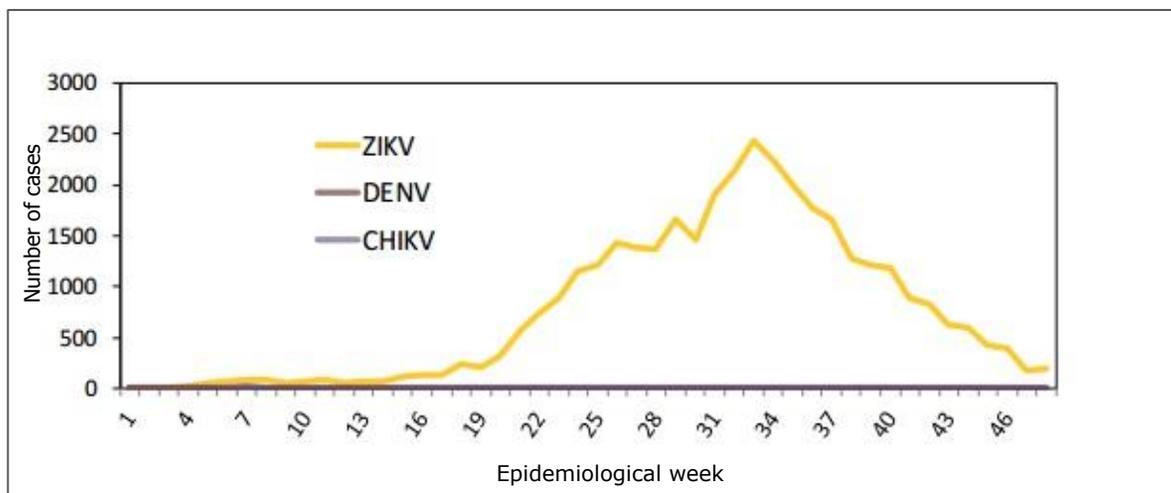


# Zika-Epidemiological Report

## Puerto Rico

20 December 2016

**Figure 1.** Confirmed cases of chikungunya, dengue and Zika by epidemiological week. Puerto Rico. EW 1 to EW 48 of 2016.



Source: Data published by the Puerto Rico Department of Health and reproduced by PAHO/WHO<sup>1</sup>

### FIRST AUTOCHTHONOUS VECTOR-BORNE CASES

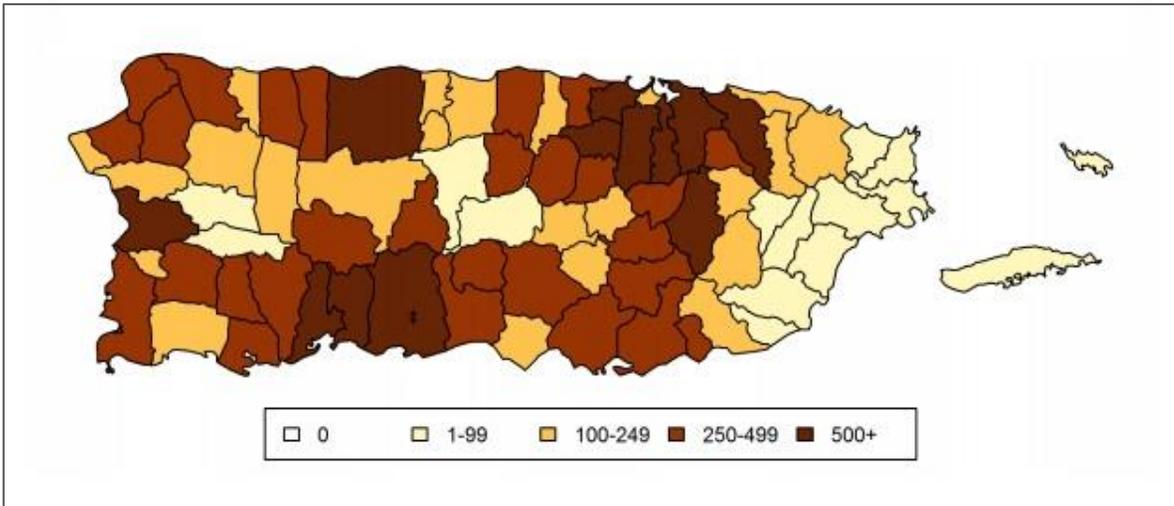
In epidemiological week (EW) 52 of 2015, the United States International Health Regulations (IHR) National Focal Point (NFP) notified PAHO/WHO of the detection of the first laboratory-confirmed case of Zika virus infection in the Commonwealth of Puerto Rico, an unincorporated territory of the United States.

