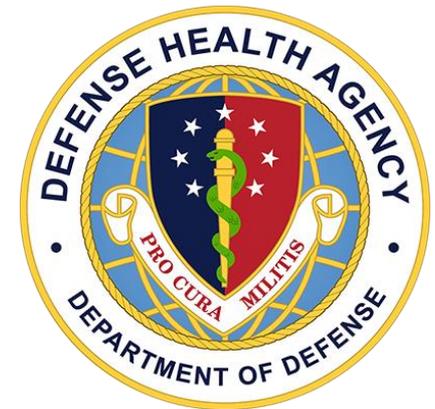


Department of Defense
Armed Forces Health Surveillance Branch
Global Zika Virus Surveillance Summary
(15 JUN 2016)



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DEPARTMENT OF DEFENSE (AFHSB)

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DoD SURVEILLANCE: On 17 MAY, AFHSB issued updated guidance for detecting and reporting DoD cases of acute Zika virus disease that includes changes to clinical criteria, case definitions, and laboratory testing, as well as a list of DoD laboratory POCs. 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.

The CDC Zika IgM MAC-ELISA and CDC Zika Triplex rRT-PCR are available under an [Emergency Use Authorization \(EUA\)](#) at DoD laboratories. The IgM assay has been distributed to six DoD labs; three labs (NIDDL, BAMC, and USAFSAM) have received approval to conduct patient testing. The Triplex EUA assay has been distributed to 16 DoD labs; 15 labs have received approval to start patient testing (BAMC, CRDAMC, EAMC, LRMC, USAMRIID, WBAMC, MAMC, Brian Allgood ACH, NHRC, USAFSAM, WAMC, NAMRU-3, TAMC, WRNMMC, and NIDDL). In addition, FDA has granted EUAs to commercially available RT-PCR assays developed by Focus Diagnostics and Altona Diagnostics.

Strategy for Control of Zika Virus Transmitting Mosquitoes on Military Installations is available from the Armed Forces Pest Management Board. 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 15 JUN 2016, confirmed autochthonous vector-borne transmission of Zika virus (ZIKV) has been reported in 39 [countries and territories](#) in the Western Hemisphere. In AFRICOM, Cape Verde reported 7,580 (+23) cases as of 8 JUN. WHO [reported on 20 MAY](#) that the ZIKV circulating in Cape Verde is the Asian strain, which is the same strain circulating in the Americas; it was most likely imported from Brazil. 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 these 48 [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. Ten countries have reported person-to-person transmission, most likely through sexual contact.

As of 8 JUN, CDC (ArboNet) and state health departments report 681 (+73) travel-related and 11 locally-acquired, non-vector-borne (sexually transmitted) ZIKV cases in 46 states and the District of Columbia since MAY 2015; no autochthonous vector-borne cases have been reported. As of 26 MAY, Puerto Rico DOH reported 1,501 (+149) confirmed cases (1 death). The U.S. Virgin Islands reported 24 confirmed cases as of 7 JUN. American Samoa reported 29 (+12) confirmed cases (14 (+8) in pregnant women) as of 9 JUN. The [U.S. Pregnancy Registry](#) has recorded 206 (+11) pregnant women with laboratory evidence of a ZIKV infection in the 50 states and the District of Columbia and an additional 166 (+20) cases in the U.S. territories as of 2 JUN. The Puerto Rico DOH reported 182 (+14) cases in pregnant women as of 26 MAY.

On 9 JUN, Eurosurveillance published three case reports related to sexual transmission of ZIKV. One describes transmission from an asymptomatic male to his female partner at least 28 days after returning to France from an endemic area. The female was also asymptomatic and the infection was detected during pre-in vitro fertilization screening.

Text updated from the previous report will be printed in red; items in (+xx) represent the change in number from the previous AFHSB summary (8 JUN 2016). All information has been verified unless noted otherwise. Additional sources include: Pacific Public Health Surveillance Network and Gulf Coast Regional Blood Center.

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CASE REPORT (cont’): Blood donor screening started on 23 MAY in the Texas Gulf Coast region. In addition, some blood centers in Alabama, Arkansas, Florida, Georgia, Mississippi, South Carolina, and Tennessee will start blood donor screening later this summer. In Puerto Rico, 22 of 7,286 (0.30%) blood donors have tested positive for ZIKV as of 23 MAY.

