World Health Organization

ZIKA SITUATION REPORT

NEUROLOGICAL SYNDROME AND CONGENITAL ANOMALIES

5 FEBRUARY 2016

SUMMARY

- An Emergency Committee was convened by the Director-General under the International Health Regulations (2005) on 1 February 2016. Following the advice of the Committee, the Director-General announced the recent cluster of microcephaly and other neurologic disorders reported in Brazil to be a Public Health Emergency of International Concern.
- The Emergency Committee agreed that a causal relationship between Zika infection during pregnancy and microcephaly is strongly suspected, though not yet scientifically proven. All experts agreed on the urgent need to coordinate international efforts to investigate and understand this relationship better.
- Between January 2014 and 5 February 2016, a total of 33 countries have reported autochthonous circulation of Zika virus. There is also indirect evidence of local transmission in 6 additional countries.
- The geographical distribution of Zika virus has been steadily increasing since it was first detected in the Americas in 2015. Further spread to countries within the geographical range of competent disease vectors — *Aedes* mosquitoes — is considered likely.
- Seven countries have reported an increase in the incidence of cases of microcephaly and/or Guillain-Barré syndrome concomitantly with a Zika virus outbreak.
- The global prevention and control strategy launched by WHO is based on surveillance, response activities, and research.

GENERAL INFORMATION

Zika Virus

- Zika virus disease is caused by a virus transmitted by *Aedes* mosquitoes. Other transmission modes are still under investigation.
- People with Zika virus disease usually have a mild fever, skin rash (exanthema), and conjunctivitis. These symptoms normally last for 2-7 days.
- At present there is no specific treatment or vaccine currently available. The best form of prevention is protection against mosquito bites.
- Zika virus is known to circulate in Africa, the Americas, Asia, and the Pacific region. Zika virus had only been known to cause sporadic infections in humans until 2007, when an outbreak in Micronesia infected 31 people.

Microcephaly

- Microcephaly is an uncommon condition where a baby's head circumference is less than expected based on the average for their age and sex. The condition is usually a result of the failure of the brain to develop properly, and can be caused by genetic or environmental factors such as exposure to toxicins, radiation, or infection during development in the womb. Microcephaly can be present as an isolated condition or may be associated with other symptoms such as convulsions, developmental delays, or feeding difficulties.

Guillain-Barré syndrome

- Guillain-Barré syndrome in its typical form is an acute illness of the nerves that produces a lower, bilateral, and symmetrical sensorimotor development deficit. In many cases there is a history of infection prior to the development of the Guillain-Barré syndrome. The annual incidence of GBS is estimated to be between 0.4 and 4.0 cases per 100,000 inhabitants per year. In North America and Europe GBS is more common in adults and increases steadily with age. Several studies indicate that men tend to be more affected than women.

EPIDEMIOLOGICAL UPDATE

Incidence of Zika virus

- From 2007 to 5 February 2016, Zika viral transmission has been documented in a total of 44 countries and territories (figure 1). This includes 33 countries that reported transmission in between 2015 and 2016 (table 1), 6 countries with indirect evidence of transmission, and 5 countries with a history of Zika transmission but no current reported transmission (table 2).
- In 2015 and 2016, the geographical range of Zika virus has been increasing steadily. In late 2014, Brazil detected a cluster of febrile rash illness related to Zika virus in its Northeast region. The link to Zika virus was confirmed in April 2015. By October 2015, a single state in the northeast of Brazil (Bahia)[1], reported 56 318 suspected cases of Zika virus disease. Due to the magnitude of the outbreak, Brazil ceased counting cases of Zika virus. Brazilian national authorities estimate that between 497 593 and 1 482 701 cases of Zika virus infection have occurred since the outbreak began.
- After Brazil, Colombia has been the most-affected country so far, with 20 297 cases reported (up to 23 January 2016) since the country's first cases were detected in October 2015.
- There has been a rapid regional spread of the virus. By 4 February 2016, 26 countries and territories in the Americas reported local transmission of the virus.
- In October 2015, Cape Verde, an island off the coast of West Africa, reported an outbreak of Zika virus and has reported 7 081 cases as of 17 January 2016.

