

Department of Defense  
Armed Forces Health Surveillance Branch  
Zika Virus in the Americas Surveillance Summary  
(11 MAY 2016)



**Approved for Public Release**

*For questions or comments, please contact:*

[dha.ncr.health-surv.list.afhs-ib-alert-response@mail.mil](mailto:dha.ncr.health-surv.list.afhs-ib-alert-response@mail.mil)



# DEPARTMENT OF DEFENSE (AFHSB)

## Global Zika Virus Surveillance Summary #17

### 11 MAY 2016 (next report 18 MAY 2016)



**DOD SURVEILLANCE:** Updated guidelines for [Detecting and Reporting DoD Cases of Acute Zika Virus Disease](#) are available on the AFHSB web page. Confirmed and probable cases should be reported in DRSi as “Any Other Unusual Condition Not Listed,” with “Zika” entered in the comment field along with pertinent travel history and pregnancy status. As of 29 APR, DoD entomologists report no Zika virus (ZIKV) has been found in mosquitoes that they have tested.

The CDC Zika IgM MAC-ELISA and CDC Zika Trioplex rRT-PCR are available under an Emergency Use Authorization (EUA). The IgM assay is currently being or has been distributed to six DoD labs, with **three (+2)** labs (NIDDL, **BAMC**, and **USAFSAM**) having received approval to commence patient testing. The Trioplex EUA assay is currently being or has been distributed to 16 DoD labs; 14 labs have received approval to start patient testing (BAMC, CRDAMC, EAMC, LRMC, USAMRIID, WBAMC, MAMC, Brian Allgood ACH, NHRC, USAFSAM, WAMC, NAMRU-3, TAMC, and WRNMMC).

On 10 MAY, CDC released an MMWR that included [interim guidance for ZIKV testing of urine](#). On the basis of the newly available data, CDC recommends Zika virus rRT-PCR be performed on urine collected <14 days after onset of symptoms in patients with suspected Zika virus disease. Currently, the Trioplex rRT-PCR assay is the only diagnostic tool authorized by the Food and Drug Administration (FDA) for ZIKV testing of urine.

[Strategy for Control of Zika Virus Transmitting Mosquitoes on Military Installations](#) is available from the Armed Forces Pest Management Board, **which has a new website**. The Armed Services Blood Program Office implemented the American Association of Blood Banks’ guidance for reducing the risk of Zika, dengue, and chikungunya virus transmission through blood products on 12 FEB.

**CASE REPORT:** From 1 MAY 2015 to **11 MAY 2016**, confirmed autochthonous vector-borne transmission of ZIKV has been reported in **38 (+1, Grenada)** [countries and territories](#) in the Western Hemisphere. In AFRICOM, Cape Verde reported 7,488 ZIKV cases through 5 MAR; at that time, incidence was rapidly declining. In PACOM, American Samoa, Samoa, Fiji, Kosrae (Federated States of Micronesia), Marshall Islands, New Caledonia, Papua New Guinea, and Tonga are reporting active ZIKV transmission. CDC has issued Alert Level 2, Practice Enhanced Precautions travel notices for **46 (+2, Peru and St. Barthelemy)** of these [areas](#) and for travelers to the [2016 Summer Olympics and Paralympics](#) in Rio de Janeiro. According to CDC, locations above 6,500 feet elevation in these countries and territories present minimal transmission risk. Additional countries with sporadic, likely vector-borne, transmission include the Philippines, Thailand, Vietnam, and Laos. Past vector-borne outbreaks have been reported from other areas of Africa, Southeast Asia, and the Pacific Islands, where sporadic transmission may continue to occur. Nine countries have reported person-to-person transmission, most likely through sexual contact (Portugal, Canada, Peru, Argentina, Chile, France, Italy, New Zealand, and the U.S.)

As of **10 MAY**, CDC (ArboNet) and state health departments report **464 (+30)** travel-related and **ten (+2)** locally-acquired, non-vector-borne (sexually transmitted) ZIKV cases in 45 states and the District of Columbia since MAY 2015; no autochthonous vector-borne cases have been reported. As of **10 MAY**, CDC reports **44 (+8)** confirmed cases of ZIKV infection in pregnant women in ArboNET. As of **21 APR**, Puerto Rico DOH reports **785 (+78)** cases, including **110 (+21)** cases in pregnant women. On 29 APR, Puerto Rico announced one death from complications related to ZIKV infection. CDC has developed a [U.S. Pregnancy Registry](#) to identify and track the health of pregnant women with confirmed ZIKV infection, their pregnancy outcomes, and the health of their infants for one year.