ZIKA AND MICROCEPHALY: As of 15 JUN, Brazil (1,551 cases) Cape Verde (6 (+3) cases), Colombia (6 cases), French Polynesia (8 cases), Marshall Islands (1 case), Martinique (4 (+1) cases), Panama (5 (+1) cases) and El Salvador (1) have reported microcephaly and other fetal malformations potentially associated with ZIKV infection or suggestive of a congenital infection. Puerto Rico confirmed its first ZIKV-related microcephaly case in a fetus on 13 MAY. The United States (2), Spain (2 (+1)), and Slovenia (1) have reported travel associated microcephaly cases. 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.”

ZIKA AND GUILLAIN-BARRÉ SYNDROME: According to [WHO on 2 JUN](#), 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 11 cases in Puerto Rico. On 10 APR, Brazilian researchers reported two cases of acute disseminated encephalomyelitis (ADEM) that may be associated with ZIKV infection.

USG RESPONSE: On 14 JUN, CDC issued its draft [interim plan for response activities](#) that would occur after locally acquired ZIKA transmission has been identified in the continental United States and Hawaii. CDC published [interim guidance for interpretation of ZIKV antibody test results](#) in its 3 JUN MMWR. On 25 MAY, CDC released a [Health Alert Network \(HAN\) notice](#) on urine testing to further explain the [interim guidance for Zika virus testing of urine](#) issued on 10 MAY (with an [erratum](#) on 13 MAY). CDC recommends Zika virus RT-PCR be performed on urine collected <14 days after onset of symptoms in patients with suspected Zika virus disease in conjunction with serum testing. ZIKV disease is a [notifiable disease](#) in the U.S. Additional data, guidance, and information from CDC is available on its [ZIKV](#) web pages.

GLOBAL RESPONSE: On 14 JUN WHO convened the third meeting of the [WHO Emergency Committee](#) concerning Zika virus and observed increases in neurological disorders and neonatal malformations. The committee said that the clusters of microcephaly cases and other neurological disorders continue to constitute a Public Health Emergency of International Concern (PHEIC). The Committee found the risk of further international spread of ZIKV from the Olympic and Paralympic games is very low and reaffirmed its previous advice that there should be no general restrictions on travel and trade with countries, areas, and/or territories with ZIKV transmission. The Committee provided additional advice to the Director-General on controlling ZIKA during mass gatherings.

WHO updated its [interim guidance for preventing sexual transmission](#) on 7 JUN. On 16 FEB, the WHO launched a global [Strategic Response Framework and Joint Operations Plan](#) to guide the international response; it [issued an update](#) on the global response on 27 MAY. 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. WHO Regional Office in Europe [assessed](#) the risk of ZIKV spread in Europe during late spring and summer to be low to moderate. 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 (8 JUN 2016).

All information has been verified unless noted otherwise. Additional sources include: Brazil MOH and Generalitat de Catalunya .