Table 1: Countries and territories with autochthonous transmission of Zika virus, 2007 – 2016

	WHO Regional Office	Country or territory
Reported autochthonous transmission	**AFRO**	Cape Verde
	AMRO/PAHO	Barbados, Bolivia, Brazil, Colombia, Curaçao, Costa Rica, Dominican Republic, Ecuador, El Salvador, French Guiana, Guadeloupe, Guatemala, Guyana, Haiti, Honduras, Jamaica, Martinique, Mexico, Nicaragua, Panama, Paraguay, Puerto Rico, Saint Martin, Suriname, United States Virgin Islands, Venezuela (Bolivarian Republic of)
	SEARO	Maldives
	WPRO	Fiji, Tonga, Samoa, Solomon Islands, Vanuatu
Indication of viral circulation	**AFRO**	Gabon
	SEARO	Indonesia, Thailand
	WPRO	Cambodia, Philippines, Malaysia

Table 2: Countries previously affected by Zika viral transmission

WHO Regional Office	Country
WPRO	Cook Islands, French Polynesia, New Caledonia, Yap
AMRO/PAHO	Easter Island

Incidence of Microcephaly

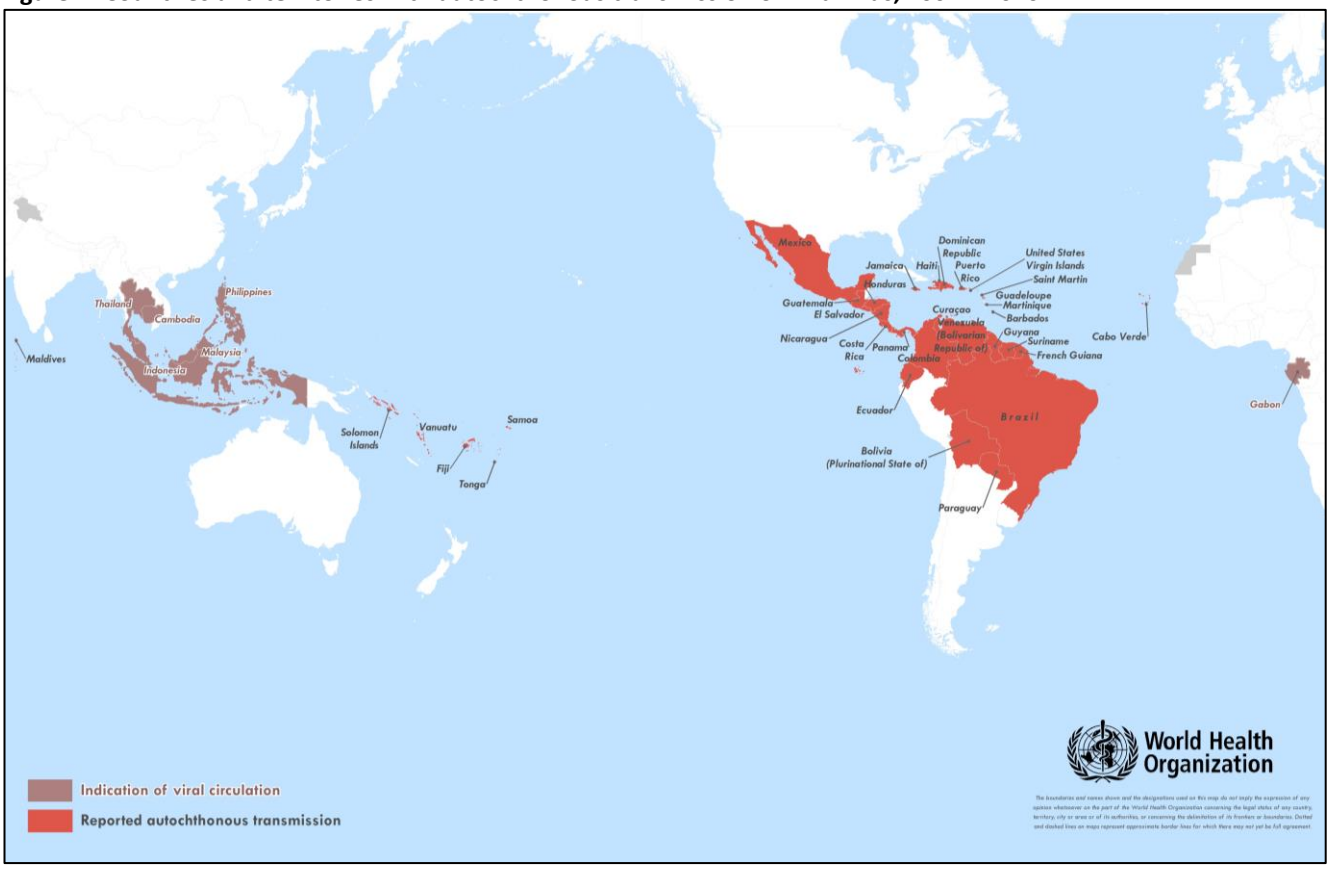
- In October 2015, the Brazil Ministry of Health reported an unusual increase in the number of cases of microcephaly in the Pernambuco state, in the Northeast region of Brazil. Between 2001 and 2014, an average