### GEOGRAPHIC DISTRIBUTION

The first Zika cases in Puerto Rico were detected in Humacao, on the eastern coast of the island. Since then, cases have been reported in all municipalities of Puerto Rico, for a total of 35,648 confirmed cases (**Figure 2**).

<sup>1</sup> Puerto Rico Department of Health. Arboviruses Weekly Report. EW 48 of 2016. Available at: <http://www.salud.gov.pr/Estadisticas-Registros-y-Publicaciones/Informes%20Arbovirales/Reporte%20ArboV%20semana%2048-2016.pdf>

**Figure 2.** Confirmed Zika cases by municipality. Puerto Rico. 2015 to 2016 (up to EW 48).



Source: Map published by the Puerto Rico Department of Health<sup>1</sup>

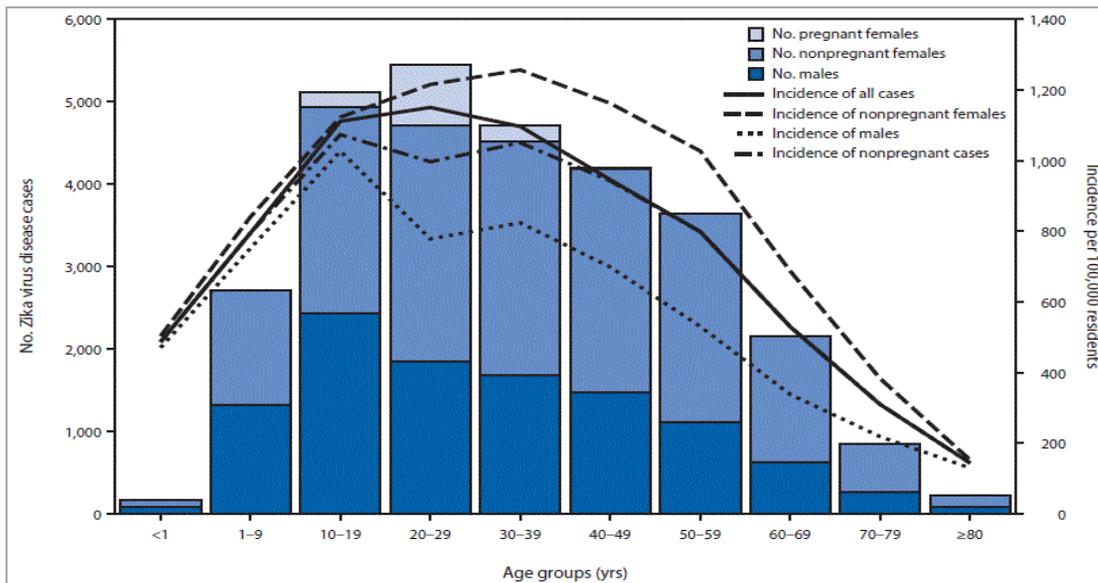
## TREND

Weekly numbers of Zika cases in Puerto Rico increased steadily from EW 3 up to EW 33 of 2016, after which a decreasing trend has been observed (**Figure 1**).

