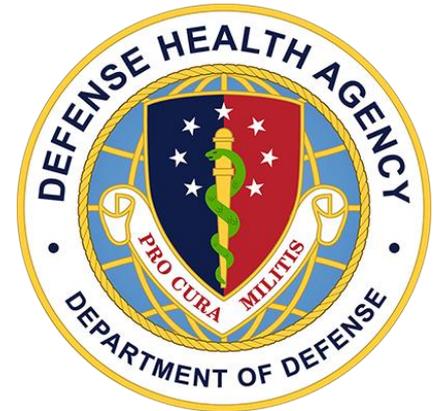


Department of Defense
Armed Forces Health Surveillance Branch
Global Zika Virus Surveillance Summary
(24 AUG 2016)



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DEPARTMENT OF DEFENSE (AFHSB)

Global Zika Virus Surveillance Summary #32

24 AUG 2016 (next report 31 AUG 2016)



DoD SURVEILLANCE: As of **24 AUG**, there are **95 (+20)** confirmed Zika virus (ZIKV) disease cases in Military Health System (MHS) beneficiaries (see table for details), including one case in a pregnant Service member and one case in a dependent.

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 3](#)).

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

CASE REPORT: From 1 MAY 2015 to **17 AUG** 2016, confirmed autochthonous vector-borne transmission of ZIKV has been reported in 47 countries and territories in the Western Hemisphere, eight in PACOM, and two in AFRICOM. CDC has issued Alert Level 2, Practice Enhanced Precautions travel notices for **55 (+1, Bahamas)** of these [areas](#) and for travelers to the [2016 Summer Olympics and Paralympics](#). According to CDC, locations above 6,500 feet elevation in these countries and territories 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 person-to-person 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 11 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 Saint Barthelemy and Saint Martin.

As of **17 AUG**, [CDC \(ArboNet\)](#) reported **2,223 (+290)** travel-related cases, 22 sexually transmitted cases, **14 (+8)** of the locally acquired mosquito-borne Florida cases, and one laboratory acquired case in 47 states and the District of Columbia since MAY 2015.

As of **23 AUG**, FL health officials have reported **42 (+12)** ZIKV infections that were likely acquired through local mosquito transmission (**as of 17 AUG, 14 (+8) had been reported to CDC/ArboNet**). Texas and **Taiwan** have each reported one Zika case linked to the Miami-Dade outbreak.

These are the only ZIKV cases likely resulting from local mosquito transmission in the 50 U.S. states and the District of Columbia. The FL DOH believes active transmission is occurring in **two** areas of Miami-Dade County, a one square mile area in the Wynwood section of Miami **and a 1.5 square mile area of Miami Beach**. The FL DOH is currently conducting other investigations 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 woman.

Text updated from the previous report will be printed in red; items in (+xx) represent the change in number from the previous AFHSB summary (17 AUG 2016).

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

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| Demographics for all confirmed Zika cases in Military Health System Beneficiaries as of 1300, 24 AUG 2016 (N = 95 confirmed cases) | | | |
|---|-----------------|----------|-------|
| Demographic | | N | % |
| Service | Army | 48 (+11) | 49.5% |
| | Air Force | 13 (+2) | 13.7% |
| | Navy | 7 (+1) | 7.4% |
| | Marine Corps | 5 (+1) | 5.3% |
| | Coast Guard | 22 (+5) | 23.2% |
| Status <small>*includes Reserve Component</small> | Service Member* | 70 (+15) | 72.6% |
| | Dependent | 16 (+4) | 16.8% |
| | Retiree | 9 (+1) | 9.5% |
| Age | 0-20 | 4 (+1) | 4.2% |
| | 21-35 | 43 (+11) | 45.3% |
| | 36-50 | 30 (+5) | 31.6% |
| | 51+ | 13 (+3) | 13.7% |
| | Not Reported | 5 | 5.3% |
| Gender | Female | 30 (+9) | 31.6% |
| | Male | 65 (+11) | 68.4% |



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CASE REPORT (cont): As of 4 AUG, Puerto Rico DOH reported 13,186 (+2,496) confirmed cases (2 deaths), with 1,106 (+205) cases in pregnant women. According to CDC, as of 19 AUG the U.S. Virgin Islands (USVI) has reported 101 (+22) confirmed cases and American Samoa has reported 44 confirmed cases. As of 11 AUG, the CDC's U.S. [pregnancy registry](#) has recorded 529 (+19) 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 691 (+170) 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 20 AUG, Brazil (1,835 (+62) cases), Cape Verde (11 cases), Colombia (29 (+7) cases), French Polynesia (8 cases), the Marshall Islands (1 case), Martinique (8 cases), El Salvador (4 cases), French Guiana (2 cases), Panama (5 cases), Puerto Rico (1 case), Suriname (1 case), Honduras (1 case), and Paraguay (2 cases) have reported 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."

