World Health Organization

ZIKA VIRUS MICROCEPHALY AND GUILLAIN-BARRÉ SYNDROME

SITUATION REPORT
31 MARCH 2016

SUMMARY

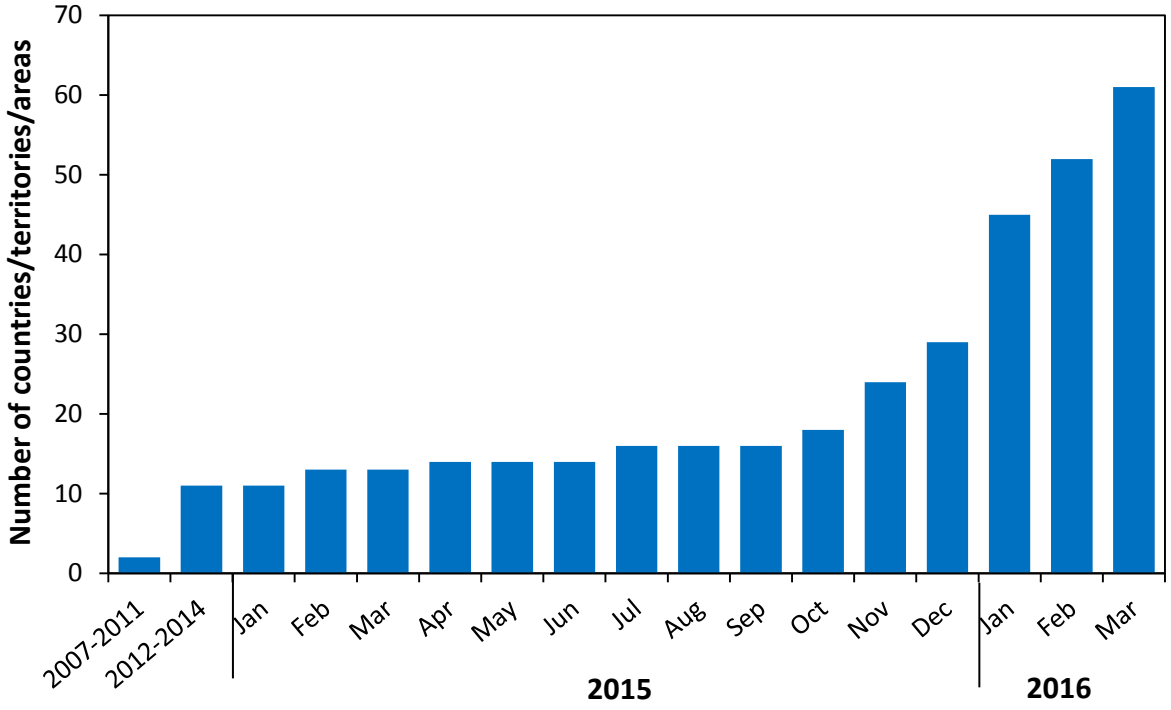
- From 1 January 2007 to 30 March 2016, Zika virus transmission was documented in a total of 61 countries and territories. Four of these (Cook Islands, French Polynesia, ISLA DE PASCUA – Chile, and New Caledonia) reported a Zika virus outbreak that is now over. Six countries have now reported locally acquired infection in the absence of any known mosquito vectors, probably through sexual transmission (Argentina, Chile, France, Italy, New Zealand and the United States of America).
- In the Region of the Americas, the geographical distribution of Zika virus has steadily widened since the presence of the virus was confirmed in 2015. Mosquito-borne Zika virus transmission has been reported in 33 countries and territories of this region.
- In the Western Pacific Region, mosquito-borne Zika virus cases have been reported in 16 countries and areas.
- Microcephaly and other fetal malformations have been reported in Brazil (944 cases), Cabo Verde (two cases), Colombia (32 cases), French Polynesia (eight cases), Martinique (one case) and Panama (one case). Two additional cases, linked to a stay in Brazil, were detected in the United States of America and Slovenia.
- In the context of Zika virus circulation, 13 countries or territories have reported an increased incidence of Guillain-Barré syndrome (GBS) and/or laboratory confirmation of a Zika virus infection among GBS cases.
- Based on observational, cohort and case-control studies there is strong scientific consensus that Zika virus is a cause of GBS, microcephaly and other neurological disorders.
- The global prevention and control strategy launched by the World Health Organization (WHO) as a Strategic Response Framework encompasses surveillance, response activities and research. This situation report is organized under those headings.

I. SURVEILLANCE

Incidence of Zika virus

- From 1 January 2007 to 30 March 2016, Zika virus transmission was documented in a total of 61 countries and territories (Fig. 1). Four of these countries and territories (Cook Islands, French Polynesia, ISLA DE PASCUA – Chile, and New Caledonia) reported a Zika virus outbreak that is now over. Six countries (Argentina, Chile, France, Italy, New Zealand and the United States of America) have reported locally acquired infection in the absence of any known mosquito vectors, probably through sexual transmission.