[1] Full report available at: http://www.suvisa.ba.gov.br/sites/default/files/Boletim%20epidemiol%C3%B3gico%20n%C2%BA%2007%20dengue_chikungunya_zika.pdf

of 163 microcephaly cases has been recorded nationwide per year. As of 30 January 2016, the Ministry of Health reported 4 783 cases of microcephaly and/or central nervous system (CNS) malformation including 76 deaths.

- Authorities in Brazil have concluded the investigation into 1 113 of the 4 783 cases of reported cases of microcephaly: 709 cases were discarded, 17 cases had laboratory confirmation of Zika infection, and 387 cases had radiological findings compatible with a congenital infection. Of the 17 laboratory-confirmed cases, 2 were miscarriages and the remaining 15 cases were live births, all residents from North-eastern states of Brazil.
- Of the 76 reported deaths due to congenital malformations, Zika virus was identified in fetal tissue of 5 cases, all from the northeast of Brazil. Although the microcephaly cases in Brazil are spatio-temporally associated with the Zika outbreak, more robust investigations and research is needed to better understand this potential link.
- In light of the increased incidence of microcephaly reported in Brazil, a review of birth data by authorities in French Polynesia indicated an increase in the number of central nervous system malformations in children born between March 2014 and May 2015. 18 cases were reported including 9 microcephaly cases compared to the national average of 0 to 2 cases of microcephaly per year.
- On 8 January 2016, the Hawaii State Department of Health received laboratory confirmation from the US CDC[2] of a past Zika virus infection in a baby recently born with microcephaly in a hospital on Oahu. The mother is likely to have acquired Zika infection in Brazil in May 2015, and her newborn acquired the infection *in utero*. No autochthonous transmission of Zika virus has been reported in Hawaii.

Figure 1: Countries and territories with autochthonous transmission of Zika virus, 2007 – 2016



