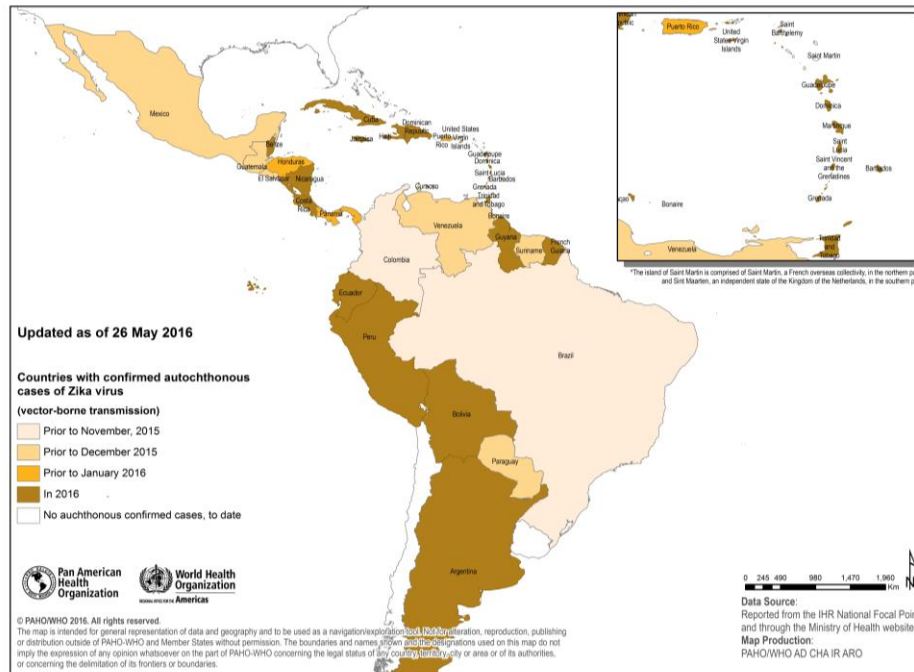


## Zika virus – Incidence and trends

To date, 39 countries and territories have confirmed local, vector-borne transmission of Zika virus in the Region of the Americas since 2015 (**Figure 1**). Since the last Pan American Health Organization/ World Health Organization (PAHO/WHO) [Zika Epidemiological Update on 19 May 2016](#), no additional countries or territories confirmed vector-borne autochthonous transmission of Zika virus.

**Figure 1.** Countries and territories in the Americas with confirmed autochthonous (vector-borne) Zika virus cases, 2015-2016.



A downward trend of cases of Zika virus disease in Central and South America continues to occur while in most Caribbean countries and territories the trend continues to rise.

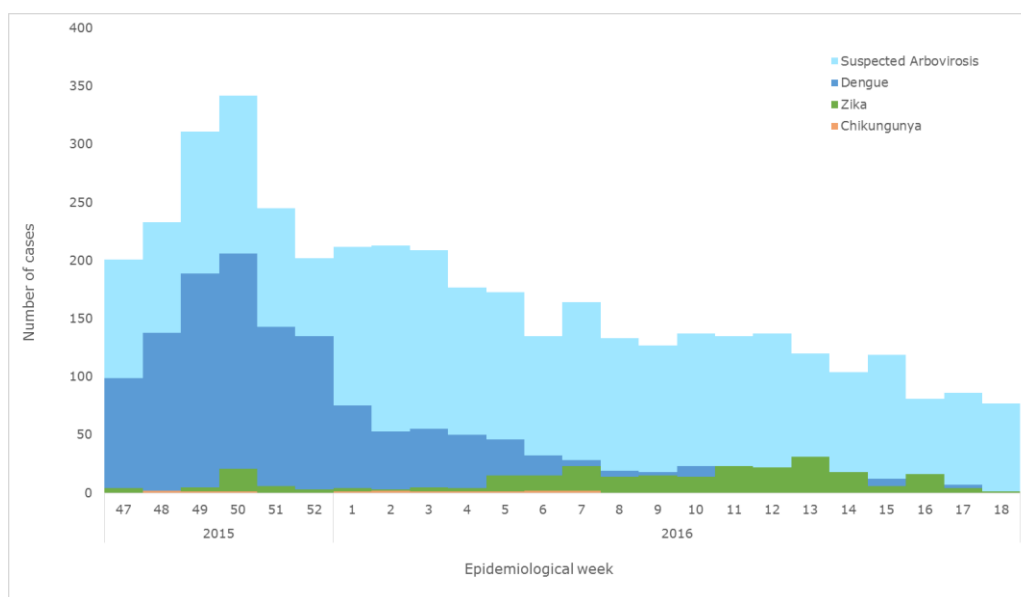
As an example, the epidemic curve of arboviruses in Panama is highlighted below.