Figure 1. Cumulative number of countries, territories and areas reporting Zika virus transmission in years, 2007-2014, and monthly from 1 January 2015 to 30 March 2016



- Towards the end of 2014, Brazil detected a cluster of cases of febrile rash in the northeast region of the country. The diagnosis of Zika virus infection was confirmed (RT-PCR test for viral RNA[1]) in May 2015.
- Zika virus has spread rapidly across the Americas. By 30 March 2016, 33 countries and territories in the Region of the Americas reported mosquito-borne transmission of the virus and three cases of sexual transmission. The reported rate of spread of Zika virus across South and Central America accelerated from October 2015 onwards (Fig. 2).
- From 1 October 2015 to 19 March 2016, Colombia reported 56 477 suspected cases of Zika virus. The outbreak seems to have peaked during the week to 7 February 2016 and is now in decline. The number of laboratory confirmed cases is 2361.[2]

[1] Reverse transcriptase polymerase chain reaction (RT-PCR).
[2] http://www.ins.gov.co/boletin-epidemiologico/Boletn%20Epidemiolgico/2016%20Boletín%20epidemiológico%20semana%2011.pdf

Table 1. Classification of Zika virus transmission in 61 countries[§]

Classification	WHO Regional Office	Country / territory / area
Countries experiencing a first outbreak of Zika virus, with no previous evidence of circulation, and with ongoing transmission by mosquitos (42)	**AFRO (1)**	Cabo Verde
	AMRO/PAHO (33)	Aruba*, Barbados, Brazil, Bolivia (Plurinational State of), BONAIRE – Netherlands*, Colombia, Costa Rica, Cuba, Curaçao*, Dominica*, Dominican Republic, Ecuador, El Salvador, French Guiana, Guadeloupe, Guatemala, Guyana*, Haiti, Honduras, Jamaica, Martinique, Mexico, Nicaragua, Panama, Paraguay, Puerto Rico, Saint Martin, Saint Vincent and the Grenadines*, Sint Maarten*, Suriname, Trinidad & Tobago*, United States Virgin Islands, Venezuela (Bolivarian Republic of)
	SEARO (1)	Maldives*
	WPRO (7)	American Samoa, Fiji*, Marshall Islands*, Samoa, Solomon Islands, Tonga, Vanuatu*
Countries where there is evidence of Zika virus transmission in the past, with or without ongoing transmission (13)	**AFRO (1)**	Gabon
	SEARO (3)	Bangladesh, Indonesia, Thailand
	WPRO (9)	Cambodia, Cook Islands, French Polynesia, Lao People's Democratic Republic, Malaysia, Micronesia (Federated States of), New Caledonia, Papua New Guinea, Philippines
Countries with evidence of person-to-person transmission of Zika virus, other than mosquito-borne transmission (6)	**AMRO/PAHO (3)**	Argentina, Chile, United States of America
	EURO (2)	France, Italy
	WPRO (1)	New Zealand

[§] *Classification of countries listed is in line with WHO Surveillance Guidelines on Zika virus, Microcephaly and Guillain-Barré Syndrome (to be published shortly) and with the emerging framework for risk analysis.*

Countries fall into five categories, three of which are represented in the table above:

- ***Countries experiencing a first outbreak of Zika virus, with no previous evidence of circulation, and with ongoing transmission by mosquitos:*** *countries where Zika virus has recently been introduced, with no evidence of circulation in the past and where there is ongoing transmission. These countries present a high risk of Guillain-Barré syndrome, microcephaly and other neurological disorders associated with Zika virus.*
- ***Countries where there is evidence of Zika virus transmission in the past, with or without ongoing transmission:*** *this group includes countries that are not experiencing a first outbreak and where transmission has occurred at low levels in the past, and where transmission may or may not be ongoing. This table lists countries that have experienced outbreaks after 2007, all countries with evidence of infection prior to 2007 are listed in* http://www.who.int/bulletin/online_first/16-171082.pdf
- ***Countries at risk of mosquito-borne Zika virus transmission:*** *countries with competent mosquito vectors, but where vector-borne transmission of Zika virus has never been documented. These countries are at risk of introduction of the virus and further circulation through vector-borne transmission (not listed in the Table above).*
- ***Countries with no risk of mosquito borne Zika virus transmission****: countries without competent vectors, based on current knowledge and known vector distribution. These countries are at risk of importation of cases but are at no risk of vector-borne transmission (not listed in the Table above).*
- ***Countries with person-to-person transmission of Zika virus, with or without competent mosquito vectors:*** *these countries demonstrated transmission by modes other than mosquito vectors (e.g. through sexual contact).*

