

# Zika Virus in Brazil

January 2016

The Zika virus was first identified in Brazil in 2015. Initially isolated in the Zika forest (Uganda) in 1947, it is transmitted by the same vector as that of dengue and chikungunya, the *Aedes aegypti* mosquito. Zika is endemic to parts of Africa and sporadically found in Asia and Oceania.



Foto: Ministério da Saúde

In the Americas, the virus was first identified on Easter Island (Chile) in 2014. Imported cases of the virus have been reported in Canada, Germany, Italy, Japan, United States and Australia. Since November 2015, 18 countries and territories in the Americas, in addition to Brazil, have confirmed local contamination by the virus.

At the end of 2015, Brazilian health officials linked the infection of women by the Zika virus during pregnancy with microcephaly, a severe malformation in which babies are born with head circumference of or below 32 cm. From 2015 until January 23, 2016, 4,180 suspected cases of microcephalic babies were recorded in Brazil, in 24 states, compared to an annual incidence of less than 200 cases per year in the previous year. There are also reports, yet unproven, of association between the Guillain-Barre neurological syndrome and the Zika virus.

With a public, integrated healthcare system, Brazil was able to react quickly. The government declared a State of Public Health Emergency of National Interest and set up an unprecedented task force to prevent and combat the epidemic. Experts from around the world are conducting research in the country, in dialogue with agencies such as the World Health Organization (WHO) and the U.S. Centers for Disease Control and Prevention (CDC).

The Zika virus is transmitted through the bite of an infected female mosquito. The main symptoms, which manifest 3 to 7 days after infection, are itchy rashes, intermittent fever, bloodshot eyes, joint pain and fluid accumulation around the joints, but the disease is asymptomatic in 80% of cases. Diagnosis today is made through a blood test (PCR). Next February Brazil will start production of a molecular biology rapid test.

Control is done by combating mosquito breeding sites, 80% of which are inside households, in standing water containers. Peak infestation in Brazil takes place between February and May, with decreases from July to September (when it rains less and the heat is less intense).

## PREVENTION AND COMBAT TASK FORCE

The National Plan to Combat *Aedes* and Microcephaly includes actions by the Armed Forces (with 220,000 troops), government agencies and civil society. The main actions areas of the Plan include:

### Surveillance and monitoring

- ✓ Increased number of laboratories conducting PCR tests and expanded supply of reagents for it, increasing the number of possible tests from 1,000 to 20,000 per month.
- ✓ Development of rapid test to detect Zika, dengue and chikungunya by the Fiocruz Foundation.
- ✓ Creation of Coordination and Control Rooms at the national, state and local levels.

### Prevention, control and training

- ✓ Increase (from 43,900 to 309,900) in the number of health workers deployed in order to visit 100% of households and public facilities, relying on the support of 50,000 military.
- ✓ Purchase of 100 tons of larvicides for use until June 2016.
- ✓ Recommendations issued to 56,000 hotels, inns and hostels in the country.
- ✓ Cleaning campaigns run by the 1,200 military organizations spread throughout Brazil.
- ✓ Launch of clinical protocol for healthcare professionals in December 2015.
- ✓ Online capacity building module used to train professionals working in 737 maternity wards.

### Financial investment

- ✓ An additional R\$ 500 million earmarked to combat *Aedes aegypti* in 2016.

### Information, awareness and mobilization

- ✓ Military mobilization for distribution of educational materials in 356 municipalities.
- ✓ A [Travelers' Health](#) website with information in English, Portuguese and Spanish.
- ✓ Intensification of mass campaigns on radio, television, newspapers, billboards and social networks from December 2015 to June 2016.
- ✓ Campaign focused on pregnant women and women of childbearing age.
- ✓ Mobilization of schools and universities trade union, employer, religious and social movements, industry, commerce, social networking and communication.
- ✓ Engagement of the school system to help mobilize communities with the aid of the military.

### Research

- ✓ Development of vaccines by three national public institutes (Butantan, Evandro Chagas and Bio-Manguinhos) and three private laboratories (Sanofi Pasteur, GlaxoSmithKline and Takeda).
- ✓ A Fiocruz-led project uses *Wolbachia* bacteria to prevent the production of larvae.
- ✓ Biofactory Moscamed is producing transgenic mosquitoes whose offspring do not reach adulthood.

State	Total reported cases	Cases reported under investigation	Microcephaly and/or birth defect cases	
			Confirmed	Ruled out
<b>NORTHEAST</b>	<b>3,607</b>	<b>2,984</b>	<b>268</b>	<b>355</b>
Alagoas	158	158	0	0
Bahia	533	471	35	27
Ceará	229	218	4	7
Maranhão	134	119	0	15

Paraíba	709	497	31	181
Pernambuco	1,373	1,125	138	110
Piauí	91	91	0	0
Rio Grande do Norte	208	133	60	15
Sergipe	172	172	0	0
<b>SOUTHEAST</b>	<b>240</b>	<b>200</b>	<b>1</b>	<b>39</b>
Espírito Santo	52	52	0	0
Minas Gerais	48	8	1	39
Rio de Janeiro	122	122	0	0
São Paulo	18	18	0	0
<b>NORTH</b>	<b>94</b>	<b>82</b>	<b>0</b>	<b>12</b>
Pará	6	6	0	0
Rondônia	1	1	0	0
Roraima	5	5	0	0
Tocantins	82	70	0	12
<b>MIDWEST</b>	<b>227</b>	<b>180</b>	<b>0</b>	<b>47</b>
Federal District	14	5	0	9
Goiás	62	62	0	0
Mato Grosso	147	110	0	37
Mato Grosso do Sul	4	3	0	1
<b>SOUTH</b>	<b>12</b>	<b>2</b>	<b>1</b>	<b>9</b>
Paraná	10	2	0	8
Santa Catarina	1	0	0	1
Rio Grande do Sul	1	0	1	0
<b>Brazil</b>	<b>4,180</b>	<b>3,448</b>	<b>270</b>	<b>462</b>

*Source: Ministry of Health*