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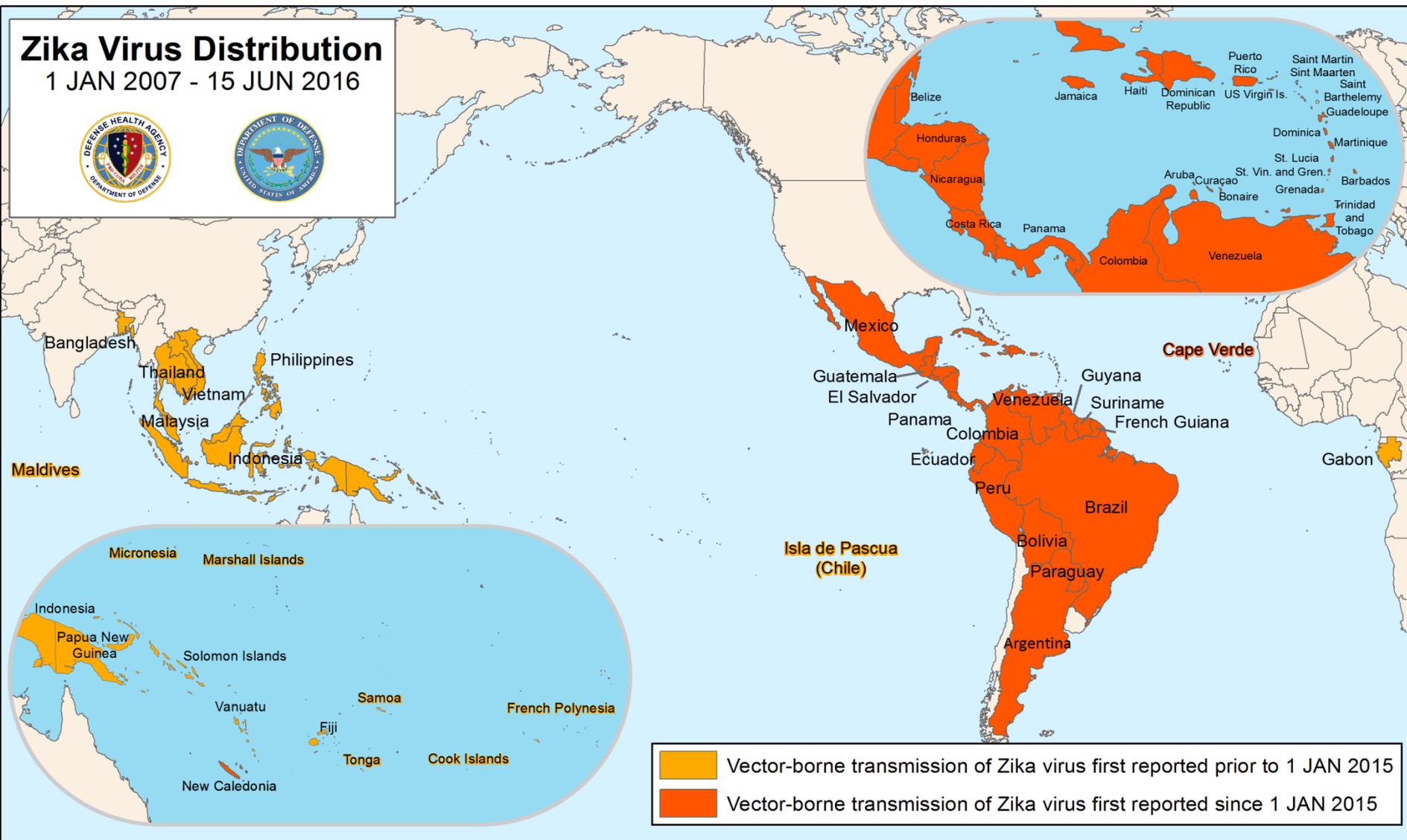
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Zika Virus Distribution

1 JAN 2007 - 15 JUN 2016



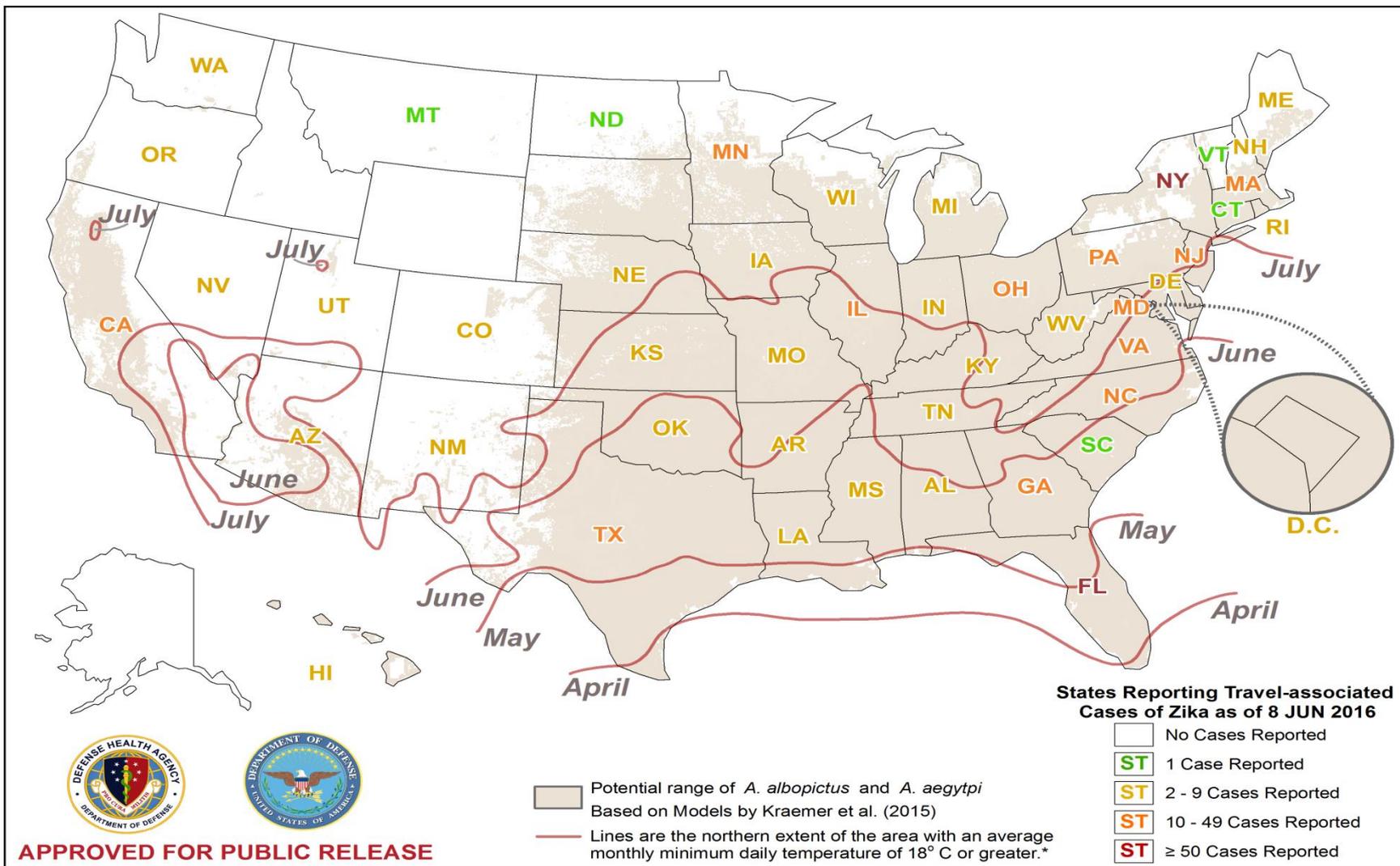
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Overlap of States Reporting Imported Zika Cases with Locations of Major DoD Installations, and the Estimated Range of Mosquito Vectors and Transmission Suitability 15 JUN 2016



