Zika virus situation update and regional response activities

PAHO/WHO

EB, 28 January 2016
Historical Transmission of Zika Virus (human cases and/or mosquito carriage reports)

Discovered in Uganda 1947
Expansion other countries in Africa 1947-1948
Pakistan, Malaysia, Indonesia 1977-1978
Yap Island (Micronesia) and Guam, 2007
Historical Transmission of Zika Virus
(human cases and/or mosquito carriage reports)

2013 Tahiti, French Polynesia, 2013

Human cases and/or mosquito carriage have been reported in:


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Brazil, May 2015

Historical Transmission of Zika Virus
(human cases and/or mosquito carriage reports)

Human cases and/or mosquito carriage have been reported in:

Africa: Burkina Faso, Cameroon, Central African Republic, Gabon, Ivory Coast, Nigeria, Senegal, Sierra Leone and Uganda
Asia: Cambodia, Indonesia, Malaysia, Pakistan and Thailand
The Pacific Region: Cook Islands, French Polynesia, Guam, Micronesia and New Caledonia, Easter Island (Chile)
Americas: Brazil, Barbados, Bolivia, Colombia, Dominican Republic, Guadeloupe, Guatemala, Guyana, French Guiana, Haiti, Honduras, Ecuador, El Salvador, Martinique, Mexico, Panama, Paraguay, Puerto Rico, Saint Martin, Suriname, US Virgin Islands, Venezuela


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Historical Transmission of Zika Virus (human cases and/or mosquito carriage reports)

Active transmission in the Americas 2016 (and other areas worldwide in previous 15 months, ECDC)
Global map of the predicted distribution of Ae. aegypti. The map depicts the probability of occurrence (from 0 blue to 1 red) at a spatial resolution of 5 km × 5 km. DOI: http://dx.doi.org/10.7554/eLife.08347.004.
Countries and territories with confirmed cases of Zika virus (autochthonous transmission) in the Americas, 2015 - 2016

Geographic distribution of Zika confirmed cases by country

Data Sources: Cases reported by the IHR National Focal Points to PAHO-WHO CHA IR ARO and through the Ministry of Health websites, 2016. Report Production: PAHO-WHO AD CHA IR ARO
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Current ZIKV circulation in the Americas

Member States reporting circulation of Zika virus in the region:

1. Brazil
2. Barbados
3. Bolivia
4. Colombia
5. Dominican Republic
6. Guadeloupe
7. Guatemala
8. Guyana
9. French Guiana
10. Haiti
11. Honduras
12. Ecuador
13. El Salvador
14. Martinique
15. Mexico
16. Panama
17. Paraguay
18. Puerto Rico
19. Saint Martin
20. Suriname
21. US – Virgin Islands
22. Venezuela
Countries and territories with confirmed cases of Zika virus (autochthonous transmission), 2015-2016 & Rates of microcephaly by state in Brazil, 2010-2014 and 2015-2016

Updated as of Epidemiological Week 2 (January 10-16, 2016)

Microcephaly rates by state in Brazil (cases per 1,000 live births)
Rate
- 0.1 - 1.0
- 1.1 - 15.0
- 15.1 - 30.0
- 30.1 - 45.0
- 45.1 - 100.1

Countries with Zika confirmed cases
- EW 2, 2016
- Country limits
- Brazil state boundaries

Data Source:
Reported from the IHR National Focal Points and through the Ministry of Health websites.

Map Production:
PAHO-WHO AD CHAIR ARD
Microcephaly cases, Pernambuco, 1999-2015

Fuente: Sinasc and Notification to SES-PE

(*) Microcephaly notifications, up to Nov 28, 2015 Note: blue < 32 cm, red 32-33 cm
Epidemic curve of microcephaly cases among at-term newborns and preceding Zika virus circulation in: Pernambuco State, Brazil, 2015
What we know on 28 January 2016…..

• There was no immunity in the population against the Zika virus in the region of the Americas including North Eastern Brazil when it was introduced in 2014-15

• The American region including North East Brazil is endemic/epidemic for Dengue in a context of high *Aedes aegypti* infestation

• The Zika virus circulation in North East Brazil has been intense (MoH Brazil estimates between 500,000 and 1.5 M Zika cases during 2015)

• Temporal / spatial association ZIKV and microcephaly dramatic increase in North East Brazil, starting October 2015

• A number of laboratory findings points to the relation between the Zika virus and the cases of neurological malformations including microcephaly
Findings pointing to ZIKV outbreak relation with microcephaly in Brazil

- 2 cases of ZIKV genome detected in amniotic fluid. FioCruz, Brazil, Nov 2015.
- One case of microcephaly in a stillborn with multiple malformations tested positive for ZIKV. Evandro Chagas Institute, Brazil, Nov 2015.
- Four cases of congenital malformations including 2 cases of miscarriage and 2 newborns that died within the first 24 hours tested positive for ZIKV. MoH Brazil and CDC, USA, Jan 2016.
- Six cases of newborns with microcephaly tested positive for ZIKV. Published in Ultrasound Obstetrics Gynecology, Jan 2016.
- One case of newborn with microcephaly from Hawaii tested positive for ZIKV. Staid in North Eastern Brazil during early pregnancy. CDC, USA, Jan 2016.
- One case of miscarriage with placenta tested positive for ZIKV. Carlos Chagas Institute, Brazil, Jan 2016.
Information sharing process under the IHR