GUILLAIN-BARRÉ SYNDROME: As of 18 AUG, 17 (+2, Costa Rica, and Guatemala) 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 (+1) GBS cases linked to ZIKV reported in the continental U.S. and 34 (+4) cases in Puerto Rico.

USG RESPONSE: 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 1 AUG, CDC released [advice for people living in or traveling to Wynwood](#), the neighborhood in Miami, FL, with local transmission. 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. CDC released two guidance updates on 25 JUL, one for [health care providers caring for pregnant women with possible ZIKV exposure](#) and one on the [prevention of sexual transmission of ZIKV](#). 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. 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.

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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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Emergency Use Authorization Zika Testing at DoD Laboratories



- BAMC**
Brooke Army Medical Center
- BAACH**
Brian Allgood Army Community Hospital
- CRDAMC**
Carl R. Darnall Army Medical Center
- EAMC**
Eisenhower Army Medical Center
- LRMC**
Landstuhl Regional Medical Center
- MAMC**
Madigan Army Medical Center
- NAMRU-3**
U.S. Naval Medical Research Unit No. 3
- NAMRU-6**
U.S. Naval Medical Research Unit No. 6
- NHRC**
Naval Health Research Center
- NIDDL**
Naval Infectious Diseases
Diagnostic Laboratory
- TAMC**
Tripler Army Medical Center
- USAFSAM**
U.S. Air Force School of
Aerospace Medicine
- USAMRIID**
United States Army Medical
Research Institute of
Infectious Diseases
- WAMC**
Womack Army Medical Center
- WBAMC**
William Beaumont Army
Medical Center
- WRNMMC**
Walter Reed National Military
Medical Center

*Plaque-reduction neutralization test (PRNT)

As of 24 AUG 2016

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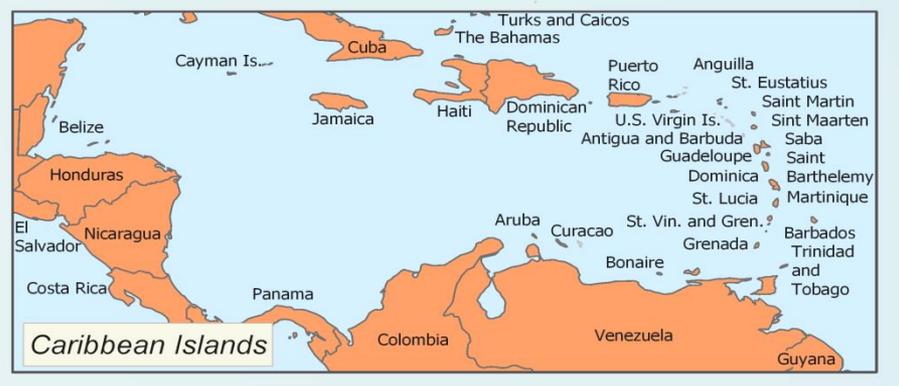
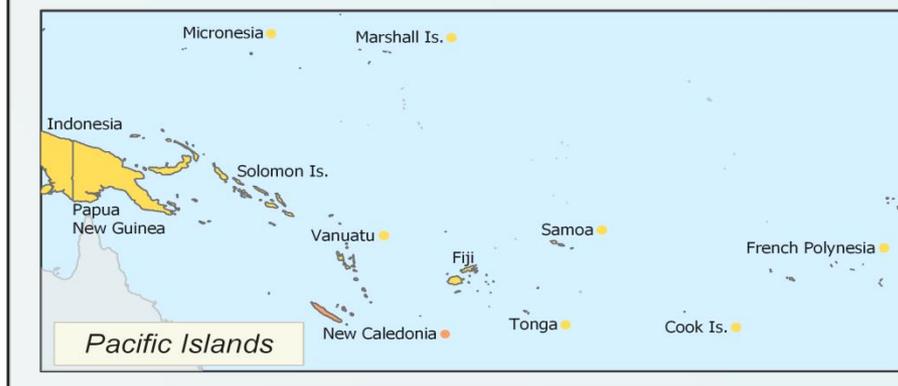
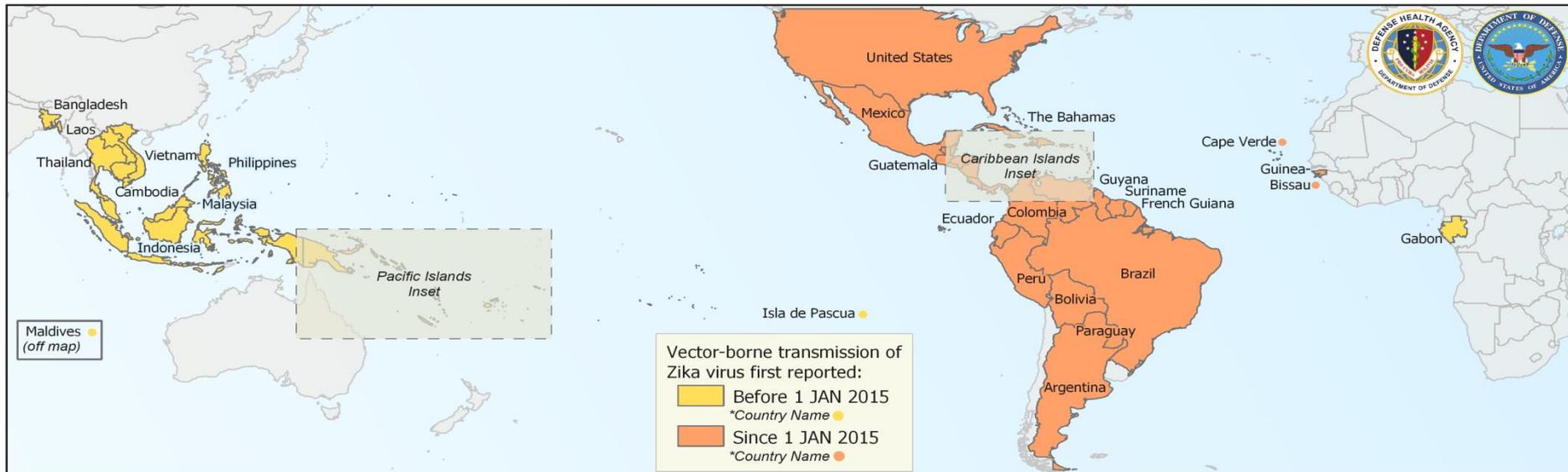
Global Zika Virus Surveillance Summary #32