Between 1 November 2015 and 20 October 2016, a total of 28,341 Zika cases were laboratory confirmed and an additional 1,004 were presumptively diagnosed based on serological testing in Puerto Rico.<sup>2</sup> Among all the confirmed and presumptive Zika cases, the median age was 32 years (range = 16 days–100 years) and 18,384 (63%) of them were female<sup>2</sup>. The highest incidence rate was reported in the group of age of 20-29 years (1,150 per 100,000 population) followed by 10-19 years (1,111 per 100,000 population) (**Figure 3**). Of the total cases (confirmed and presumptive), 1,117 were in pregnant women. Among the 28,219 non-pregnant persons, the highest incidence was among females aged 20-49 years.

<sup>2</sup> Lozier M, Adams L, Febo MF, et al. Incidence of Zika Virus Disease by Age and Sex — Puerto Rico, November 1, 2015–October 20, 2016. MMWR Morb Mortal Wkly Rep 2016;65:1219–1223. DOI: <http://dx.doi.org/10.15585/mmwr.mm6544a4>

**Figure 3.** Age group, sex, and incidence of laboratory-positive Zika virus disease cases. Puerto Rico, November 1, 2015–October 20, 2016.



Source: Lozier M, Adams L, Febo MF, et al. Incidence of Zika Virus Disease by Age and Sex — Puerto Rico, November 1, 2015–October 20, 2016. *MMWR Morb Mortal Wkly Rep* 2016;65:1219–1223.

## CIRCULATION OF OTHER ARBOVIRUSES

As of EW 48 of 2016, significantly fewer cases of dengue and chikungunya have been reported in Puerto Rico compared with Zika (**Figure 1**). Between EW 1 and 48 of 2016, 158 laboratory-confirmed cases of dengue have been reported. During the same period, 176 cases of chikungunya have been detected.

## ZIKA VIRUS DISEASE IN PREGNANT WOMEN

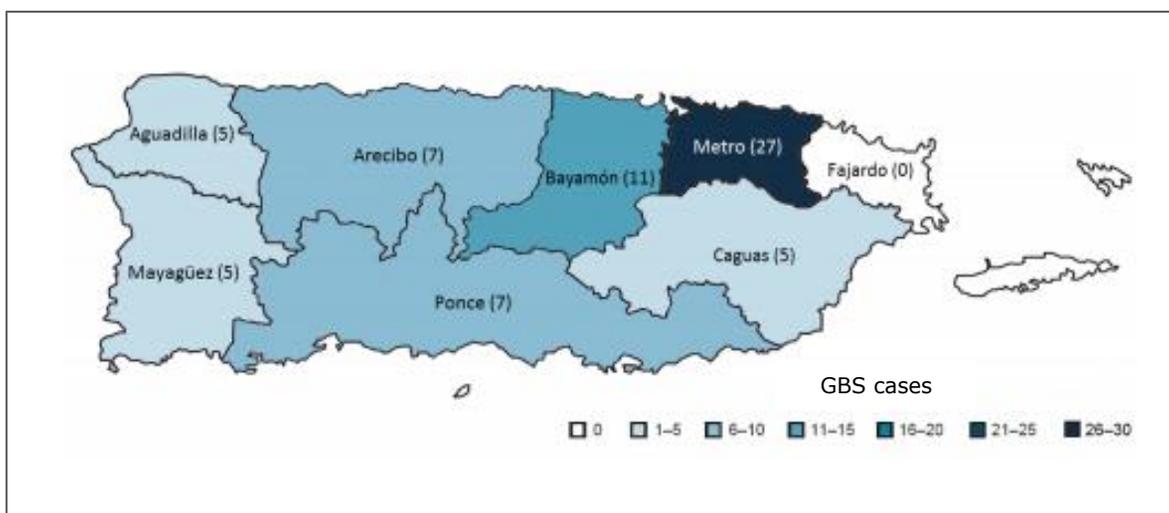
As of EW 48 of 2016, a total of 2,864 pregnant women have been laboratory-confirmed for Zika virus infection in Puerto Rico.<sup>1</sup> Of these, 1,694 (59%) were symptomatic and 1,170 (41%) were asymptomatic.