Based on *in vitro* laboratory experiments, past infection with dengue may increase the severity of a Zika infection, according to an article published on bioRxiv on 25 APR.

Text updated from the previous report will be printed in **red**; items in **(+xx)** represent the change in number from the previous AFHSB summary (**4 MAY 2016**).

All information has been verified unless noted otherwise. Additional sources include: Pacific Public Health Surveillance Network

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**ZIKA AND MICROCEPHALY:** In a 13 APR NEJM article, CDC researchers said, “a causal relationship exists between prenatal Zika virus infection and microcephaly and other serious brain anomalies” based on a review of available data. As of 30 APR, Brazil is investigating 3,580 suspected microcephaly cases, including 267 deaths. Investigation is completed for 3,763 suspect cases; of these 1,271 were confirmed as microcephaly suggestive of congenital infection and 203 (16%) tested ZIKV positive; 2,492 (66%) cases were ruled out. In addition to Brazil, Cape Verde (three cases), Colombia (five (+1) cases), French Polynesia (eight cases), Martinique (two (-1) cases), and Panama (four cases) report microcephaly and other fetal malformations potentially associated with ZIKV infection or suggestive of a congenital infection according to WHO and the Colombia MOH on 21 APR. However, WHO reports that it “is not possible to establish a link between” ZIKV infection and microcephaly in one of the four Panama cases because of a lack of information and because the infection may have occurred too late in the pregnancy. Hawaii has two cases: one from an infection acquired in Brazil and one in the newborn of a Marshall Islands resident who gave birth in the state. Slovenia reported one microcephaly case linked to ZIKV infection acquired in Brazil. On 5 MAY, Catalan health officials announced the first case of microcephaly in Spain in a fetus whose mother was co-infected with dengue and Zika while traveling in Latin America.

**ZIKA AND GUILLAIN-BARRÉ SYNDROME:** According to WHO on 28 APR, 12 countries in the Western Hemisphere and French Polynesia have reported an increased incidence of Guillain-Barré syndrome (GBS) and/or laboratory confirmation of a Zika virus infection among GBS cases that may be associated with the introduction of ZIKV. There has been one GBS case linked to ZIKV reported in the continental U.S. and seven (+1) in Puerto Rico. On 10 APR, Brazilian researchers reported two cases of acute disseminated encephalomyelitis (ADEM) that may be associated with ZIKV infection. An article published on 21 APR in Eurosurveillance detailed two cases of encephalopathy in adults associated with ZIKV infection in Martinique.

**USG RESPONSE:** On 15 JAN, CDC began issuing public health, clinical, and laboratory guidance on ZIKV; these are available on its Zika Virus web pages. On 22 APR, CDC with OSHA and NIOSH issued interim guidance for protecting workers from occupational exposure to ZIKV. CDC published information on HIV and ZIKV infection on 26 APR and recommendations for controlling mosquitos at home on 29 APR. On 15 APR, CDC reported male-to-male sexual transmission of ZIKV. It issued case definitions for congenital microcephaly on 31 MAR. ZIKV disease is a notifiable disease in the U.S. On 30 MAR, FDA announced the availability of an investigational test to screen blood donations for ZIKV in areas with active mosquito-borne transmission of ZIKV.

**GLOBAL RESPONSE:** On 23 MAR, WHO issued guidance on laboratory testing for ZIKV. WHO has published interim guidance on entomological surveillance for *Aedes* mosquitoes and a report on Zika diagnostic, treatment, and prevention products currently in development. On 9 MAR, WHO published a statement on research and development priorities for Zika medical products. The second meeting of the WHO Emergency Committee on clusters of microcephaly cases and other neurological disorders in some areas affected by ZIKV met on 8 MAR and concluded that the clusters of microcephaly cases and other neurological disorders continue to constitute a Public Health Emergency of International Concern (PHEIC). On 16 FEB, the WHO launched a global Strategic Response Framework and Joint Operations Plan to guide the international response.