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Zika Virus Distribution

1 JAN 2007 - 24 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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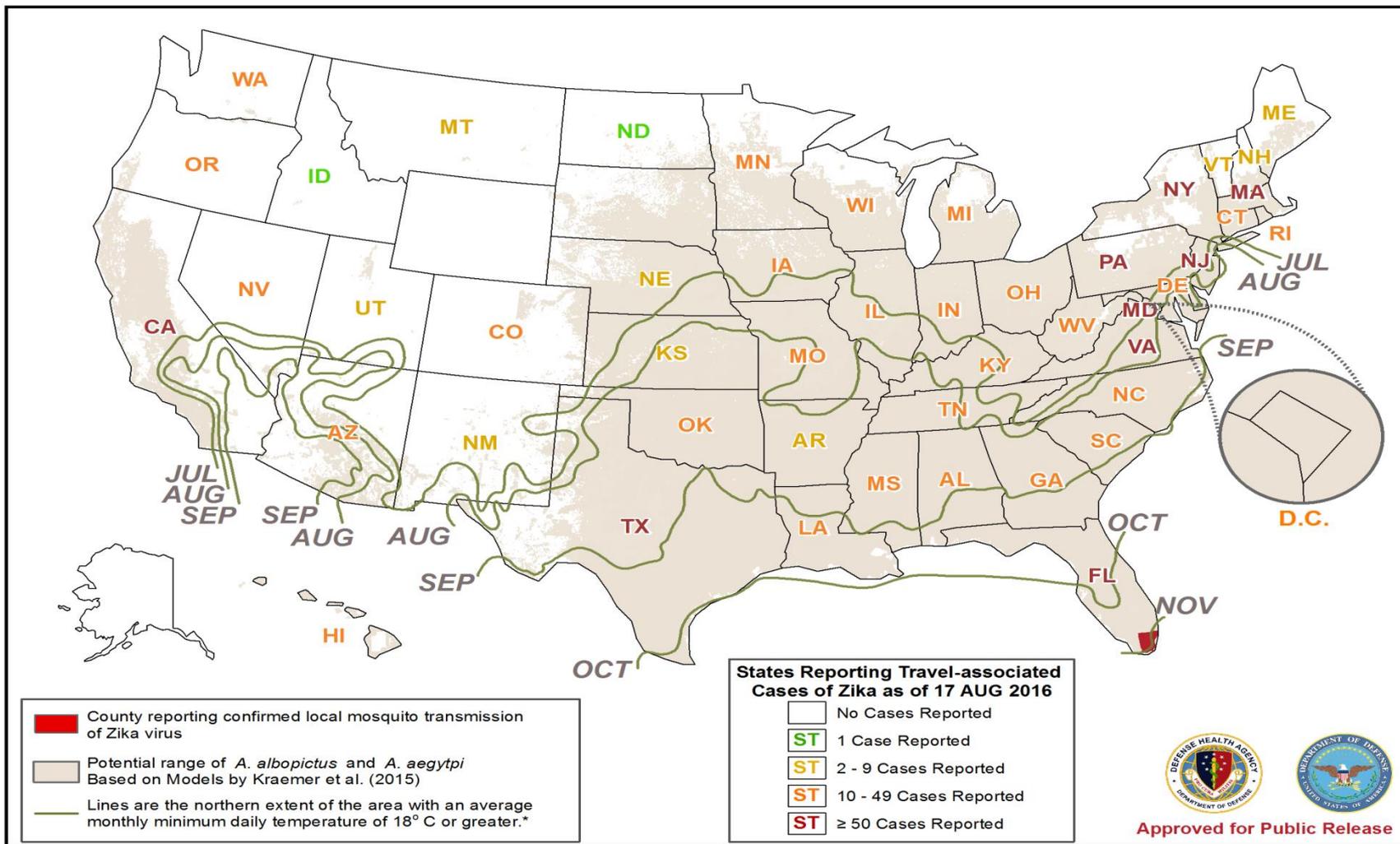
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Overlap of States Reporting Imported Zika Cases and the Estimated Range of Mosquito Vectors and Transmission Suitability