** Additional information needed to better characterise the intensity of transmission.*

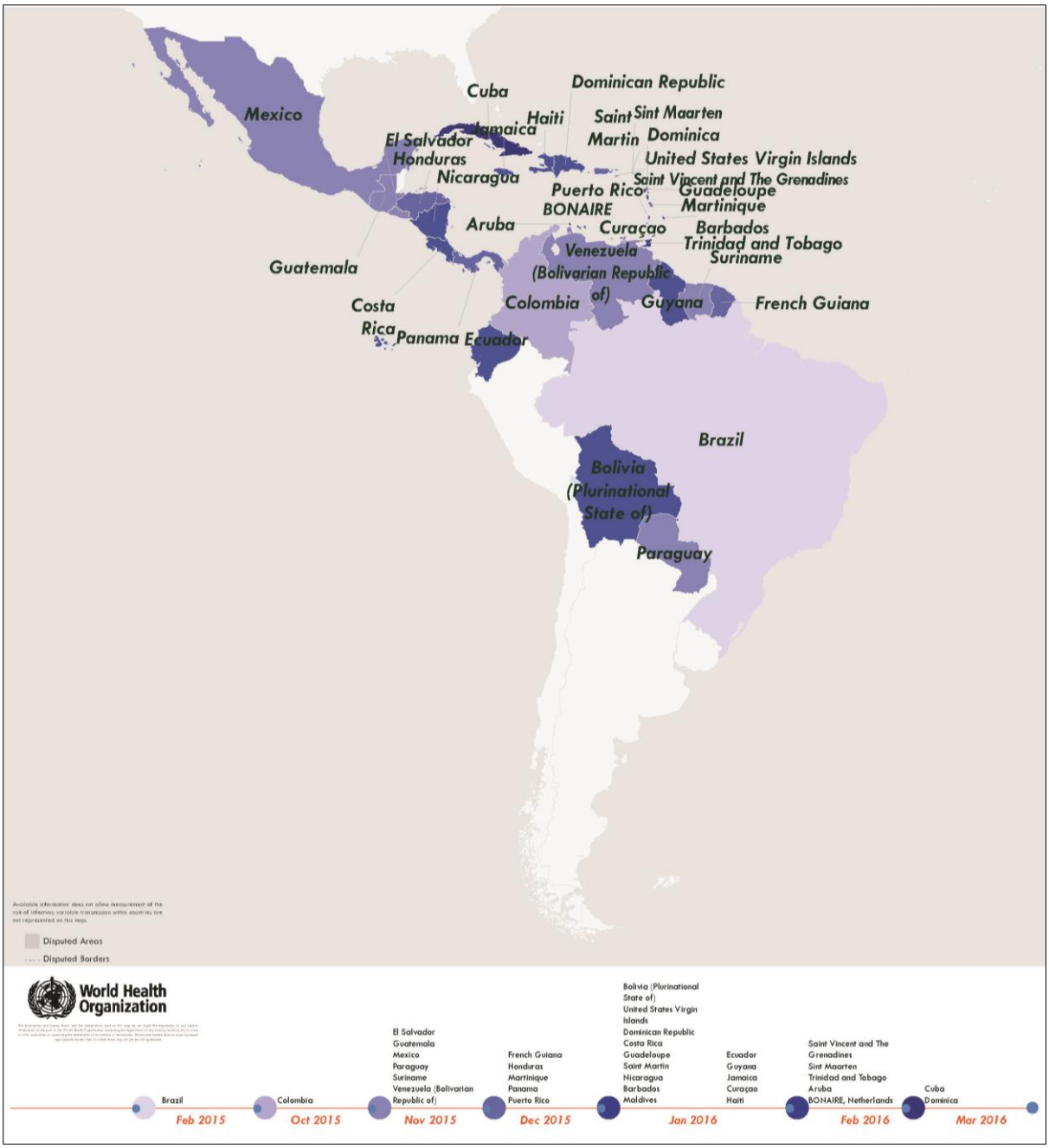
Definition:

- *Outbreak: one or more cases due to mosquito borne transmission.*

Note:

