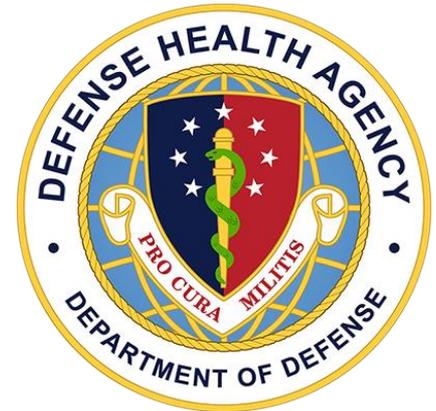


Department of Defense  
Armed Forces Health Surveillance Branch  
Global Zika Virus Surveillance Summary  
(19 OCT 2016)



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*For questions or comments, please contact:*

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# DEPARTMENT OF DEFENSE (AFHSB)

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### 19 OCT 2016 (next report 26 OCT 2016)



**(FOUO) DoD SURVEILLANCE:** As of 1300 on 12 OCT, there have been 138 (+3) confirmed Zika virus (ZIKV) disease cases in Military Health System (MHS) beneficiaries (see table) since the first case was reported during the third week of 2016. There are three cases in pregnant Service members and one case in a pregnant dependent. One confirmed case is linked to the outbreak in Miami-Dade County, FL.

On 21 SEP, AFHSB issued [updated guidance](#) for detecting and reporting DoD cases of confirmed and probable ZIKV disease and ZIKV congenital disease. Cases should be reported in DRSi as “Any Other Unusual Condition Not Listed,” with “Zika” entered in the comment field along with additional pertinent information such as travel history and pregnancy status.

IgM ELISA and rRT-PCR assays are available under an [Emergency Use Authorization \(EUA\)](#) at DoD laboratories (see map on [Slide 4](#)). Confirmatory PRNT testing is available at the NIDDL.

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

As of 18 OCT, [FL health officials have reported](#) 182 (+35) ZIKV infections that were likely acquired through local mosquito transmission, including 19 cases that were infected in FL but live out of state. As of 12 OCT, 128 (+23) met the CDC definition of a Zika case. The FL DOH believes ongoing transmission is only taking place in two (+1) defined areas of Miami-Dade County: Miami Beach and the Little River neighborhood. [CDC updated](#) its advice for people living in or traveling to South Florida on 14 OCT. According to the FL DOH and CDC in an [early release MMWR article](#) published on 23 SEP, aggressive mosquito control, including aerial spraying that targeted both adult and larval mosquitoes, most likely contributed to stopping ZIKV transmission in the Wynwood neighborhood.

| Demographics for all confirmed Zika cases in Military Health System Beneficiaries as of 1300, 19 OCT 2016 (N = 141 confirmed cases) |                 |         |       |
|---|-----------------|---------|-------|
| Demographic   |                 | N       | %     |
| Service   | Army            | 62      | 44.0% |
|   | Air Force       | 20 (+2) | 14.2% |
|   | Navy            | 19 (+1) | 13.5% |
|   | Marine Corps    | 12      | 8.5%  |
|   | Coast Guard     | 28      | 19.9% |
| Status<br><small>*includes Reserve Component</small>  | Service Member* | 99 (+3) | 70.2% |
|   | Dependent       | 32      | 22.7% |
|   | Retiree         | 10      | 7.1%  |
| Age   | 0-20            | 10 (+1) | 7.1%  |
|   | 21-35           | 65      | 46.1% |
|   | 36-50           | 42 (+2) | 29.8% |
|   | 51+             | 15      | 10.6% |
|   | Not Reported    | 9       | 6.4%  |
| Gender  | Female          | 56 (+1) | 39.7% |
|   | Male            | 85 (+2) | 60.3% |

The FL DOH is investigating additional areas in Miami-Dade and Palm Beach counties.

As of 19 OCT, [CDC](#) and [WHO](#) report 60 [countries and territories](#) with a first reported Zika outbreak since JAN 2015; 49 are in the Western Hemisphere, nine are in PACOM and two are in AFRICOM. CDC has issued Alert Level 2, Practice Enhanced Precautions, travel notices for 58 of these [areas](#). On 29 SEP, the [CDC posted information](#) about ZIKV for travelers to 11 countries in Southeast Asia. The countries are: Brunei, Burma (Myanmar), Cambodia, Indonesia, Laos, Malaysia, Maldives, Philippines, Thailand, Timor-Leste (East Timor), and Vietnam. These countries have either reported low level local ZIKV transmission or are adjacent to countries with known ZIKV transmission.