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 – 15 JUN 2016

	Confirmed	Suspected	Microcephaly Cases*	Reporting GBS†
Total	52,976	353,456	1,567	12 Countries

Country/Territory	Confirmed	Suspected	Microcephaly Cases*	Reporting GBS†
Argentina	20	1,604		
Aruba	17	0		
Barbados	7	316		
Belize	2	0		
Bolivia	11	99		
Bonaire	3	0		
Brazil	39,993	148,905	1,551**	Yes
Colombia	7,582	81,363	6**	Yes
Costa Rica	70	435		
Cuba	1	0		
Curaçao	73	0		
Dominica	39	391		
Dominican Republic	73	2,987		Yes
Ecuador	242	2,614		
El Salvador	46	11,668	1	Yes
French Guiana	483	7,200		Yes
Grenada	2	0		
Guadeloupe	379	7,830		
Guatemala	377	1,162		
Guyana	6	0		

Country/Territory	Confirmed	Suspected	Microcephaly Cases*	Reporting GBS†
Haiti	5	1,777		Yes
Honduras	44	21,025		Yes
Jamaica	16	646		
Martinique	12	27,800	4	Yes
Mexico	345	0		
Nicaragua	207	0		
Panama	276	863	5††	Yes
Paraguay	8	275		
Peru	20	118		
Puerto Rico	1,501	0	1	Yes
Saint Barthelemy	12	40		
Saint Lucia	7	24		
Saint Martin	145	530		
Saint Vincent and the Grenadines	2	0		
Sint Maarten	7	0		
Suriname	527	2,515		Yes
Trinidad and Tobago	40	0		
U.S. Virgin Islands	24	45		
Venezuela	352	31,224		Yes

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

**Brazil is currently investigating 3,017 suspected microcephaly cases as of 4 JUN; Colombia is currently investigating 69 suspected microcephaly cases as of 4 JUN.

† 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 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 9 JUN, and Zika cases reported by the health departments in Puerto Rico as of 26 MAY and USVI as of 7 JUN; and GBS cases and microcephaly cases reported to WHO as of 8 JUN, except for microcephaly cases reported by Brazil MOH as of 4 JUN, Colombia MOH as of 4 JUN, and El Salvador MOH as of 15 JUN.