## ZIKA COMPLICATIONS

### ZIKA-VIRUS-ASSOCIATED GUILLAIN-BARRÉ SYNDROME (GBS)

Between EW 1 and EW 48 of 2016, 172 cases of suspected Guillain-Barré syndrome (GBS) and other neurological syndromes were reported.<sup>3</sup> Of the total cases, 81 had evidence of Zika or other flavivirus infection. Of the 81 cases, 67 were cases of GBS and 14 were cases of other neurological syndromes. The median age of the 67 GBS cases were 55 years (age range=21-88 years). The majority of the cases (n=35, 52%) were female. Furthermore, two deaths of GBS cases that had evidence of Zika or other flavivirus infection have also been reported.<sup>3</sup>

**Figure 3.** Cases of GBS with evidence of Zika virus or flavivirus infection by public health region. Puerto Rico. EW 1 to EW 48 of 2016.



Source: Map published by the Puerto Rico Department of Health<sup>4</sup>

### CONGENITAL SYNDROME ASSOCIATED WITH ZIKA VIRUS INFECTION

As of EW 27 of 2016, 65 infants were born to women with evidence of Zika virus infection in pregnancy, and two pregnancy losses were identified. Zika virus was identified in neural tissue by immunohistochemistry in one case of pregnancy loss.<sup>2</sup> As of EW 48 of 2016, a total of eight cases of congenital syndrome associated with Zika virus infection among live births in Puerto Rico have been identified.<sup>1</sup>

### DEATHS AMONG ZIKA CASES

As of EW 48, five deaths of confirmed Zika virus cases (not associated with GBS) have been reported from Puerto Rico.<sup>1</sup> The first patient died of complications related to severe thrombocytopenia.<sup>2</sup> No additional information is available regarding the other four deaths.

<sup>3</sup> Puerto Rico Department of Health. GBS Weekly Report. EW 48 of 2016. Available at: [http://www.salud.gov.pr/Estadisticas-Registros-y-Publicaciones/Informe%20Sndrome%20GillainBarr/Informe%20de%20Casos%20del%20S%C3%ADndrome%20de%20Guillain-Barr%C3%A9\\_16Dic2016.pdf](http://www.salud.gov.pr/Estadisticas-Registros-y-Publicaciones/Informe%20Sndrome%20GillainBarr/Informe%20de%20Casos%20del%20S%C3%ADndrome%20de%20Guillain-Barr%C3%A9_16Dic2016.pdf)

## NATIONAL ZIKA SURVEILLANCE GUIDELINES

The Surveillance guidelines for clinicians issued by the Puerto Rico Department of Health were updated as of EW 13 of 2016.<sup>4</sup>

Newborn screening guidelines for obstetric health care workers were issued in EW 3 of 2016.<sup>5</sup>

## LABORATORY CAPACITY

The Public Health Laboratory from the Puerto Rico Department of Health is responsible for laboratory surveillance. Currently, they use the PCR multiplex system, Trioplex, from the United States Centers for Disease Control and Prevention (CDC). The U.S. CDC, Dengue Branch also provides support for laboratory confirmation by molecular detection (real-time RT-PCR) and serology (ELISA IgM detection and Plaque Reduction Neutralization Test - PRNT).

## INFORMATION-SHARING

The first autochthonous confirmed Zika case was reported by the U.S. International Health Regulations (IHR) National Focal Point (NFP) to PAHO/WHO on EW 2 of 2016. At the time of this report, the latest Puerto Rico Department of Health epidemiological bulletin was from EW 48 of 2016.

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<sup>4</sup> Puerto Rico Department of Health. Arbovirus Case Investigation Form. Available at: <http://www.salud.gov.pr/Sobre-tu-Salud/Documents/NEW%20Arbovirus%20Case%20Investigation%20Form%20-%20March%2029%202016.pdf>

<sup>5</sup> Puerto Rico Department of Health. Interim Guidelines ZIKA and Pregnant Women. Available at: <http://www.salud.gov.pr/Sobre-tu-Salud/Documents/Interim%20Guidelines%20ZIKA%20and%20Pregnant%20Women.pdf>