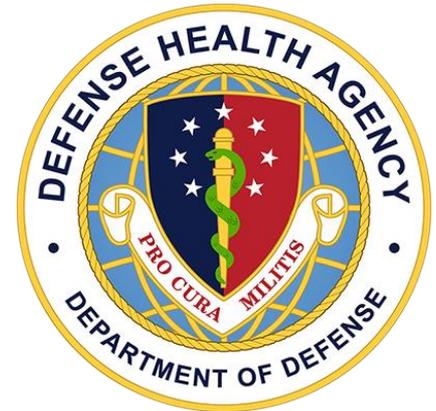


Department of Defense
Armed Forces Health Surveillance Branch
Global Zika Virus Surveillance Summary
(31 AUG 2016)



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DEPARTMENT OF DEFENSE (AFHSB)

Global Zika Virus Surveillance Summary #33

31 AUG 2016 (next report 7 SEP 2016)



DoD SURVEILLANCE: As of **1300 on 31 AUG**, there are **108 (+13)** confirmed Zika virus (ZIKV) disease cases in Military Health System (MHS) beneficiaries (see table for details), including **two (+1)** cases in pregnant Service members and one case in a dependent since the third week of 2016.

As per the AFHSB [updated guidance](#) for detecting and reporting DoD cases of ZIKV disease, 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 (see map on [Slide 4](#)).

Strategy for Control of Zika Virus Transmitting Mosquitoes on Military Installations is available from the [Armed Forces Pest Management Board](#).

CASE REPORT: As of **31 AUG**, [CDC](#), [WHO](#), and ministries of health report **59 (+2)** countries and territories with a first reported Zika outbreak since JAN 2015; **48 (+1, British Virgin Islands)** are in the Western Hemisphere, **nine (+1, Singapore)** are in PACOM, and two are in AFRICOM. CDC has issued Alert Level 2, Practice Enhanced Precautions, travel notices for **57 (+2, British Virgin Islands and Singapore)** of these [areas](#) and for travelers to the [2016 Summer Olympics and the upcoming Paralympics](#) in Rio de Janeiro. According to CDC, locations above 6,500 feet elevation in these areas present minimal transmission risk. 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. Eleven countries have reported local human-to-human transmission, most likely through sexual contact.

On 26 JUL, following a significant decrease in the number of newly detected cases, the Colombia MOH declared an end to the Zika epidemic in that country and lifted its recommendation that women delay pregnancy because of the virus. According to [PAHO on 25 AUG](#), all Caribbean and North, Central, and South American countries and territories reporting ZIKV transmission for longer than the last four weeks were reporting a decreasing trend in cases, except for **Costa Rica, Nicaragua, Puerto Rico**, and Saint Barthelemy.

As of **24 AUG**, [CDC \(ArboNet\) reported 2,465 \(+242\)](#) travel-related cases, 22 sexually transmitted cases, **29 (+15)** of the locally acquired mosquito-borne Florida cases, and one laboratory acquired case in **48 (+1, South Dakota)** states and the District of Columbia since MAY 2015.

As of **30 AUG**, FL health officials have reported **46 (+4)** ZIKV infections that were likely acquired through local mosquito transmission (as of **24 AUG**, **29 (+15)** met the CDC definition of a Zika case). Texas and Taiwan have each reported one Zika case linked to the Miami-Dade outbreak. The FL DOH believes ongoing transmission is only taking place within small defined areas of Wynwood and Miami Beach in Miami-Dade County. The FL DOH is investigating additional areas in Miami-Dade, Palm Beach, and Pinellas counties. On 19 AUG, CDC updated its [health advisory](#) for pregnant women, women of reproductive age, and others traveling to or living in the affected areas. As of 3 AUG, all county health departments in Florida are offering free Zika risk assessments and testing to pregnant women.

As of **11 AUG**, Puerto Rico DOH reported **14,334 (+1,148)** confirmed cases (2 deaths), with **1,244 (+138)** cases in pregnant women. According to CDC on **26 AUG**, the U.S. Virgin Islands (USVI) has reported **176 (+75)** confirmed cases and American Samoa has reported **46 (+2)** confirmed cases.