| Zika Cases in the U.S. States and Territories | U.S. States* | U.S. Territories |                      |                 |
|---|--------------|------------------|----------------------|-----------------|
|   |              | Puerto Rico**    | U.S. Virgin Islands* | American Samoa* |
| Total Zika Cases                              | 3,936 (+118) | 29,084 (+2,383)  | 469 (+7)             | 47              |
| Travel-Associated                             | 3,775 (+93)  | -                | -                    | -               |
| Local Vector Transmission                     | 128 (+23)    | -                | -                    | -               |
| Laboratory Exposure                           | 1            | -                | -                    | -               |
| Sexual Transmission                           | 32 (+2)      | -                | -                    | -               |
| Guillain Barré Syndrome (GBS)                 | 13           | 51†              | -                    | -               |

| U.S. Zika Pregnancy Registry Data, as of 6 OCT |           |              |
|--|-----------|--------------|
| Pregnant Zika Cases                            | 878 (+41) | 1,806 (+168) |
| Infants Born with Birth Defects                | 23 (+1)   | 1            |
| Pregnancy Losses with Birth Defects            | 5         | 1            |

\*Zika cases reported to ArboNET as of 12 OCT (U.S. States, USVI, and Am. Samoa)  
 \*\*From the Puerto Rico DOH as of 29 SEP; PR DOH is tracking 2,213 (+125) ZIKV cases in pregnant women.  
 † Of the 51 GBS cases, 11 are classified as evidence of flavivirus infection, but specific virus undetermined.

(+xx) represents the change in number from the previous AFHSB summary of 5 OCT 2016.

All information has been verified unless noted otherwise.

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)

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**CASE REPORT (con't):** Past evidence of local transmission has been reported from other areas of [Africa, Asia, and the Pacific Islands](#), where sporadic transmission may continue to occur. The Singapore National Environment Agency, which reported the country's first local ZIKV transmission on 27 AUG, reports 417 (+12) cases and three (+2) identified clusters as of 19 OCT.

According to PAHO on 6 OCT, over the previous four weeks, all Caribbean and North, Central, and South American OCONUS countries and territories were reporting a decreasing trend in Zika cases, except for Anguilla, Saint Barthelemy, Sint Maartin, Saint Martin, and Costa Rica.

**MICROCEPHALY:** As of 13 OCT, Brazil (2,001 (+52)), Cape Verde (11), Costa Rica (1), Colombia (46 (+4)), Dominican Republic (10), El Salvador (4), French Guiana (10 (+7)), French Polynesia (8), Guatemala (17), Haiti (1), Honduras (1), the Marshall Islands (1), Martinique (12), Panama (5), Paraguay (2), Puerto Rico (2), Suriname (1), and Thailand (2) have reported cases of microcephaly and other fetal malformations potentially associated with ZIKV infection or suggestive of a congenital infection. The U.S. (28 (+1)), Canada (1), Spain (2), and Slovenia (1) have reported travel-associated microcephaly cases.

**GUILLAIN-BARRÉ SYNDROME:** As of 13 OCT, 19 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 13 GBS cases linked to ZIKV reported in the continental U.S. and 51 cases (2 deaths) in Puerto Rico, 11 of which are classified as evidence of flavivirus infection, but specific virus undetermined.

**USG RESPONSE:** [CDC issued guidance on 19 OCT](#) for the assessment and follow-up of infant hearing in children with evidence of congenital ZIKV infection. On 30 SEP, [CDC updated its interim guidance](#) for preconception counseling and for preventing sexual transmission of ZIKV among exposed persons. The primary change was a recommendation that men with possible ZIKV exposure, but no symptoms, wait six months after the last possible ZIKV exposure before attempting conception with their partner. This recommendation is now consistent with the recommendation for men who experienced Zika symptoms to wait six months after symptom onset. WHO made a [similar recommendation](#) on 6 SEP. Also on 30 SEP, CDC published an updated [ZIKV response plan for CONUS and Hawaii](#). In an early release MMWR article published on 30 SEP, CDC described the characteristics of ZIKV disease in 158 children with a postnatal infection. The researchers found that the clinical course of ZIKV disease is typically mild in children, as it is in adults. On 29 SEP, President Obama signed a bill providing \$1.1 billion to combat ZIKV in the U.S. and abroad. On 13 SEP, CDC published a summary of [Zika cases in the U.S.](#) between JAN and JUL 2016 and preliminary findings from an [investigation of ZIKV infection in a Utah patient](#) with no known risk factors. CDC says it remains unclear how the Utah patient, who had close contact (i.e. kissing and touching) with an index patient with a very high viral load, became infected, but family contacts should be aware that blood and body fluids of severely ill patients may be infectious.