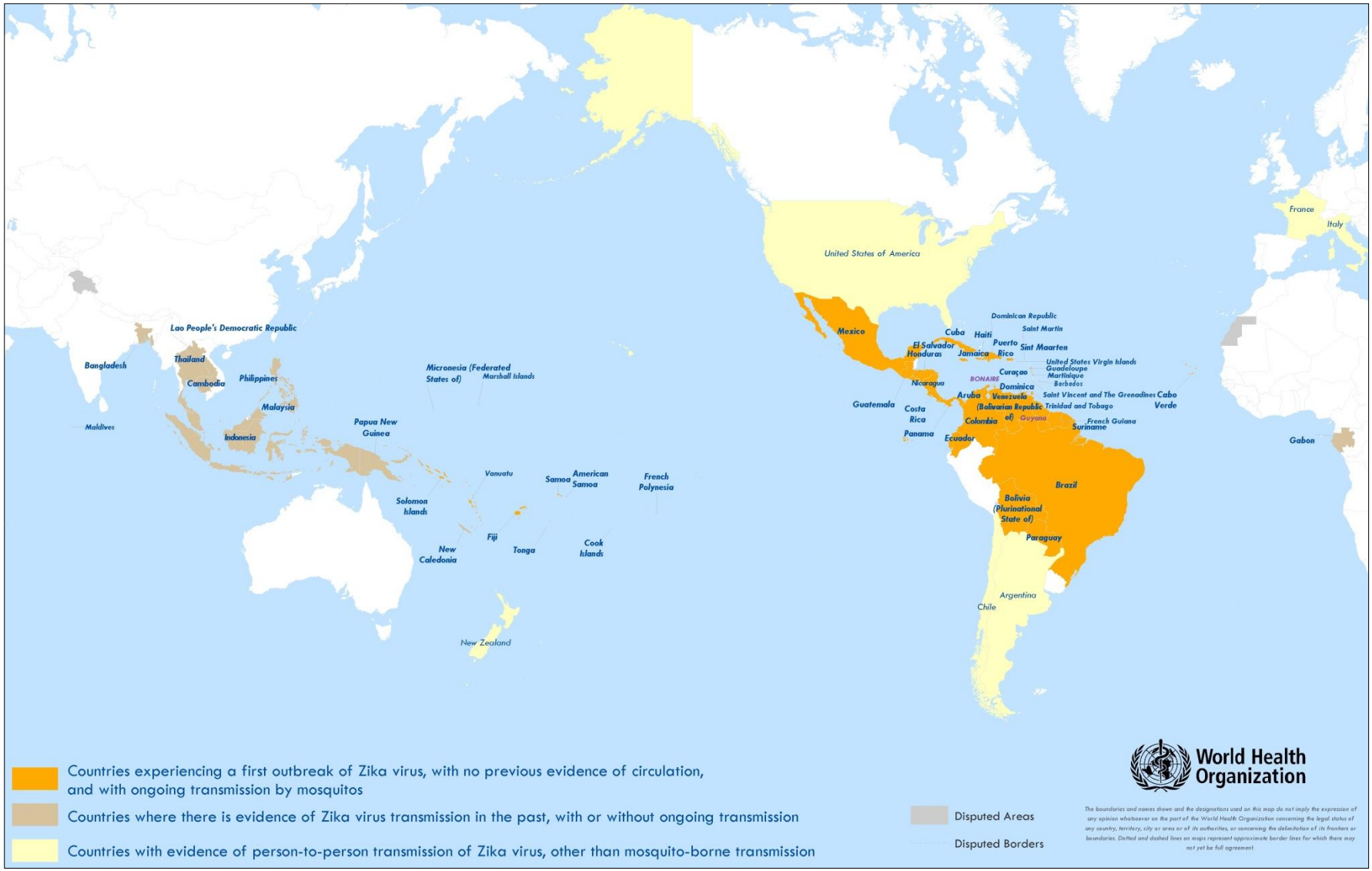
- *Categories one and two are mutually exclusive.*

Figure 2. Timeline of introduction of Zika virus in the Americas, 2015-2016



Available information does not permit measurement of the risk of infection in any country; the variation in transmission intensity among countries is therefore NOT represented on this map. Zika virus is not necessarily present throughout the countries/territories shaded in this map. Countries where sexual transmission occurred are not represented in this map.

Figure 3. Countries, territories and areas reporting Zika virus, 2007-2016.



**These reports do not exclude the possibility that Zika virus is present in other countries, notably in Africa and Asia.*

- From 2007, locally acquired Zika virus cases have been reported in 17 countries and territories in the Western Pacific Region, including one instance of sexual transmission in New Zealand. Six Pacific Island countries and areas (American Samoa, Fiji, Marshall Islands, Micronesia (Federated States of), Samoa and Tonga) have reported mosquito-borne Zika virus infections in 2016.
- Cabo Verde, in the African Region, has reported that as of 28 March 2016, preliminary analysis of the 784 samples from suspected cases of Zika virus disease identified 198 confirmed cases of Zika virus. Confirmed cases were detected in Santiago, the most affected island, Fogo, Maio Brava and Boa Vista. Distribution of suspected and confirmed cases over time showed that the first confirmed cases were identified in the week to 30 August 2015, peaked in the week to 1 November 2015 and incidence is now in decline. The last confirmed case was identified on the week to 21 February 2016. From October 2015 to March 2016, 87 pregnant women were tested for Zika virus and 19 were found positive either with Zika virus genome or anti-Zika virus IgM antibodies.