| Demographics for all confirmed Zika cases in Military Health System Beneficiaries as of 1300, 31 AUG 2016 (N = 108 confirmed cases) | | | |
|---|-----------------|-----------------|-------|
| Demographic | | N | % |
| Service | Army | 50 (+2) | 46.7% |
| | Air Force | 13 | 12.1% |
| | Navy | 11 (+4) | 10.3% |
| | Marine Corps | 8 (+3) | 7.5% |
| | Coast Guard | 26 (+4) | 24.3% |
| Status <small>*includes Reserve Component</small> | Service Member* | 81 (+11) | 75.7% |
| | Dependent | 18 (+2) | 16.8% |
| | Retiree | 9 | 8.4% |
| Age | 0-20 | 5 (+1) | 4.7% |
| | 21-35 | 50 (+7) | 46.7% |
| | 36-50 | 32 (+2) | 29.9% |
| | 51+ | 13 | 12.1% |
| | Not Reported | 8 (+3) | 7.5% |
| Gender | Female | 35 (+5) | 32.7% |
| | Male | 73 (+8) | 68.2% |

Text updated from the previous report will be printed in red; items in (+xx) represent the change in number from the previous AFHSB summary (24 AUG 2016).

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

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DEPARTMENT OF DEFENSE (AFHSB)

Global Zika Virus Surveillance Summary #33

31 AUG 2016



CASE REPORT (cont): As of **18 AUG**, the CDC's U.S. [pregnancy registry](#) has recorded **584 (+55)** pregnant women with laboratory evidence of a ZIKV infection in the 50 states and the District of Columbia; among these pregnancies, there have been 16 infants born with birth defects and five fetal deaths due to birth defects. CDC is tracking **812 (+121)** additional pregnant women in the U.S. territories; there has been one infant born with birth defects with one fetal death due to birth defects.

MICROCEPHALY: As of **27 AUG**, Brazil (1,835), Cape Verde (11), **Costa Rica (1)**, Colombia (**34 (+10)**), **Dominican Republic (3)**, El Salvador (4), French Guiana (**3 (+1)**), French Polynesia (8), **Haiti (1)**, **Honduras (1)**, the Marshall Islands (1), Martinique (**10 (+2)**), Panama (5), Paraguay (2), Puerto Rico (1), and Suriname (1) have reported cases of microcephaly and other fetal malformations potentially associated with ZIKV infection or suggestive of a congenital infection. The U.S. (21), Canada (1), Spain (2), and Slovenia (1) have reported travel-associated microcephaly cases. CDC has said, "a causal relationship exists between prenatal Zika virus infection and microcephaly and other serious brain anomalies." **In an [early release Emerging Infectious Diseases article](#), researchers described early growth and neurologic findings of 48 infants in Brazil diagnosed with probable congenital ZIKV syndrome and followed for one to eight months.**

GUILLAIN-BARRÉ SYNDROME: As of **25 AUG**, 17 countries in the Western Hemisphere as well as French Polynesia have reported Guillain-Barré syndrome (GBS) cases that may be associated with the introduction of ZIKV. There have been seven GBS cases linked to ZIKV reported in the continental U.S. and **40 (+6)** cases in Puerto Rico, **nine of which are classified as evidence of flavivirus infection, but specific virus undetermined.** **On 26 AUG a [MMWR report](#) summarized Puerto Rico's experience with GBS associated with the Zika outbreak from JAN through JUL 2016.**

USG RESPONSE: **[CDC said on 30 AUG](#) that children with evidence of congenital Zika virus infection who have normal initial hearing screening tests should receive regular follow-up based on research in Brazil.** **On 26 AUG, [Maryland health officials reported](#) in the MMWR a likely case of sexual transmission of ZIKV via vaginal intercourse from an asymptomatic man to his female partner.** **On 26 AUG, [FDA issued revised guidance](#) recommending universal testing of donated whole blood and blood components for ZIKV in all U.S. states and territories, not just those with ongoing ZIKV transmission as previously recommended.**

On 23 and 24 AUG, CDC published guidance for healthcare facilities on [preparing to receive Zika patients, when to test for ZIKV](#), and [ZIKV testing of pregnant women not living in an area with ZIKV](#). CDC released [Update: Interim Guidance for the Evaluation and Management of Infants with Possible Congenital Zika Virus Infection](#) on 19 AUG. On 5 AUG, FDA issued its final [environmental assessment for genetically engineered \(GE\) mosquitoes](#), concluding that the use of GE *Aedes aegypti* mosquitoes will have no significant impact on the environment. On 31 JUL, CDC updated its [interim plan for response activities](#) that would occur after local ZIKV transmission has been identified in the continental United States and Hawaii. Additional data, guidance, and information from CDC is available on its [ZIKV](#) web pages.