**GLOBAL RESPONSE:** On 3 OCT, WHO published updated information for [travelers](#) and [health authorities](#). Following the fourth meeting of the [WHO Emergency Committee](#) concerning ZIKV and observed increases in neurological disorders and neonatal malformations on 1 SEP, WHO said that the clusters of microcephaly cases and other neurological disorders continue to constitute a Public Health Emergency of International Concern (PHEIC). WHO reaffirmed its previous advice, including 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 and RESEARCH:** On 17 OCT, EID posted research showing that ZIKV RNA could be isolated in [vaginal secretions, whole blood](#), and [semen](#) up to 14 days, 81 days, and 92 days after symptom onset, respectively. The authors in both reports caution that the detection of ZIKV RNA does not necessarily equate to the detection of infectious virus. On 6 OCT, the National Institute of Health awarded the Infectious Disease Research Institute a grant to rapidly develop a RNA-based ZIKV vaccine. HHS's Biomedical Advanced Research and Development Authority (BARDA) issued grants to [Moderna Therapeutics](#) and [Takeda Vaccines](#) for research and development of ZIKV vaccines. 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 of the vaccine, co-developed with Sanofi-Pasteur, which received a [\\$43 million development grant from BARDA](#) on 26 SEP, is expected to begin later this year. On 26 JUL, Inovio Pharmaceuticals began a Phase 1 trial of its Zika DNA vaccine (GLS-5700) and launched a double-blind clinical trial of the vaccine in Puerto Rico on 29 AUG.

(+xx) represents the change in number from the previous AFHSB summary of 5 OCT 2016.  
All information has been verified unless noted otherwise. Additional sources include: 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 19 OCT

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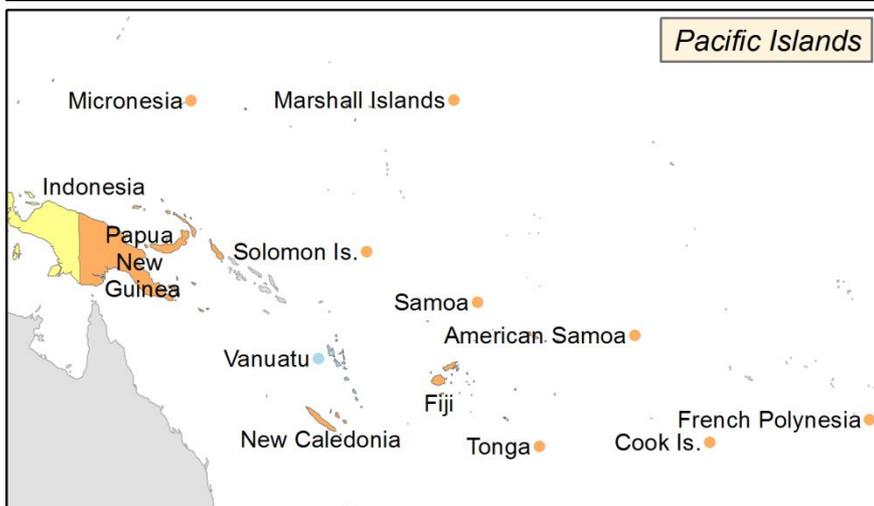
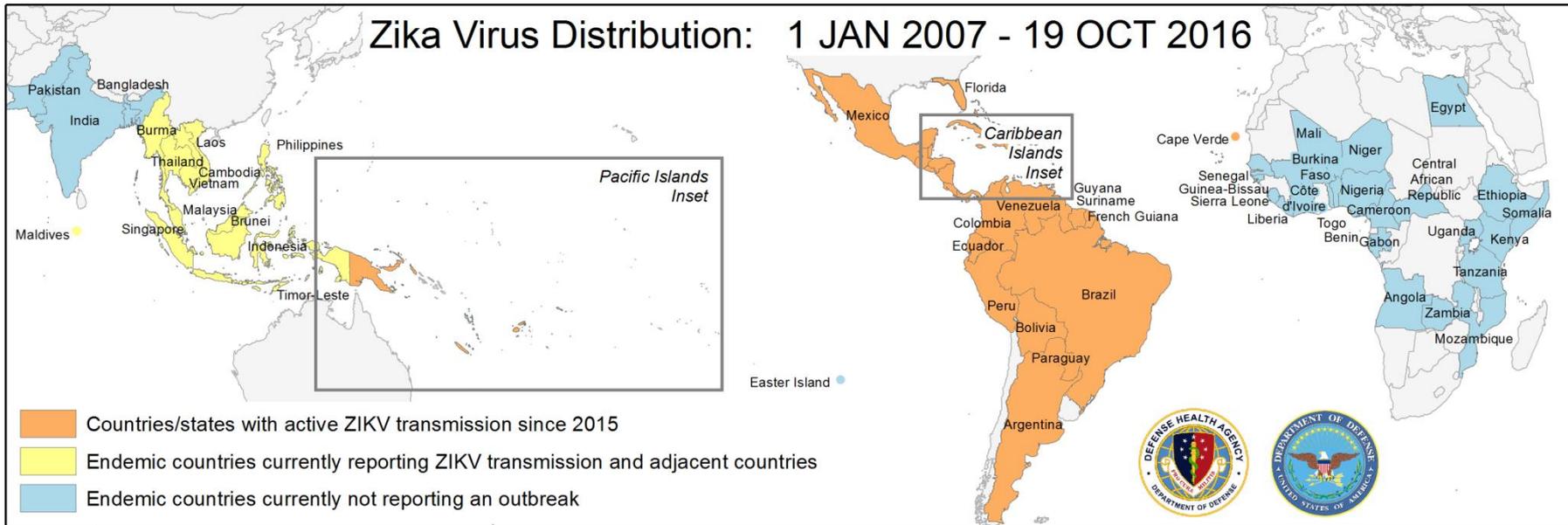
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\* Countries with a small footprint are given a marker by their label to denote current or previous Zika presence. Source: CDC.