Incidence of microcephaly

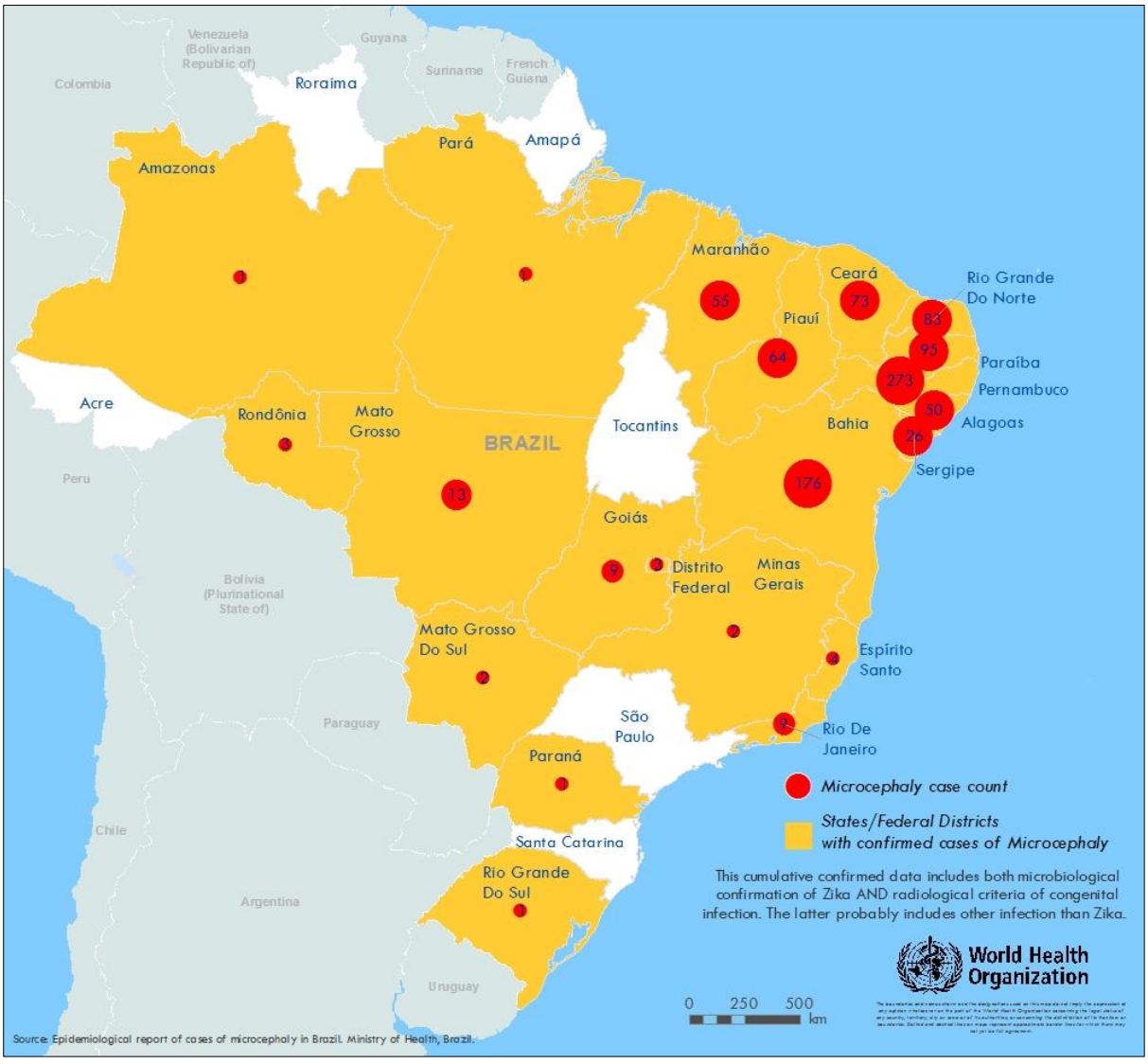
- Between 22 October 2015 and 26 March 2016 a total of 6776 cases of microcephaly and/or central nervous system (CNS) malformation were reported by Brazil including 208 deaths. This contrasts with the period from 2001 to 2014, when an average of 163 microcephaly cases was recorded nationwide per year. A detailed description of this sharp increase is provided in a published paper.[3] The prevalence of microcephaly among newborn children in 15 states with laboratory-confirmed Zika virus transmission (2.8 cases per 10 000 live births) significantly exceeded that in four states without confirmed Zika virus transmission (0.6 cases per 10 000 live births).
- Of the 6776 cases of microcephaly reported in Brazil, investigations have been concluded for 2485 cases and 944 in 21 out of 27 states were confirmed with microcephaly and/or other neurological malformations suggestive of congenital infection (Table 2).[4]
- Microcephaly cases have been detected in 21 states in Brazil, but the reported increase is concentrated in the northeast region (Fig. 4).
- Among the 6776 cases of microcephaly and/or CNS malformation reported in Brazil, 208 child deaths occurred after birth or during pregnancy (including miscarriage or stillbirth); 47 of these had microcephaly and/or CNS malformation suggestive of congenital infection, 139 remain under investigation and 22 were discarded.

[3] http://www.cdc.gov/mmwr/volumes/65/wr/mm6509e2er.htm?s_cid=mm6509e2er_w
[4] http://portalsaude.saude.gov.br/images/pdf/2016/marco/30/COES-Microcefalias---Informe-Epidemiol--gico-19--SE-12-2016--29mar2016--08h50.pdf

Table 2. Countries, territories and areas reporting microcephaly cases potentially associated with Zika virus infection.

Reporting country	Number of microcephaly cases suggestive of congenital infections or potentially associated with a Zika virus infection	Probable location of infection
Brazil	944	Brazil
Cabo Verde	2	Cabo Verde
Colombia	8	Colombia
French Polynesia	8	French Polynesia
Martinique	1	Martinique
Panama	1	Panama
Slovenia [5]	1	Brazil
United States of America [6]	1	Brazil

Figure 4. Distribution of confirmed microcephaly cases in Brazil (944 cases reported up to 26 March 2016)



[5] http://www.nejm.org/doi/pdf/10.1056/NEJMoa1600651
[6] http://governor.hawaii.gov/newsroom/doh-news-release-hawaii-department-of-health-receives-confirmation-of-zika-infection-in-baby-born-with-microcephaly/