### Panama

The first cases of autochthonous transmission of Zika virus disease in Panama were confirmed in epidemiological week (EW) 47 of 2015 on the island of Ustupu in the Alligandi

district, region of Kuna Yala. From EW 47 of 2015 until EW 18 of 2016 Panama has registered 846 suspected cases of Zika virus disease of which 272 were laboratory confirmed. A majority of the cases are from the region of Kuna Yala. During the same period there were 14 laboratory confirmed chikungunya cases and 1,400 confirmed dengue cases reported. The case distribution is demonstrated in **Figure 2**.

**Figure 2.** Suspected and confirmed cases of dengue, chikungunya, and Zika virus in Panama. EW 47 of 2015 to EW 18 of 2016.



**Source:** Surveillance data provided to PAHO/WHO from the Panama Ministry of Health

## Zika virus disease in pregnant women

The detection of Zika virus disease in pregnant women is being heightened in countries in the Region due to the risk of congenital syndrome associated with Zika virus infection. There are 21 countries and territories in the Americas reporting confirmed and suspected cases of Zika virus disease in pregnant women (**Table 1**); this number remains the same since the last PAHO/WHO [Zika Epidemiological Update on 19 May 2016](#).

**Table 1.** Countries and territories in the Americas reporting confirmed and suspected cases of Zika virus disease in pregnant women.

Countries and territories reporting Zika virus disease in pregnant women			
Barbados	Dominican Republic	Honduras	Puerto Rico
Brazil	Ecuador	Martinique	Saint Martin
Bolivia	El Salvador	Mexico	Venezuela
Colombia	French Guiana	Nicaragua	
Costa Rica	Guadeloupe	Panama	
Dominica	Guatemala	Paraguay	

Highlighted below are the surveillance results of pregnant women with Zika virus disease in the Dominican Republic.

### Dominican Republic

Between EW 1 and EW 17 of 2016, a total of 338 pregnant women suspected with Zika virus disease have been detected in the Dominican Republic. Of the suspected cases, 243 were infected during the first or second trimester of pregnancy and 95 during the third trimester. A total of 49% (34) reside in Santo Domingo, 14% (34) in Azua, and 11% (27) in the National District. [See full report.](#)

## Congenital syndrome associated with Zika virus infection<sup>1</sup>

No new countries or territories have reported cases of congenital syndrome associated with Zika virus infection (**Table 2**) since the last PAHO/WHO [Zika Epidemiological Update on 19 May 2016](#).

**Table 2.** Countries and territories in the Americas with reported congenital syndrome associated with Zika virus infection.

Countries reporting congenital syndrome associated with Zika virus	Number of confirmed cases to date
Brazil	1,434
Colombia	7
Martinique <sup>2</sup>	3
Panama <sup>3</sup>	4
Puerto Rico <sup>4</sup>	1
United States <sup>5</sup>	2

### Brazil

According to the Ministry of Health of Brazil, between 22 October 2015 and 21 May 2016, a total of 7,623 suspected cases of microcephaly and other congenital malformation of the central nervous system (CNS) have been reported as per Brazil's Surveillance and Response Protocol.<sup>6</sup> Of these, the Brazil Ministry of Health confirmed 1,434 cases of microcephaly by clinical, radiological, and/or laboratory methods (208 have been confirmed by laboratory

<sup>1</sup> Case definition available at: <http://bit.ly/1TpcVIS>

<sup>2</sup> Two microcephaly cases and one other fetal anomaly; these were detected by ultrasound in mothers with laboratory confirmed Zika virus infection. Note the 28 April 2016 report indicated that one previously detected microcephaly case (by ultrasound) was discarded after birth. This data does not include that case. [See full report.](#)

<sup>3</sup> There is one additional suspected case of congenital malformations in a fetus diagnosed by ultrasonography.