GLOBAL RESPONSE: WHO issued a revised [Strategic Response Plan](#) on 17 JUN that places a greater focus on preventing and managing medical complications caused by ZIKV infection. Following the third meeting of the [WHO Emergency Committee](#) concerning ZIKV and observed increases in neurological disorders and neonatal malformations on 14 JUN, WHO said that the clusters of microcephaly cases and other neurological disorders continue to constitute a Public Health Emergency of International Concern (PHEIC). The Committee said 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. **WHO will convene a fourth meeting on 1 SEP.** PAHO has created a [searchable database](#) of published primary research and protocols. For additional information, visit the [WHO](#) and [PAHO](#) Zika web pages.

MEDICAL COUNTERMEASURES: On 4 AUG, researchers from the Walter Reed Army Institute of Research (WRAIR) and Harvard University published a preclinical study in Science demonstrating the efficacy of a Zika purified inactivated virus (ZPIV) vaccine in rhesus monkeys. Results indicated complete protection from ZIKV with no detectable virus in blood, urine, or secretions; Phase 1 clinical testing is expected to begin later this year. WRAIR is co-developing the vaccine with Sanofi Pasteur. On 26 JUL, Inovio Pharmaceuticals announced that it had started a Phase 1 trial of its Zika DNA vaccine (GLS-5700). The trial will test safety, tolerability, and immunogenicity in 40 human volunteers. **On 29 AUG, a double-blind clinical trial of the vaccine began in Puerto Rico.**

Text updated from the previous report will be printed in **red**; items in **(+xx)** represent the change in number from the previous AFHSB summary (**24 AUG 2016**).

All information has been verified unless noted otherwise. Additional sources include: Sanofi Pasteur, Radio New Zealand, Brazil MOH, and Colombia MOH

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DEPARTMENT OF DEFENSE (AFHSB)

Global Zika Virus Surveillance Summary #33

31 AUG 2016



Emergency Use Authorization Zika Testing at DoD Laboratories



*Plaque-reduction neutralization test (PRNT)

As of 31 AUG 2016

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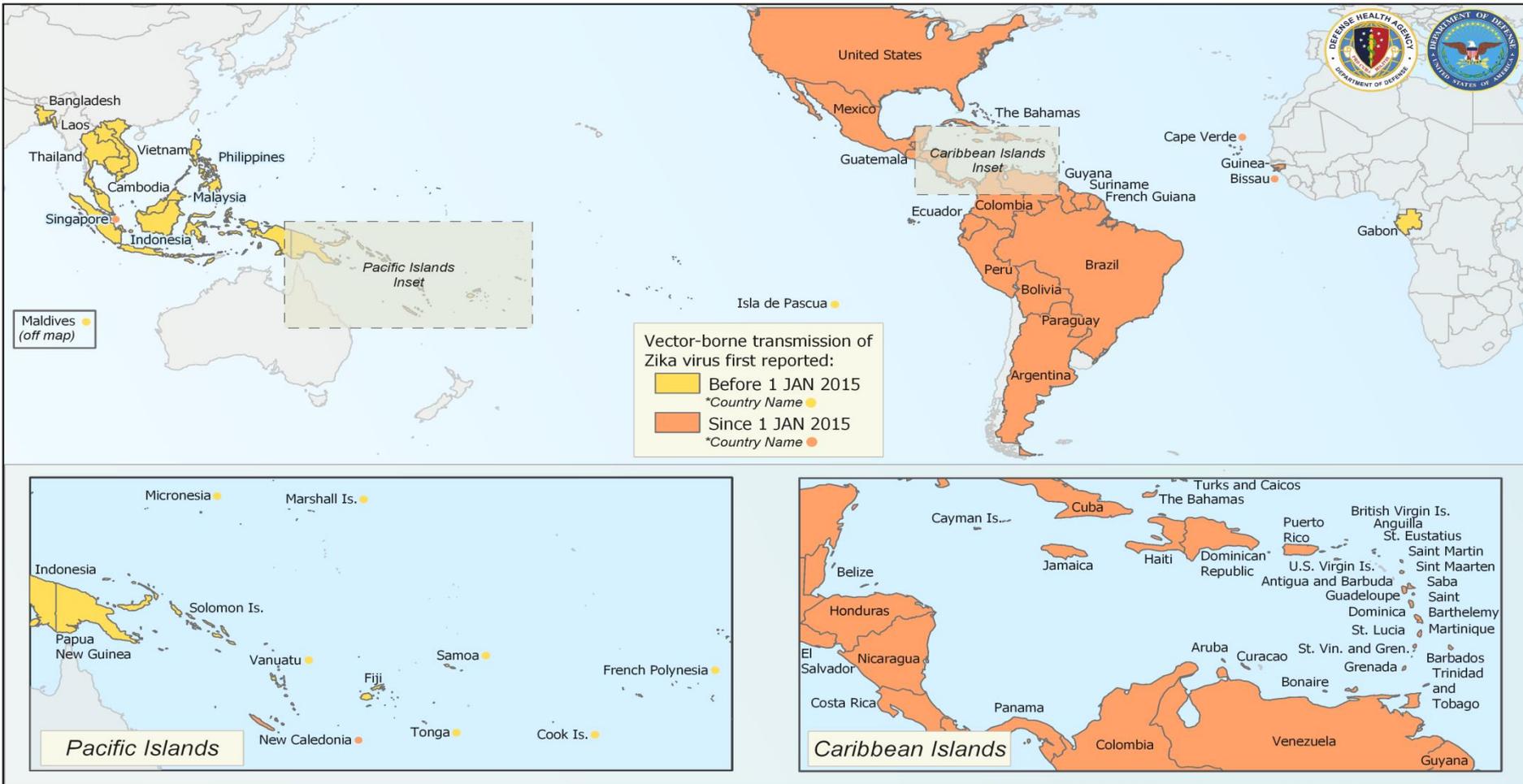
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31 AUG 2016