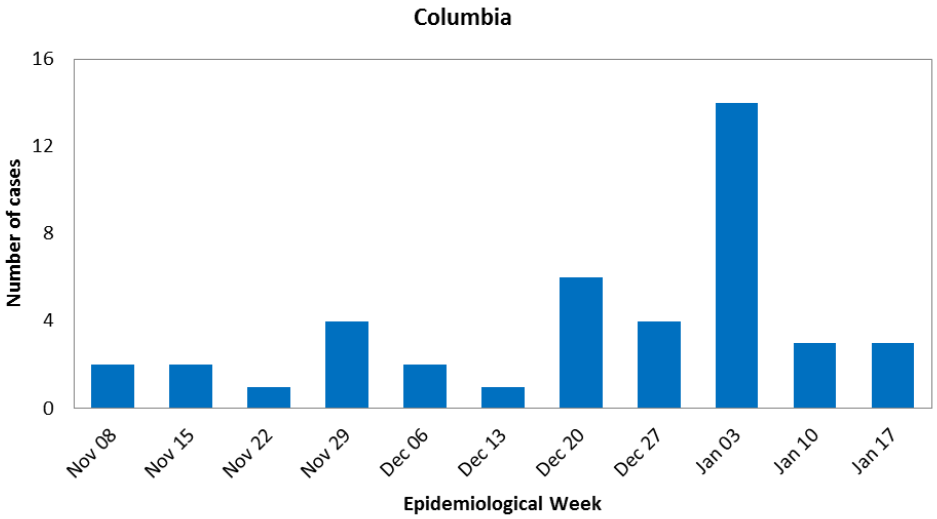
The boundaries and names shown and the designations used on this map do not imply the expression of any opinion whatsoever on the part of the World Health Organization concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Dotted and dashed lines on maps represent approximate border lines for which there may not yet be full agreement. Data as of 5 February 2016.

[2] http://governor.hawaii.gov/newsroom/doh-news-release-hawaii-department-of-health-receives-confirmation-of-zika-infection-in-baby-born-with-microcephaly/

Incidence of Guillain-Barré syndrome

- In the context of Zika virus outbreak, Brazil, Colombia, El Salvador, Suriname, and Venezuela have reported an observed increase of Guillain-Barré syndrome (GBS), just as French Polynesia reported during the 2013 – 2014 outbreak.
- In July 2015, Brazil reported the detection of patients with neurological syndromes who had recent history of Zika virus infection in the state of Bahia. There were 76 patients with neurological syndromes identified, of which 42 (55%) were confirmed as GBS. Among the confirmed GBS, 26 (62%) had a history of symptoms consistent with Zika virus infection. In addition, 7 patients presenting with neurologic syndromes were confirmed to be positive for Zika virus infection in November 2015. In 2015, a total of 1 708 cases of GBS were registered nationwide, representing a 19% average increase from the previous year (1 439 cases of GBS), though not all states reported an increase in incidence.
- In February 2016, the Colombia International Health Regulations (IHR) National Focal Point (NFP) reported an increase in cases of GBS. Colombia reports an average of 242 cases of GBS per year. However, in the five weeks to 30 January 2016, there were 86 cases of GBS already reported (figure 2). Of the total cases registered, 49 (57%) were male and 37 (43%) were female. Mean age of the 58 cases for which age data were available was 43 years.

Figure 2: Cases of Guillain-Barré syndrome by date of onset of neurological symptoms, November 2015 to January 2016.



- From 1 December 2015 to 6 January 2016, 46 GBS cases were recorded in El Salvador, including 2 deaths, while the annual average number of GBS cases is 169. Twenty-five (54%) were male and 35 (76%) were over 30 years old. All were hospitalized and treated with plasmapheresis or immunoglobulin. Out of the 22 patients whose information was available, 12 (54%) presented with febrile rash illness in the 15 days prior to the onset of symptoms consistent with GBS. Investigations are ongoing to determine the cause of infection. Between the confirmation of the first case of Zika virus infection in November 2015 and 31 December 2015, Salvadoran health authorities reported 3 836 suspected cases of Zika virus infection.
- On 29 January 2016, the Suriname health authorities reported that during 2015 the surveillance system detected an increased incidence of GBS. On average Suriname registers 4 cases of GBS per year, however, in 2015 there were 10 GBS cases registered and 3 GBS cases reported in the first three weeks of 2016. The national authorities are actively collecting further information.
- Although no unusual increase of GBS, neurological, or immunological syndrome have been reported in Martinique (France), 2 patients with GBS were biologically confirmed with Zika virus in Martinique in January

2016. Urine samples of both patients tested positive for Zika virus by RT-PCR. Both cases were treated with immunoglobulin.