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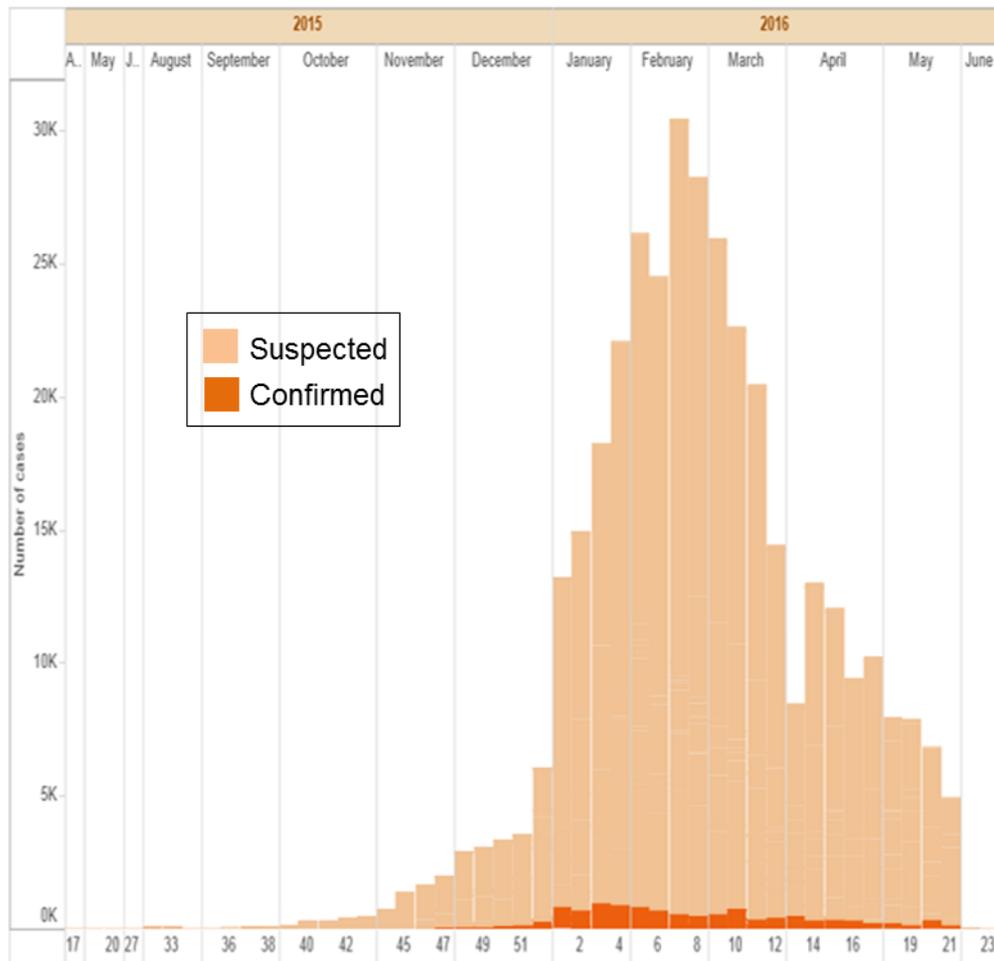
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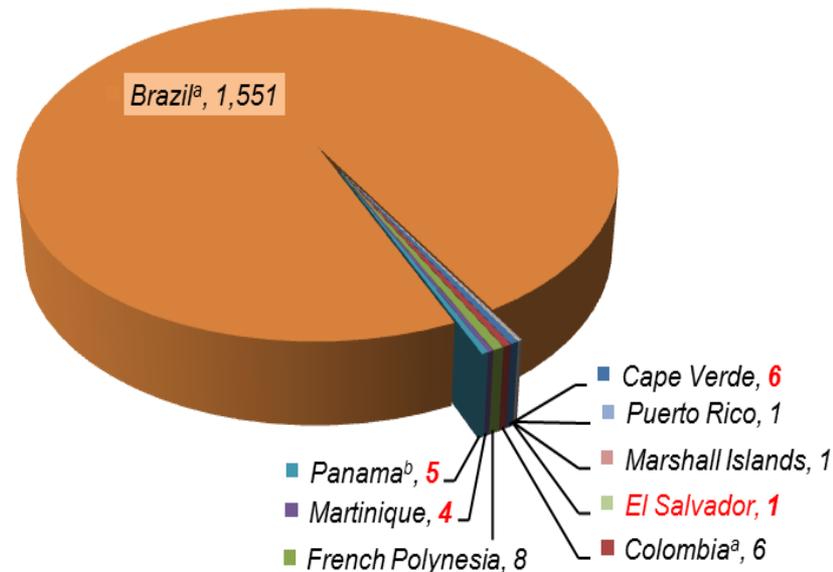
15 JUN 2016



Suspected and confirmed ZIKV cases in the Americas by Epidemiological Week, 1 MAY 2015 - 9 JUN 2016



Countries and Territories reporting microcephaly and/or CNS malformation cases potentially associated with ZIKV infection as of 15 JUN 2016



a) Brazil is currently investigating 3,017 suspected microcephaly cases as of 4 JUN; Colombia is currently investigating 69 suspected microcephaly cases as of 4 JUN.

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

Source: PAHO, http://ais.paho.org/phis/viz/ed_zika_epicurve.asp

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