred

¹⁸ Zika strategic response framework and joint operations plan, January-June 2016, <https://apps.who.int/iris/handle/10665/204420>

¹⁹ Tidd: ‘Whole-of-Hemisphere’ Fighting Zika Virus, <https://www.southcom.mil/MEDIA/NEWS-ARTICLES/Article/985788/tidd-whole-of-hemisphere-fighting-zika-virus/>

²⁰ At least 33 US troops have contracted Zika, including 10 from Southcom, <https://www.msn.com/en-us/news/us/at-least-33-us-troops-have-contracted-zika-including-10-from-southcom/ar-BBveecm?li=BBnb7Kz>

²¹ Key Facts: Zika virus, <https://www.jbmdl.jb.mil/News/Article-Display/Article/826138/key-facts-zika-virus/>

and twelve had clinical symptoms consistent with ZIKV infection, 852 were asymptomatic but with epidemiologic linkage to ZIKV cases, and 179 had either no reported exposure to ZIKV or no data regarding exposure or symptoms.²²

Centers for Disease Control and Prevention (CDC)

Most of the CDC response has been focused on outbreaks in the Americas. Since May 2015, CDC has been responding to increased reports of Zika and has assisted in investigations with PAHO and countries' ministries of health. The first travel notice for Zika in Brazil was posted in June 2015.

On January 22, 2016, CDC activated its Emergency Operations Center (EOC) to respond to outbreaks of Zika occurring in the Americas and increased reports of birth defects and Guillain-Barré syndrome in areas affected by Zika. On February 8, 2016, CDC elevated its EOC activation to a Level 1, the highest level.²³

The CDC has worked with the WHO and GOARN partners, such as the Institut Pasteur, and University of Texas Medical Branch (UTMB) and others, to address gaps in country laboratory capacity in the Americas.

According to the CDC, no Zika virus transmission by mosquitoes has ever been reported in Alaska and Hawaii. In 2019, there were no confirmed Zika virus disease cases reported from United States territories.²⁴

Zika Virus Resources:

Two main health strategies exist for the Pacific, led by the WHO. The first one is:

Asia-Pacific Strategy for Emerging Diseases and Public Health Emergencies: Advancing Implementation of the International Health Regulations (2005)

<https://apps.who.int/iris/bitstream/handle/10665/259094/9789290618171-eng.pdf;jsessionid=7EECD60081F1511D7F6F41AD55782EDB?sequence=1>

This document addresses health system strengthening in the Asia-Pacific region. According to the WHO, the Asia Pacific Strategy for Emerging Diseases and Public Health Emergencies (APSED III), previously called the Asia Pacific Strategy for Emerging Diseases (APSED), is the framework to address shared threats as required by the International Health Regulations (2005), or IHR (2005). The framework provides an collaborative platform for Member States, WHO and partners to work together to strengthen preparedness and response to outbreaks and public health emergencies. When the strategy was first developed in 2005, it focused on building minimum capacities for dealing with outbreaks and public health emergencies. The updated version in 2010 was aimed at further developing the core capacities. The current report, APSED III, is an upgrade of the previous versions of APSED and aims to strengthen health systems and capacities beyond IHR (2005).

²² Zika Virus Surveillance in Active Duty U.S. Military and Dependents Through the Naval Infectious Diseases Diagnostic Laboratory, <https://health.mil/News/Articles/2019/07/01/Zika-Virus-Surveillance>

²³ Zika 101 Presentation, CDC, <https://www.cdc.gov/zika/about/overview.html>

²⁴ Zika in the US, <https://www.cdc.gov/zika/geo/index.html>

According to the document, the eight focus areas in APSED III are as follows:

1. Public health emergency preparedness
2. Surveillance, risk assessment and response
3. Laboratories
4. Zoonoses
5. Prevention through health care
6. Risk communication
7. Regional preparedness, alert and response
8. Monitoring and evaluation

The second strategy is:

Western Pacific Regional Framework for Action for Disaster Risk Management for Health

https://iris.wpro.who.int/bitstream/handle/10665.1/10927/9789290617082_eng.pdf?ua=1

According to the WHO, this framework attempts to position the health sector as a key actor in disaster risk management. It recommends health sector actions for each of the phases of the disaster risk management cycle – prevention, preparedness, response and recovery. The WHO urges governments to select priorities on which to focus according to their own national plans.