An epi-curve published by PAHO shows a downward trend in suspected and confirmed cases reported since early FEB 2016 in the countries where the ZIKV outbreak started in the fall of 2015. PAHO has created a searchable database of published primary research and protocols. For additional information, visit the WHO and PAHO Zika web pages.

Text updated from the previous report will be printed in red; items in (+xx) represent the change in number from the previous AFHSB summary (4 MAY 2016).

All information has been verified unless noted otherwise. Additional sources include: Brazil MOH  
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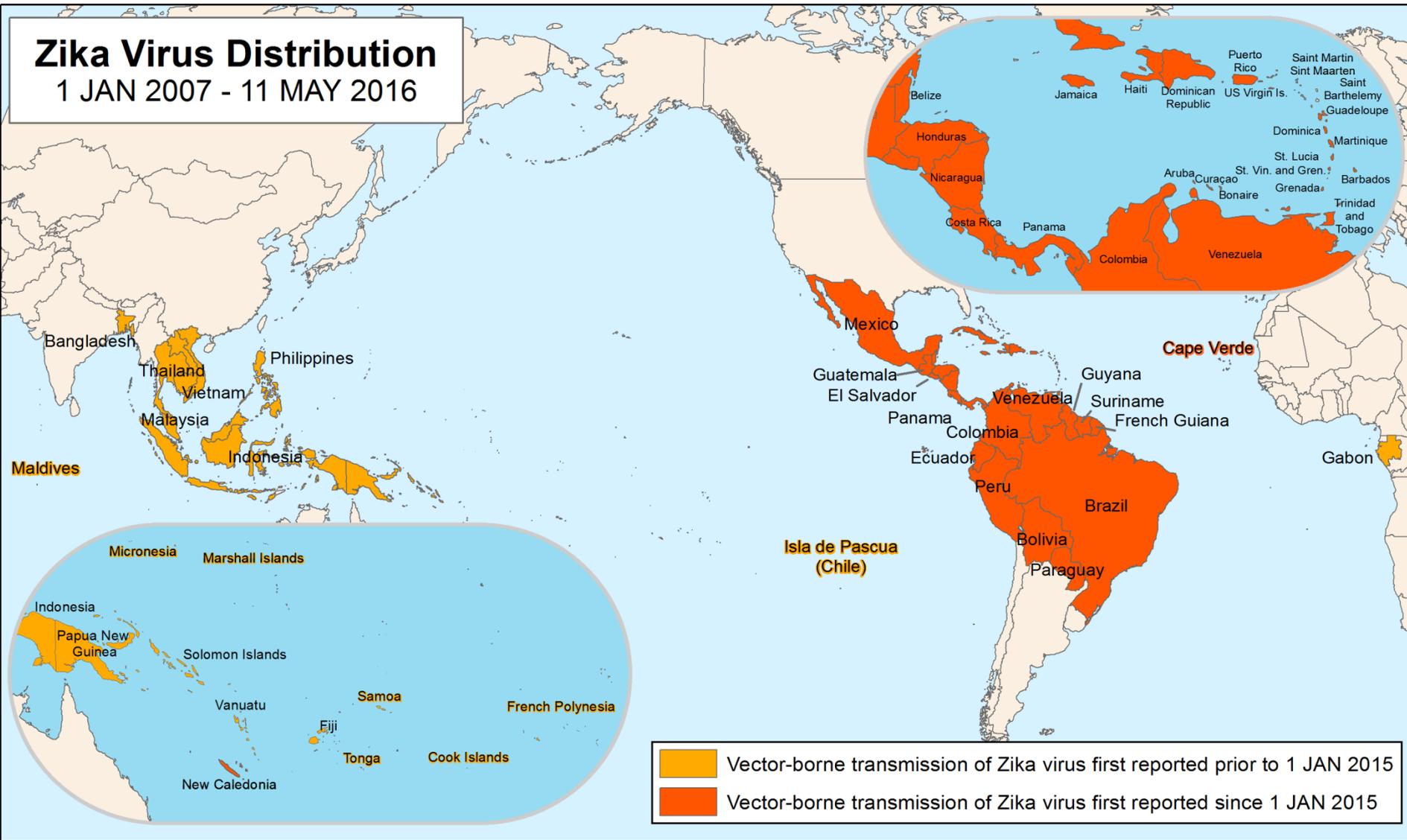
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### Zika Virus Distribution