Zika Virus Distribution

1 JAN 2007 - 31 AUG 2016



*Countries with a small footprint are given a marker by their label to denote current or previous Zika presence.

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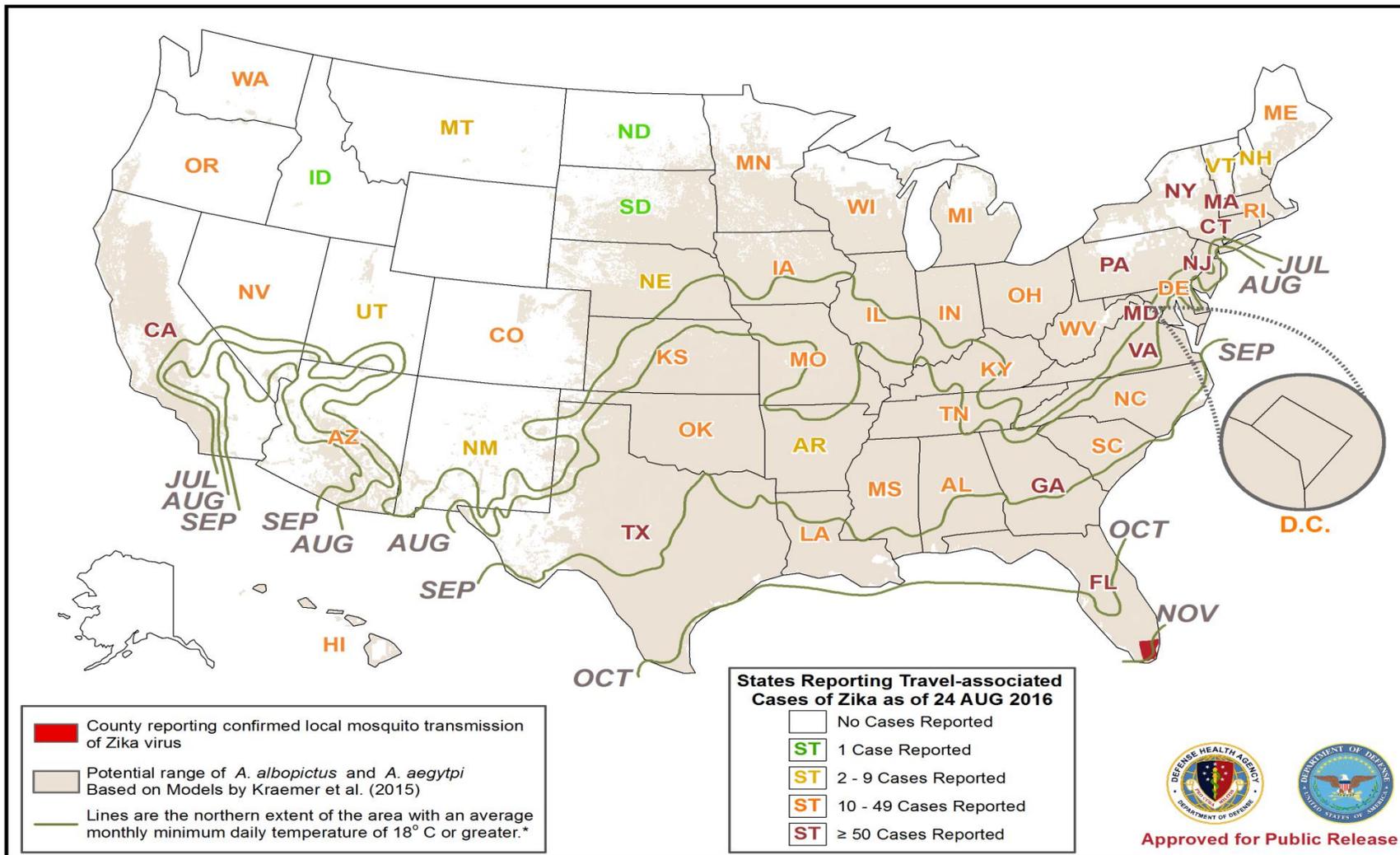
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DEPARTMENT OF DEFENSE (AFHSB)