<sup>4</sup> This is a congenital anomaly case. [See full report.](#)

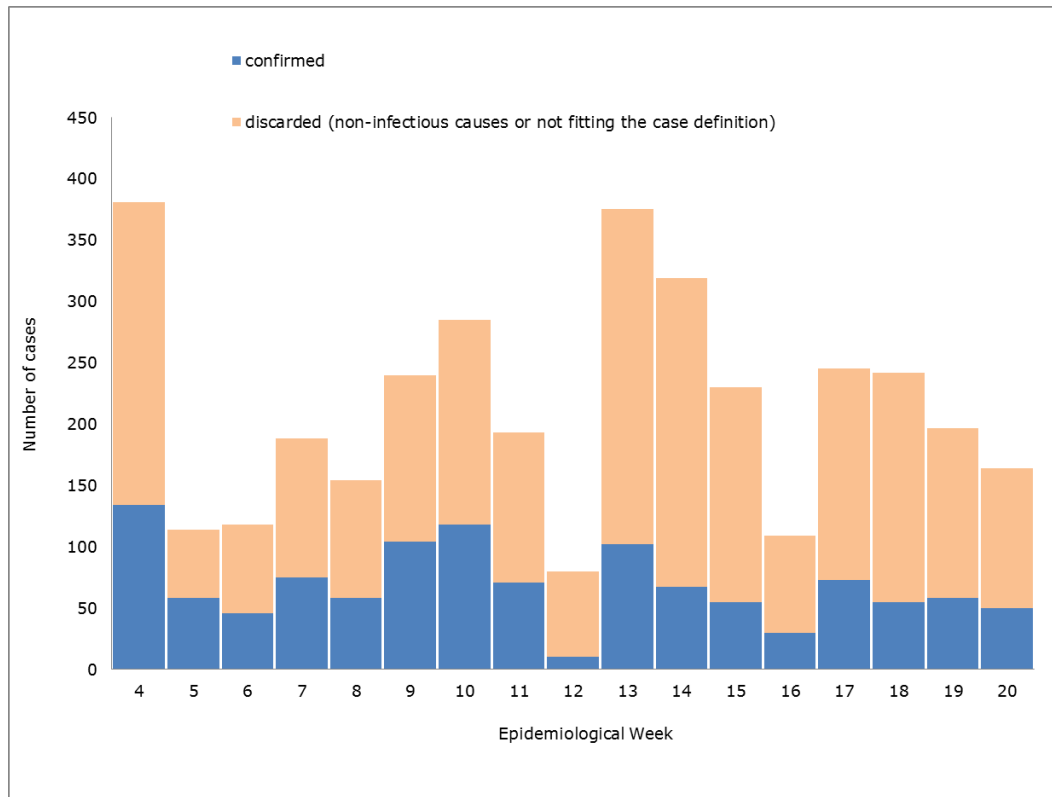
<sup>5</sup> Imported cases; one case linked to a stay in Brazil ([see full report](#)) and one case is linked to a brief stay of the mother in Belize, Guatemala and Mexico ([see full report](#)).

<sup>6</sup> Surveillance and Response Protocol. [See Protocol.](#)

criteria). Out of the total reported cases, 2,932 cases were discarded as being due to non-infectious causes or not fitting the case definition, and 3,257 remain under investigation. The confirmed cases occurred in 517 municipalities, located in 26 out of 27 Federal Units of Brazil.

Between EW 3 and EW 20 of 2016, the greatest number of microcephaly cases were confirmed in EW 4 (134 cases). During the same period the range of cases investigated (confirmed and discarded) were between 80 (EW 12) and 381 (EW 4) (**Figure 3**).

**Figure 3.** Number of investigated cases of microcephaly and other congenital malformation of the CNS in Brazil by epidemiological week, EW 3 – EW 20 of 2016.