Country reports to the AMRO IHR contact point

- 2 May 2015: Brazil detects Rash & Fever outbreak in North East states
- 13 May 2015: Brazil reports ZIKV confirmed by reference laboratory
- 10 June 2015: Brazil reports ZIKV transmission in 8/27 states
- 10 August 2015: Brazil detects Guillain-Barré Syndrome increase in state of Bahia
- 10 October 2015: Colombia reports ZIKV confirmed cases
- 30 October 2015: Brazil reports unusual increase in microcephaly in the state of Pernambuco
- 28 January 2016, 22 countries and territories have notified ZIKV autochthonous transmission using the IHR channel
PAHO/WHO activities

Posting of Epidemiological Alerts and technical guidance on www.paho.org

- 7 May 2015: Epi Alert - Risk of Zika virus infection in the American region
- June 2015: Technical guidelines on Integrated Vector Management, Zika laboratory
- 16 October 2015: Epi update on the Zika virus situation in the Americas
- 17 November 2105: Epi Alert - Increase in microcephaly in the North East of Brazil
- 01 December 2015: Epi Alert - Neurological Syndrome, Congenital malformations and Zika virus infections, implications for public health in the Americas
- 17 January 2016: Epi update - Neurological Syndrome, Congenital malformations and Zika virus infections
- 21 January 2016: Preliminary guidelines for the surveillance of microcephaly
PAHO/WHO activities

Coordination of partners for the ZIKV response

- Risk communication trainings starting with Chikungunya outbreak in 2014
- Logistics of sample shipments from countries to the WHO collaborating center (CDC Ft Collins) and procurement of ZIKV reagents
- Missions to countries for implementing ZIKV laboratory platform
- Deployment of GOARN team to Brazil to support MoH Brazil investigation on microcephaly (PAHO/WHO, CDC, November-December 2015)
- Organization of Inter-country laboratory training with CDC and Institute Evandro Chagas, Belem (January 2016) and MoH Nicaragua (February 2016)
- Coordination of GOARN laboratory partners activities (Institut Pasteur international network, FioCruz, Evandro Chagas Institute, UTMB Galveston, CDC)
- Support to the Microcephaly Epidemics Research Group MERG for designing and implementing case control studies in North East Brazil
PAHO/WHO activities

Coordination between the 3 levels of the organization

- **Country Office** Brazil with ZIKV team established (team leader, Epi surveillance, case control implementation, laboratory network, vector control, risk comm), Country Office administrative emergency declaration

- **Regional Office** with Incident Management System activated (Alert & Response operations; clinical, epidemiological, and laboratory surveillance and training; vector control; health services preparedness; risk and public communication; procurement), Epidemic Emergency Response Fund activated

- **HQ** with Incident Management System activated for coordinating 4 clusters and 6 departments, Grading of the event, Coordination across WHO Regions, IHR emergency committee convening
PAHO/WHO Incident Management System for ZIKV

- **Spokesperson**
- **CLAP**: Microcephaly surveillance & Pregnancy Management
- **IHR**: Travel & Health, Emergency Committee
- **Alert & Response**: Event Based Surveillance, Epi Alerts
- **Clinical surveillance**: severe neurological syndromes
- **Laboratory**: WHO/CC and network, training
- **Health Services**: preparedness
- **Vector Control**: training and Insecticide Resistance monitoring
- **Risk Com**: support to MoH
- **Public Com**: Media, website
Next Steps

• Surveillance systems strengthening
  ➢ Integrated Arbovirus surveillance
  ➢ Neurological malformations and other birth defects
  ➢ GBS surveillance

• Addressing the knowledge gaps on Zika virus
  ➢ Development of new virology tests
  ➢ Knowledge of the virus and its effects on fetus
  ➢ Vaccine development / antiviral
  ➢ Characterizing the clinical patterns and neurological relations (GBS)
  ➢ Dynamics of arbovirus outbreaks (DENV, CHIKV, ZIKV, others)
  ➢ Relationships between vector(s) and virus
  ➢ New tools for vector control

• Meeting to agree on a research agenda on ZIKV, 1-2 March 2015, Washington DC
Risk of Dengue virus transmission = risk of Zika virus transmission

Recommendations for WHO Member States

• Multisectoral coordinated approach for Integrated Vector Management
  • Partnering and engaging relevant stakeholders and the community

• Detection and monitoring dissemination of virus
  • Laboratory platform implementation and event-based surveillance

• Health services preparedness for the management of potential complications including neurological syndromes and birth defects

• Risk communication and public awareness

• Capacity building – Clinical, laboratory, vector control and risk communication

• Research & Development