- In French Polynesia, 8 750 suspect cases of Zika virus were reported through the syndromic surveillance sentinel surveillance system, of which 383 were laboratory-confirmed. 74 patients presented with neurological syndromes or auto-immune syndromes after an illness consistent with Zika virus infection. Of these, 42 were classified as GBS. Of these 42 patients, 88% reported an illness compatible with Zika infection. Retrospective analysis (seroneutralisation test) demonstrated that all 42 cases were positive for dengue and Zika virus infection.

RESPONSE

- A global response is needed to monitor and assess the likely continued spread of Zika virus across regions. The response will support countries in risk communication on Zika virus and possible association with microcephaly and other neurological disorders, build capacity for prevention and control, and outbreak response, provide support and care for those suffering with serious complications, build consensus on the scientific evidence, and encourage and guide countries to conduct studies to reduce knowledge gaps (table 3).
- Because the science, and therefore the risk, is not well-understood, the global response needs to be coordinated and adequately-resourced with rapid investigations to understand and then mitigate the impact of Zika virus disease, particularly neurological or auto-immune syndromes and other complications.
- WHO has activated an incident management structure across the organisation to help coordinate the global response.

Goal and strategic objectives

- The overall goal of the strategy is to reduce the risk of exposure to Zika virus infection and the intensity of transmission in affected areas, while establishing the full consequences of infection and developing new control measures.

Table 3: Global response strategy

SURVEILLANCE

- Enhance surveillance for *Aedes* mosquitoes, Zika virus disease, neurologic syndromes, and congenital malformations

RESPONSE

- Engage communities to communicate the risks associated with Zika virus disease and promote healthy behaviors, reduce anxiety, address stigma, dispel rumors, and cultural misperceptions
- Increase efforts to control the spread of the *Aedes* mosquito and provide increased access to personal protection measures
- Provide guidance and care for pregnant women and those considering pregnancy, as well as families with children affected by microcephaly, congenital malformations and neurologic syndromes

RESEARCH

- Fast-track the investigation of the etiology of microcephaly, neurologic syndromes and possible association with consequences of Zika virus infection; research and development of new products (e.g. rapid diagnostics, vaccines, therapeutics)

RECOMMENDATIONS FOLLOWING THE EMERGENCY COMMITTEE MEETING

- **Reducing populations of mosquitoes that transmit Zika virus.** The same *Aedes* mosquitoes that transmit Zika virus also transmit dengue, chikungunya, and Yellow Fever. Mosquito-control programmes include the use of larvicide (insecticide that kills the mosquito in its larval stage) to treat standing-water sites that cannot be treated in other ways (cleaning, emptying, or covering).
- **Personal and household protection.** WHO recommends people protect themselves from mosquito bites by:
    - Using insect repellent;
    - Wearing clothes (preferably light-coloured) that cover as much of the body as possible;
    - Using physical barriers such as screens, closed doors and windows;
    - Sleeping under mosquito nets, especially during the day, when *Aedes* mosquitoes are most active; and
    - Emptying or covering containers that can hold water, such as buckets, flower pots and tyres, so that mosquitoes cannot use them to breed.
- **Pregnant women and women planning to become pregnant.** Pregnant women who feel they may have been exposed to Zika virus may wish to consult with their health-care providers for close monitoring of their pregnancies.
- **Travel recommendations.** The committee found no justification for restrictions on travel or trade. However, travellers to areas where Zika virus cases have been found are urged to protect themselves from mosquito bites. Pregnant women considering travel to affected areas may wish to consult their health-care provider prior to travel and after return. They should also practice personal and household steps to prevent mosquito bites.

The high–level recommendations made by the Emergency Committee:
http://www.who.int/mediacentre/news/statements/2016/1st-emergency-committee-zika/en/

More information and recommendations can be found at:
http://www.who.int/csr/disease/zika/en/
http://www.paho.org/hq/index.php?option=com_content&view=article&id=11585&Itemid=41688&lang=en