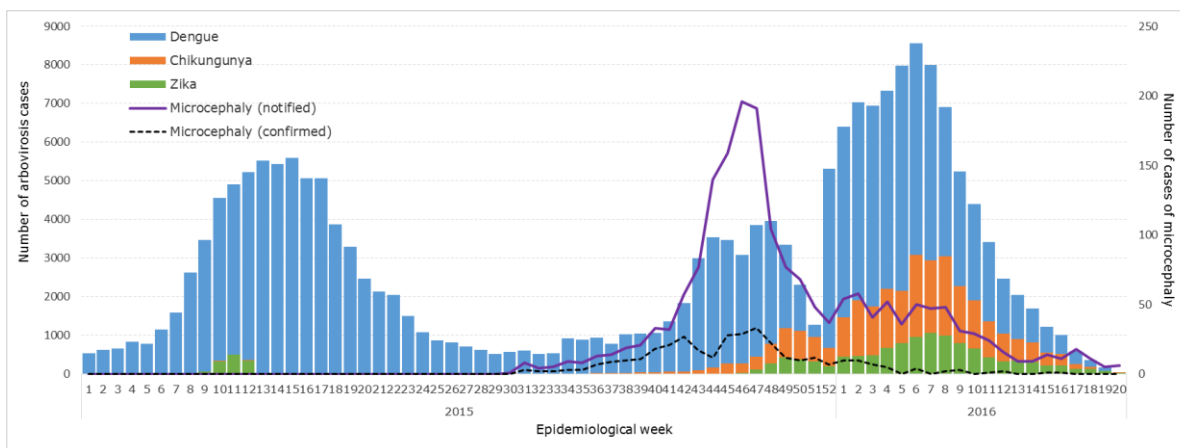


**Source:** Data published by the Brazil Ministry of Health and reproduced by PAHO/WHO

This week when comparing the trend of reported cases of microcephaly and other congenital malformations in the state of Pernambuco, Brazil, analyzed in conjunction with the reported cases of the three circulating arboviruses (chikungunya, dengue and Zika virus) the results stand out.

Since the beginning of 2015 until EW 20 of 2016, Pernambuco shows a bimodal curve of dengue cases with peaks occurring between EW 13 and 15 of 2015 and another peak in EW 7 of 2016. Around these same epidemiological weeks the peak of Zika virus cases was also registered. The first confirmed cases of microcephaly associated with the Zika virus appear 7 to 8 months after the first detection of Zika virus disease cases, reaching a peak in EW 46 of 2015 (**Figure 4**). Considering that the occurrence of cases of microcephaly may follow the same pattern observed in 2015, it may be expected that in 2016 the same increase of cases will be seen between 7 to 8 months after the increase noted in EW 7 of 2016.

**Figure 4.** Cases of dengue, chikungunya, Zika virus, and microcephaly in the state of Pernambuco, Brazil, reported in EW. 2015-2016.



**Source:** Data published by the Pernambuco State Secretary of Health and reproduced by PAHO/WHO

## Guillain-Barré syndrome (GBS) and other neurological disorders

To date, 7 countries in the Region have reported an increase in cases of Guillain-Barré syndrome (GBS) with at least one case laboratory confirmed for Zika virus. Paraguay continues to report an increase in GBS cases, none of which have laboratory results confirming Zika virus infection. Five other countries and territories have not recorded increases but identified Zika virus-associated cases of GBS (**Table 3**).

**Table 3.** Countries and territories in the Americas with GBS in the context of Zika virus circulation.

Increase in GBS plus Zika virus lab confirmation in at least one case of GBS	Zika virus lab confirmation in at least one case of GBS	Increase in GBS with no Zika virus lab confirmation in any of the cases
Brazil	French Guiana	Paraguay
Colombia	Haiti	
Dominican Republic	Panama	
El Salvador	Puerto Rico	
Honduras	Martinique	
Suriname		
Venezuela		