24 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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Global Zika Virus Surveillance Summary #32

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Western Hemisphere Countries[‡] and Territories with Autochthonous Transmission of Zika Virus: 01 JAN 2015 – 20 AUG 2016

| | Confirmed | Suspected | Microcephaly Cases* | Reporting GBS [†] |
|--------------|----------------|----------------|---------------------|---------------------------------|
| Total | 110,378 | 460,496 | 1,888 | 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 | 1 | 0 | | |
| Barbados | 20 | 540 | | |
| Belize | 5 | 0 | | |
| Bolivia | 126 | 0 | | |
| Bonaire, St. Eustatius, Saba | 9 | 0 | | |
| Brazil | 78,421 | 174,003 | 1,835** | Yes |
| Cayman Islands | 2 | 0 | | |
| Colombia | 8,826 | 92,842 | 29** | Yes |
| Costa Rica | 521 | 1,111 | | Yes |
| Cuba | 3 | 0 | | |
| Curaçao | 208 | 0 | | |
| Dominica | 68 | 848 | | |
| Dominican Republic | 273 | 5,034 | | Yes |
| Ecuador | 663 | 2,036 | | |
| El Salvador | 54 | 10,959 | 4 | Yes |
| French Guiana | 483 | 9,330 | 2 | Yes |
| Grenada | 55 | 223 | | Yes |
| Guadeloupe | 379 | 26,520 | | Yes |
| Guatemala | 416 | 2,133 | | Yes |

| Country/Territory | Confirmed | Suspected | Microcephaly Cases* | Reporting GBS [†] |
|--------------------------------|-----------|-----------|---------------------|----------------------------|
| Guyana | 6 | 0 | | |
| Haiti | 5 | 2,125 | | Yes |
| Honduras | 191 | 29,896 | 1 | Yes |
| Jamaica | 59 | 4,484 | | Yes |
| Martinique | 12 | 34,310 | 8 | Yes |
| Mexico | 1,619 | 0 | | |
| Nicaragua | 1,366 | 0 | | |
| Panama | 303 | 1,262 | 5 | Yes |
| Paraguay | 10 | 275 | 2 | |
| Peru | 95 | 0 | | |
| Puerto Rico | 13,186 | 0 | 1 | Yes |
| Saint Barthelemy | 61 | 370 | | |
| Saint Lucia | 34 | 702 | | |
| Saint Martin | 200 | 1,835 | | |
| Saint Vincent & the Grenadines | 38 | 156 | | |
| Sint Maarten | 49 | 0 | | |
| Suriname | 697 | 2,705 | 1 | Yes |
| Trinidad and Tobago | 149 | 0 | | |
| Turks & Caicos | 2 | 0 | | |
| U.S. Virgin Islands | 101 | 472 | | |
| Venezuela | 1,632 | 54,551 | | 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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