WHO Documents

Zika virus situation reports

<https://www.who.int/emergencies/zika-virus/situation-report/en/>

The reports cover the Zika outbreak from a global perspective

Zika situation report 10 March 2017

<https://apps.who.int/iris/bitstream/handle/10665/254714/zikasitrep10Mar17-eng.pdf;jsessionid=90A17537A411856FB09570A3F6B8ACE4?sequence=1>

The last WHO situation report on the Zika virus was released on March 10, 2017. WHO continued to publish the Zika classification table on a regular basis as well as periodic situation analysis. However, on March 9, 2018: The classification scheme was replaced with periodic epidemiologic updates to guide public health programs and traveler health.

Zika Strategic Response Plan

<https://www.who.int/emergencies/zika-virus/strategic-response-plan/en/>

The plan was first released on February 14, 2016 and then updated on July 15. The Response Plan outlines 4 main objectives to support national governments and communities in preventing and managing Zika virus and mitigating the socioeconomic consequences: detection, prevention, care and support, as well as research.

Zika strategic response framework and joint operations plan, January-June 2016

<https://apps.who.int/iris/handle/10665/204420>

This plan was intended to guide the international response to the cluster of congenital malformations (microcephaly) and other neurological complications (Guillain-Barré Syndrome) that could be linked to the Zika virus.

Zika 101 Presentation, United States Centers for Disease Control and Prevention

<https://www.cdc.gov/zika/geo/index.html>

This slide presentation by the CDC presents an overview of the disease including brief summaries of CDC efforts

Zika Virus Country Classification Scheme Interim Guidance

<https://apps.who.int/iris/bitstream/handle/10665/254619/WHO-ZIKV-SUR-17.1-eng.pdf?sequence=1>

The document seeks to provide guidance to the reporting of Zika virus spread for public health and government officials to assess the risk of the virus.

WHO's Response to Zika virus and its ensuing complications

<https://www.who.int/emergencies/zika-virus-tmp/response-zika-2017.pdf?ua=1>

This document outlines the WHO's key response efforts to combat the Zika virus

U.S. Indo-Pacific Command (INDOPACOM)

INDOPACOM released several Force Health Protection Messages that address the Zika Virus threat:

Subject: (U) USPACOM ZIKA VIRUS FORCE HEALTH PROTECTION MESSAGE

<https://www.kunsan.af.mil/Portals/42/Documents/USPACOM%20Zika%20Virus%20FHP%20Message%20170145Z%20Feb%202016.pdf?ver=2016-02-22-203440-653>

Subject: (U) USAPCOM Zika Virus Force Health Protection Update

[https://www.pacom.mil/Portals/55/Documents/pdf/J07_USAPCOM%20Zika%20FHP%20Message%20Feb%202018\).pdf?ver=2018-03-12-151200-367](https://www.pacom.mil/Portals/55/Documents/pdf/J07_USAPCOM%20Zika%20FHP%20Message%20Feb%202018).pdf?ver=2018-03-12-151200-367)

SUBJ/(U) USINDOPACOM FY 2020 FORCE HEALTH PROTECTION GUIDANCE FOR USINDOPACOM AOR

https://www.pacom.mil/Portals/55/Documents/pdf/J07_USINDOPACOM_FY20_FHP_Guidance_Message_5_Oct_19.pdf

US Department of Defense

Zika virus surveillance in active duty U.S. military and dependents through the Naval Infectious Diseases Diagnostic Laboratory.

<https://health.mil/News/Articles/2019/07/01/Zika-Virus-Surveillance>

Surveillance Summary: Zika Virus in the Americas *(on right hand column of website)*

<https://health.mil/Military-Health-Topics/Health-Readiness/Bug-Borne-Illnesses/Mosquito-Borne-Illnesses/Zika-Virus>

DOD Armed Forces Health Surveillance Branch Global Zika Virus Surveillance Summary. *(Several PowerPoint briefs were released in 2017)*

USAID

Performance Evaluation of USAID's Zika Response in the Latin America and Caribbean (LAC) Region

<http://ghpro.dexisonline.com/sites/default/files/552%20Zika%20Report%20Draft%20FINAL%20Rev%2005-08-19%20with%20annexes.pdf>

This report focuses on how the response was managed and accomplishments in strengthening health systems in countries.