- An outbreak of Zika virus in French Polynesia was followed by an increase in the number of CNS malformations in children born between March 2014 and May 2015.[7] A total of 19 cases were reported including eight microcephaly cases compared to the national average of 0-2 cases per year. A recently published study estimated the risk to be 95 cases of microcephaly per 10 000 women infected during the first trimester.
- In the context of the Cabo Verde Zika virus outbreak, a baby with microcephaly was reported on 14 March 2016. Samples from the mother and the infant exhibited anti-Zika virus IgG antibodies confirmed by seroneutralisation. A new report was received on 24 March from CDC of a Cabo Verde resident who gave birth to a full term baby with microcephaly in the United States of America. Preliminary testing of the woman's serum yielded positive results for Zika virus IgM antibodies.
- On 30 March, Colombia reported 50 live births with microcephaly between 4 January 2016 and 20 March 2016. This number represents an increase compared to the historical annual average expected (140 per year). Of the 50 cases registered, 16 were discarded for microcephaly with suspected association to Zika virus. Of the remaining 34 cases, two were ruled out for not meeting the national criteria for association with microcephaly by Zika virus. The remaining cases (32) are under investigation, in order to establish the association with Zika virus infection. So far, eight of these 32 cases of microcephaly presented Zika virus positive results by real-time PCR. The investigation is ongoing and further information is expected.

Incidence of Guillain-Barré syndrome (GBS)

- In the context of Zika virus circulation 13 countries or territories have reported increased GBS incidence and/or laboratory confirmation of a Zika virus infection among GBS cases (Table 3).

Table 3. Countries, territories or areas reporting Guillain-Barré syndrome (GBS) potentially related to Zika virus infection.

Classification	Country / territory / area
Reported increase in incidence of GBS cases, with at least one GBS case with confirmed Zika virus infection	Brazil, Colombia, Dominican Republic, El Salvador*, French Polynesia, Honduras, Suriname, Venezuela (Bolivarian Republic of)
No increase in GBS incidence reported, with at least one GBS case with confirmed Zika virus infection	French Guiana, Haiti*, Martinique, Panama, Puerto Rico

**GBS cases with previous history of Zika virus infection were reported by the International Health Regulations (2005) National Focal Point in United States of America.*

- Between October 2013 and April 2014, French Polynesia experienced the first Zika virus outbreak ever recorded in the country. During the outbreak, 42 patients were admitted to a hospital with GBS. This represents a 20-fold increase in incidence of GBS in French Polynesia compared with the previous four years. A published formal analysis of these data (a case-control study) showed a strong association between Zika infection and GBS.[8]

[7] http://www.thelancet.com/pdfs/journals/lancet/PIIS0140-6736(16)00651-6.pdf

[8] http://dx.doi.org/10.1016/S0140-6736(16)00562-6

All 42 GBS cases were also confirmed for a Zika virus infection. Based on a 66% attack rate of Zika virus infection in the general population (judged from a serological survey), the risk of GBS was estimated to be 0.24 per 1000 Zika virus infections.

- In 2015 in the Brazilian state of Bahia, 42 GBS cases were reported, among which 26 (62%) had a history of symptoms consistent with Zika virus infection. A total of 1708 cases of GBS were registered nationwide, representing a 19% increase from the previous year (1439 cases of GBS in 2014), though not all states reported an increase in incidence.
- From 1 December 2015 to 19 March 2016, Colombia reported 381 cases with neurological syndromes and clinical symptoms of Zika virus infection, of which 258 are GBS cases. To date, 18 of those cases were positive for Zika virus by RT-PCR. In the context of polio surveillance, there has been a report of 35 acute flaccid paralysis (AFP) cases, which can be caused by GBS, in children under 15 years old with a clinical history of Zika virus infection between 14 September 2015 and 19 March 2016.
- El Salvador recorded 136 GBS cases from 5 December 2015 to 5 March 2016, including three deaths, while the annual average number of GBS cases is 169. One GBS case has been laboratory confirmed for Zika virus infection.
- On 29 January 2016, Suriname reported an increased incidence of GBS: 10 GBS cases reported in 2015 and three GBS cases were reported during the first three weeks of 2016, while Suriname registers on average approximately four cases GBS per year. A Zika virus infection was confirmed by RT-PCR in two of the GBS cases reported in 2015.
- Venezuela (Bolivarian Republic of) has also reported an increased incidence of GBS. Between 12 December 2015 and 13 February 2016, 578 GBS cases were reported, from which 235 presented symptoms of Zika virus infection. In 2016, six GBS cases were confirmed by RT-PCR to also have a Zika virus infection.
- The Dominican Republic has reported eleven GBS cases with history of Zika-like illness have been recorded from 6 to 20 March 2016. Six of the cases are children aged under 15 years and the remaining five are people aged over 50 years. Zika virus infection has been confirmed by RT-PCR in one GBS case, a one-year-old child and resident of the National District. The patient evolved favourably and has been discharged from the hospital.
- GBS cases with laboratory confirmed Zika virus infections were also reported from Colombia (18 cases), El Salvador (one case), French Guiana (two cases), Haiti (one case), Honduras (one case in a pregnant woman), Martinique (five cases), Panama (two cases) and Puerto Rico (one case).
- Two reports describe other neurological disorders associated with Zika virus infection: a 15-year-old girl in Guadeloupe who developed an acute myelitis,[9] a disorder caused by inflammation of the spinal cord, and in an 81-year-old man a case of meningoencephalitis, an inflammatory process involving both the brain and meninges.[10] These reports highlight the need to better understand the range of neurological disorders associated with Zika virus infection.