Overlap of States Reporting Imported Zika Cases and the Estimated Range of Mosquito Vectors and Transmission Suitability

31 AUG 2016



This version of the map shows that after JUL 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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DEPARTMENT OF DEFENSE (AFHSB)

Global Zika Virus Surveillance Summary #33

31 AUG 2016



Western Hemisphere Countries[‡] and Territories with Autochthonous Transmission of Zika Virus: 01 JAN 2015 – 27 AUG 2016

| | Confirmed | Suspected | Microcephaly Cases* | Reporting GBS [†] |
|--------------|----------------|----------------|---------------------|---------------------------------|
| Total | 112,565 | 466,341 | 1,901 | 17 Countries/Territories |

| Country/Territory | Confirmed | Suspected | Microcephaly Cases* | Reporting GBS [†] |
|------------------------------|-----------|-----------|---------------------|----------------------------|
| Anguilla | 2 | 17 | | |
| Antigua & Barbuda | 5 | 14 | | |
| Argentina | 24 | 1,743 | | |
| Aruba | 21 | 0 | | |
| Bahamas | 3 | 0 | | |
| Barbados | 20 | 545 | | |
| Belize | 5 | 0 | | |
| Bolivia | 126 | 0 | | |
| Bonaire, St. Eustatius, Saba | 9 | 0 | | |
| Brazil | 78,421 | 174,003 | 1,835 | Yes |
| British Virgin Islands | 1 | 0 | | |
| Cayman Islands | 3 | 0 | | |
| Colombia | 8,826 | 93,281 | 34 | Yes |
| Costa Rica | 708 | 1,310 | 1 | Yes |
| Cuba | 3 | 0 | | |
| Curaçao | 208 | 0 | | |
| Dominica | 68 | 859 | | |
| Dominican Republic | 294 | 5,066 | 3 | Yes |
| Ecuador | 681 | 2,076 | | |
| El Salvador | 51 | 11,015 | 4 | Yes |
| French Guiana | 483 | 9,460 | 3 | Yes |
| Grenada | 61 | 256 | | Yes |
| Guadeloupe | 379 | 28,065 | | Yes |

| Country/Territory | Confirmed | Suspected | Microcephaly Cases* | Reporting GBS [†] |
|--------------------------------|-----------|-----------|---------------------|----------------------------|
| Guatemala | 416 | 2,389 | | Yes |
| Guyana | 6 | 0 | | |
| Haiti | 5 | 2,955 | 1 | Yes |
| Honduras | 225 | 30,091 | 1 | Yes |
| Jamaica | 59 | 4,484 | | Yes |
| Martinique | 12 | 34,960 | 10 | Yes |
| Mexico | 1,884 | 0 | | |
| Nicaragua | 1,554 | 0 | | |
| Panama | 272 | 1,412 | 5 | Yes |
| Paraguay | 10 | 275 | 2 | |
| Peru | 95 | 0 | | |
| Puerto Rico | 14,334 | 0 | 1 | Yes |
| Saint Barthelemy | 61 | 490 | | |
| Saint Lucia | 34 | 702 | | |
| Saint Martin | 200 | 1,975 | | |
| Saint Vincent & the Grenadines | 38 | 156 | | |
| Sint Maarten | 49 | 0 | | |
| Suriname | 709 | 2,710 | 1 | Yes |
| Trinidad and Tobago | 254 | 0 | | |
| Turks & Caicos | 2 | 0 | | |
| U.S. Virgin Islands | 176 | 0 | | |
| Venezuela | 1,768 | 56,032 | | Yes |

* Number of microcephaly and/or CNS malformation cases suggestive of congenital infections or potentially associated with ZIKV infection
[†] Reported increase in GBS cases associated with the introduction of ZIKV and/or GBS case(s) linked to ZIKV infection
[‡] Excludes the U.S.; this data can be found elsewhere in this report.

All data was obtained from PAHO, Ministries of Health, and Departments of Health unless otherwise noted.

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