1 JAN 2007 - 11 MAY 2016



Vector-borne transmission of Zika virus first reported prior to 1 JAN 2015  
 Vector-borne transmission of Zika virus first reported since 1 JAN 2015

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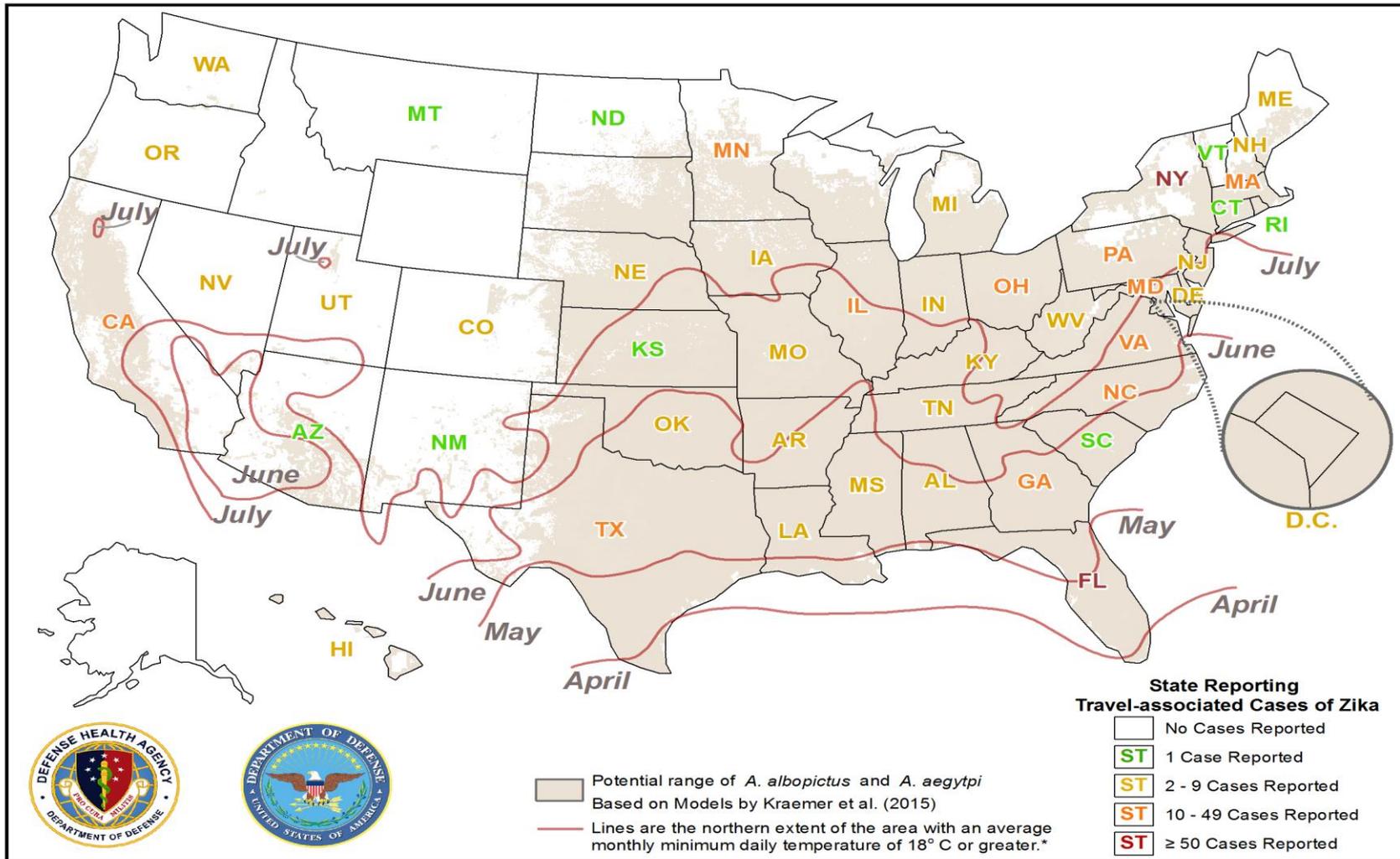
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## Overlap of States Reporting Imported Zika Cases, the Estimated Range of Mosquito Vectors, and Transmission Suitability by Month