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#### Western Hemisphere Countries<sup>‡</sup> and Territories with Autochthonous Transmission of Zika Virus: 1 JAN 2015 – 13 OCT 2016

|              | Confirmed | Suspected | Microcephaly Cases* | Reporting GBS <sup>†</sup> |
|--------------|-----------|-----------|---------------------|----------------------------|
| <b>Total</b> | 155,584   | 507,851   | 2,113               | 19 Countries/Territories   |

| Country/Territory            | Confirmed | Suspected | Microcephaly Cases* | Reporting GBS <sup>†</sup> |
|------------------------------|-----------|-----------|---------------------|----------------------------|
| Anguilla                     | 5         | 30        |                     |                            |
| Antigua & Barbuda            | 14        | 361       |                     |                            |
| Argentina                    | 26        | 1,821     |                     |                            |
| Aruba                        | 26        | 0         |                     |                            |
| Bahamas                      | 15        | 0         |                     |                            |
| Barbados                     | 29        | 588       |                     |                            |
| Belize                       | 49        | 537       |                     |                            |
| Bolivia                      | 128       | 597       |                     |                            |
| Bonaire, St. Eustatius, Saba | 63        | 0         |                     |                            |
| Brazil                       | 101,851   | 196,976   | 2,001               | Yes                        |
| British Virgin Islands       | 5         | 0         |                     |                            |
| Cayman Islands               | 17        | 0         |                     |                            |
| Colombia                     | 8,826     | 95,639    | 46                  | Yes                        |
| Costa Rica                   | 1,222     | 2,278     | 1                   | Yes                        |
| Cuba                         | 3         | 0         |                     |                            |
| Curaçao                      | 322       | 0         |                     |                            |
| Dominica                     | 78        | 1,138     |                     |                            |
| Dominican Republic           | 331       | 4,849     | 10                  | Yes                        |
| Ecuador                      | 794       | 2,715     |                     | Yes                        |
| El Salvador                  | 51        | 11,234    | 4                   | Yes                        |
| French Guiana                | 483       | 9,790     | 10                  | Yes                        |
| Grenada                      | 100       | 312       |                     | Yes                        |
| Guadeloupe                   | 379       | 30,590    |                     | Yes                        |
| Guatemala                    | 442       | 2,535     | 17                  | Yes                        |

| Country/Territory              | Confirmed | Suspected | Microcephaly Cases* | Reporting GBS <sup>†</sup> |
|--------------------------------|-----------|-----------|---------------------|----------------------------|
| Guyana                         | 6         | 0         |                     |                            |
| Haiti                          | 5         | 2,955     | 1                   | Yes                        |
| Honduras                       | 269       | 31,530    | 1                   | Yes                        |
| Jamaica                        | 96        | 6,281     |                     | Yes                        |
| Martinique                     | 12        | 36,445    | 12                  | Yes                        |
| Mexico                         | 4,306     | 0         |                     | Yes                        |
| Nicaragua                      | 1,989     | 0         |                     |                            |
| Panama                         | 374       | 1,692     | 5                   | Yes                        |
| Paraguay                       | 12        | 545       | 2                   |                            |
| Peru                           | 110       | 0         |                     |                            |
| Puerto Rico                    | 29,084    | 0         | 2                   | Yes                        |
| Saint Barthelemy               | 61        | 770       |                     |                            |
| Saint Kitts & Nevis            | 5         | 309       |                     | No                         |
| Saint Lucia                    | 50        | 822       |                     |                            |
| Saint Martin                   | 200       | 2,595     |                     |                            |
| Saint Vincent & the Grenadines | 38        | 156       |                     |                            |
| Sint Maarten                   | 62        | 0         |                     |                            |
| Suriname                       | 723       | 2,746     | 1                   | Yes                        |
| Trinidad and Tobago            | 488       | 0         |                     |                            |
| Turks & Caicos                 | 2         | 0         |                     |                            |
| U.S. Virgin Islands            | 469       | 803       |                     |                            |
| Venezuela                      | 1,964     | 58,212    |                     | 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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