[9] http://www.thelancet.com/journals/lancet/article/PIIS0140-6736(16)00644-9/fulltext
[10] http://www.nejm.org/doi/full/10.1056/NEJMc1602964?query=featured_zika

- In Honduras, a pregnant woman who was laboratory confirmed for Zika virus was reported to have an undefined neurological syndrome.

II. RESPONSE

- The principal activities being undertaken jointly by WHO and international, regional and national partners in response to this public health emergency are laid out in table 4.
- WHO and partners are working together to develop and maintain the Joint Operations Plan that combines activities within the six main areas of work; coordination, surveillance, care, vector control, risk communication and community engagement, and research at the global, regional and country level.

Table 4. Strategic Response Framework and Joint Operational Response Plan: response

Objectives	Activities
Public health risk communication and community engagement activities	▪ Activate networks of social science experts to advise on community engagement. ▪ Coordinate and collaborate with partners on risk communication messaging and community engagement for Zika. ▪ Develop communication and knowledge packs and associated training on Zika and all related and evolving issues for communication experts. ▪ Engage communities to communicate risks associated with Zika virus disease and promote vector control, personal protection measures, reduce anxiety, address stigma, and dispel rumours and cultural misperceptions. ▪ Disseminate material on Zika and potentially associated complications for key audience such as women of reproductive age, pregnant women, health workers, clinicians, and travel and transport sector stakeholders. ▪ Conduct social science research to understand perceptions, attitudes, expectations and behaviours regarding fertility decisions, contraception, abortion, pregnancy care and care of infants with microcephaly and persons with GBS. ▪ Support countries to monitor impact of risk communications.
Vector control and personal protection against mosquitoes	▪ Regularly update and disseminate guidelines/recommendations on emergency *Aedes spp*. mosquito control and surveillance. ▪ Support insecticide resistance monitoring activities. ▪ Support countries in vector surveillance and control, including provision of equipment, insecticides, personal protection equipment (PPE) and training.
Care for those affected and advice for their caregivers	▪ Assess and support existing capacity and needs for health system strengthening, particularly around antenatal, birth and postnatal care, neurological and mental health services, and contraception and safe abortion. ▪ Map access barriers limiting women's capacity to protect themselves against unintended pregnancy. ▪ Develop guidance for: families affected by microcephaly, GBS or other neurological conditions; women suspected or confirmed to have Zika virus infection, including women wanting to get pregnant, pregnant women and women who are breastfeeding; health workers on Zika virus health care, blood transfusion services, tools for triage of suspected Zika virus, chikungunya and dengue cases; and for health services management following a Zika virus outbreak. ▪ Provide technical support to countries on health service delivery refinements and national level planning to support anticipated increases in service needs. ▪ Procure and provide equipment and supplies for prioritized countries and territories to prepare their healthcare facilities in provision of specialized care for complications of Zika virus.

- One application for mobile devices has been released by WHO to help Zika responders and health care providers access key information, guidelines and tools. Versions in English, Portuguese and Spanish are available for Android and IOS.[11] This platform will also house future training and briefing videos.
- WHO, PAHO, IFRC and UNICEF are working with partners to step up community engagement support. A joint document on risk communication and community engagement for Zika virus prevention and control was published and is available for use by field teams in English and Spanish.[12]
- On 23 March PAHO released two public service messages in Spanish, English and Portuguese featuring the Sesame Street Muppets to educate families in Latin America and the Caribbean about preventing mosquito bites.[13]
- WHO, in close collaboration with Zika response partners, has developed a Knowledge Attitude and Practices (KAP) survey resource pack as part of its Strategic Response Framework for the Zika emergency. The resource pack is intended to be used by affected and at-risk countries. WHO, UN agencies and NGOs who plan to conduct KAP surveys in a community setting with adult respondents. It provides a bank of key questions in the domains of knowledge, attitudes and practices. It is intended that partners will identify key areas for investigation according to their operational priorities, select the most relevant questions and update them to reflect national and sub-national contexts. WHO will also coordinate the mapping of operational research on community perceptions and needs as results from the KAP surveys become available. The resource pack is currently available in English, it is being translated into Spanish and Portuguese.
- Media mapping tools for all affected or at risk countries are being developed by The Communicating with Disaster Affected Communities (CDAC) network to better engage local reporters.
- UNESCO, IFRC and WHO together developed and disseminated radio spots on Zika virus risk communication for local use in English, French, Portuguese and Spanish.[14]
- WHO has developed new advice and information on diverse topics in the context of Zika virus.[15] WHO's latest information materials, news and resources to support risk communication, and community engagement are available online.[16]

III. RESEARCH

- Public health research is critical for establishing the causal link between Zika virus infection in pregnant women and congenital abnormalities in their babies and for understanding the pathogenesis of Zika virus infection. Technical assistance is being

[11] http://www.who.int/risk-communication/zika-virus/app/en/
[12] http://www.who.int/csr/resources/publications/zika/community-engagement/en/
[13] http://www.paho.org/hq/index.php?option=com_content&view=article&id=11836%3Asesame-street-muppets-join-paho-to-educate-families-about-preventing-zika&Itemid=1926&lang=en
[14] http://en.unesco.org/media-pluralism-and-diversity/zika
[15] See resources listed at end of report
[16] http://www.who.int/risk-communication/zika-virus/en/

coordinated with various partner agencies globally and in affected countries to identify and answer critical questions (Table 5).