### 11 MAY 2016



\*The contour lines provide a rough estimate of the northern extent of areas at risk of Zika virus transmission by *Aedes* mosquitos by month. Transmission is less likely north of the July contour line. After July, the northern extent begins to move southward.

Based on Sang et al, Predicting Unprecedented Dengue Outbreak Using Imported Cases and Climatic Factors in Guangzhou, 2014. PLoS Negl Trop Dis 9(5);e0003808.

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#### Western Hemisphere Countries and Territories with Autochthonous Transmission of Zika Virus: 01 JAN 2015 – 4 MAY 2016

	Confirmed	Suspected	Deaths	Microcephaly Cases*	Reporting GBS
<b>Total</b>	<b>8,750</b>	<b>289,533</b>	<b>8</b>	<b>1,282</b>	<b>12 Countries</b>

Country/Territory	Confirmed	Suspected	Deaths	Microcephaly Cases*	Reporting GBS
Aruba	17	0	0	NR	No
Barbados	7	316	0	NR	No
Belize	1	0	0	NR	No
Bolivia	12	0	0	NR	No
Bonaire	3	0	0	NR	No
Brazil	1,034	120,161	3	1,271**	Yes†
Colombia	3,752	71,735	0	5**	Yes†
Costa Rica	11	0	0	NR	No
Cuba	1	0	0	NR	No
Curaçao	73	0	0	NR	No
Dominica	18	129	0	NR	No
Dominican Republic	73	1,674	0	NR	Yes†
Ecuador	77	171	0	NR	No
El Salvador	46	11,281	0	NR	Yes†
French Guiana	483	4,860	0	NR	Yes†
Grenada	1	0	0	NR	No
Guadeloupe	412	2,099	0	NR	No
Guatemala	261	915	0	NR	No
Guyana	6	0	0	NR	No
Haiti	5	1,777	0	NR	Yes†

Country/Territory	Confirmed	Suspected	Deaths	Microcephaly Cases*	Reporting GBS
Honduras	2	18,759	0	NR	Yes†
Jamaica	8	646	0	NR	No
Martinique	12	20,980	0	2	Yes†
Mexico	264	0	0	NR	No
Nicaragua	167	0	0	NR	No
Panama	220	0	0	4††	Yes†
Paraguay	7	102	0	NR	No
Peru	3	0	0	NR	No
Puerto Rico	785	0	1	NR	Yes†
Saint Barthelemy	1	0	0	NR	No
Saint Lucia	2	0	0	NR	No
Saint Martin	61	212	0	NR	No
Saint Vincent and the Grenadines	2	0	0	NR	No
Sint Maarten	7	0	0	NR	No
Suriname	527	2,492	4	NR	Yes†
Trinidad and Tobago	16	0	0	NR	No
U.S. Virgin Islands	21	0	0	NR	No
Venezuela	352	31,224	0	NR	Yes†

\* Number of microcephaly and/or CNS malformation cases suggestive of congenital infections or potentially associated with ZIKV infection

\*\*Brazil is currently investigating 3,580 suspected microcephaly cases as of 30 APR; Colombia is currently investigating 32 suspected microcephaly cases as of 5 MAY.

† Reported increase in GBS cases associated with the introduction of ZIKV and/or GBS case(s) linked to ZIKV infection

†† [WHO reports](#) that it "is not possible to establish a link between" ZIKV infection and microcephaly in one of the three reported Panama cases because of a lack of information and because the infection may have occurred too late in the pregnancy.

Sources: Zika cases reported to PAHO as of 5 MAY, and Zika cases reported by the health department in Puerto Rico as of 21 APR; and GBS cases and microcephaly cases reported to WHO as of 5 MAY, except for microcephaly cases reported by the Brazil MOH as of 30 APR and Colombia MOH as of 5 MAY.

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