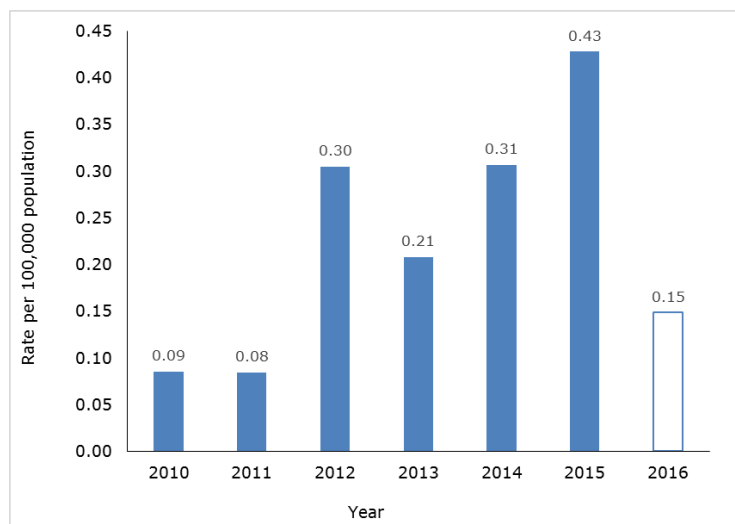
Highlighted below is information on the situation regarding neurological syndromes registered in Panama and the Dominican Republic.

### Trend of Guillain-Barré syndrome in Panama

In Panama, since 2010 to date, there is an increasing trend in the rate of GBS cases ranging between 0.08 and 0.43 per 100,000 population (**Figure 5**). Thus far in 2016, a total of six

neurological syndromes have been registered, 5 of which have a clinical picture compatible with GBS and one with cerebellitis. In 3 of the cases (2 GBS and 1 cerebellitis) prior infection with Zika virus has been confirmed by RT-PCR.

**Figure 5.** Reported GBS in patients up to 65 years of age in Panama, between 2010-2016\*.



\*2016 up to EW 18

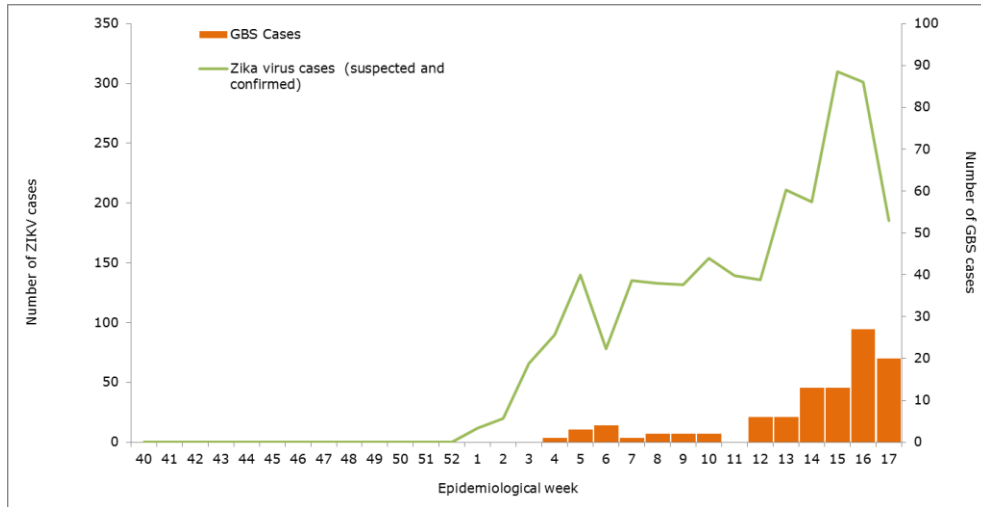
**Source:** Surveillance data provided to PAHO/WHO from the Panama Ministry of Health

### Trend of Guillain-Barré syndrome in the Dominican Republic

In the Dominican Republic, since the beginning of the intensified surveillance of Zika virus disease in EW 1 until EW 17 of 2016, there have been 100 cases of GBS detected, and are suspected of being associated with Zika virus infection. Of those, 42% reside in Santo Domingo, 25% in the National District, 10% in Barahona, and 7% in Azua. To date, there have been six fatal GBS cases suspected of Zika virus disease.

In **Figure 6**, a significant increase in cases of GBS starting in EW 14 of 2016 is shown; this may be related to the resolution issued by the Dominican Republic Ministry of Public Health on 14 April, establishing a mandatory notification of cases of GBS, microcephaly, and other congenital abnormalities related to the Zika virus epidemic.

**Figure 6.** Suspected and confirmed cases of Zika virus disease and GBS. Dominican Republic. EW 1- EW 17 of 2016.



\* 2016 corresponds to EW 19 of 2015 to EW 18 of 2016

**Source:** Data published by the Dominican Republic Ministry of Health and reproduced by PAHO/WHO