- The Emergency Use Assessment and Listing for Zika diagnostic tests was activated, and a call for submission has been published.[17]
- The first global consultation on Zika virus research – "Towards the development of a research agenda for characterizing the Zika virus outbreak and its public health implications in the America" was convened in Washington, D.C. from 1 to 2 March 2016.
- A global consultation on research related to Zika virus infection was held from 7 to 9 March 2016 to assess the research landscapes and plan for additional research.
- Based on the discussion held during the research meeting in PAHO and the R&D meeting in Geneva, five key priority areas have been defined for public health research:
    1. Establish causality between Zika virus infection and neurological disorders (in fetus, neonates, infant and adults): development of a causality framework and of a systematic review
    2. Risk of adverse outcomes of pregnancy in pregnant women infected with Zika virus and follow-up of babies and infants: establish a cohort of pregnant women
    3. Explore sexual transmission of Zika virus: establish a cohort of men and women and test regularly body fluids for the presence of Zika virus
    4. Vector control research: evaluate interventions based on community and resistance of the vectors, develop surveillance system
    5. Public health system research: evaluate the preparedness of health system to manage babies with microcephaly and assist their families, to manage patients with GBS; to evaluate the availability of contraception in health services to respond to the demand and assess abortion services.

Table 5. Strategic Response Framework and Joint Operational Response Plan: research and development

Objectives	Activities
Fast-track research and development of new products including diagnostics, vaccines and therapeutics.	▪ Identify research gaps and prioritize needs for products. ▪ Support the conduct of research related to Zika virus diagnostics, therapeutics, vaccines and novel vector control approaches ▪ Convene research actors and stakeholders. ▪ Coordinate introduction of products after assessment and evaluation. ▪ Coordinate supportive research activities including regulatory support and data sharing mechanisms.

[17] http://www.who.int/diagnostics_laboratory/eual-zika-virus/160211invitation_to_mx_of_Zika_virus_diagnostics_v2.pdf?ua=1

Zika virus and potential complications

WHO documents

As of 23 March 2016

World Health Organization

1. Epidemiology and Laboratory

Surveillance

1.1 Zika virus case definition
AR | CH | EN | FR | RU | SP | PT

Laboratory

1.2 Laboratory testing for Zika virus
AR | CH | EN | FR | RU | SP | PT

2. Management of Complications

2.1 Prevention of potential sexual transmission of Zika virus
AR | CH | EN | FR | RU | SP | PT

2.2 Pregnancy management in the context of Zika virus
AR | CH | EN | FR | RU | SP | PT

2.3 Assessment of infants with microcephaly in the context of Zika virus
AR | CH | EN | FR | RU | SP | PT

2.4 Identification and management of Guillain-Barré syndrome in the context of Zika virus
AR | CH | EN | FR | RU | SP | PT

2.5 Breastfeeding in the context of Zika virus
AR | CH | EN | FR | RU | SP | PT

2.6 Psychosocial support for pregnant women and for families with microcephaly and other neurological complications in the context of Zika virus infection
EN | SP | PT

3. Vector Control

3.1 Monitoring and managing insecticide resistance in Aedes populations
EN

3.2 Entomological surveillance for *Aedes spp.* in the context of Zika virus
EN

3.3 Protecting the occupational health and safety of workers in emergency vector control of Aedes mosquitos
EN

4. Risk Communication and Community Engagement

4.1 Risk communications for Zika virus
AR | CH | EN | FR | RU | SP | PT

5. Health Systems

5.1 Maintaining a safe and adequate blood supply during Zika virus outbreaks
AR | CH | EN | ES | FR | RU | PT

6. International Health Regulations

6.1 Aircraft disinsection for mosquito control
EN

7. General Information

Factsheets

7.1 Zika virus
AR | CH | EN | FR | RU | SP | PT

7.2 Microcephaly
AR | CH | EN | FR | RU | SP

7.3 Guillain-Barré syndrome
AR | CH | EN | FR | RU | SP

General information

7.4 Zika virus and potential complications: Questions and answers
AR | CH | EN | FR | RU | SP

7.5 Zika virus and safe blood supply: Questions and answers
AR | CH | EN | FR | RU | SP

7.6 Dispelling rumours around Zika and microcephaly
AR | CH | EN | FR | RU | SP

7.7 Information for travellers visiting Zika affected countries
AR | CH | EN | FR | RU | SP

7.8 Zika virus: video questions and answers
EN

7.9 Zika Strategic Response Framework & Join Operations Plan
EN

7.10 Zika virus disease timeline
EN

Information on research and data sharing

7.11 WHO involvement in Zika R&D
AR | CH | EN | FR | RU | SP

7.12 Data sharing in public health emergencies: a call to researchers
EN

7.13 Zika Open
EN