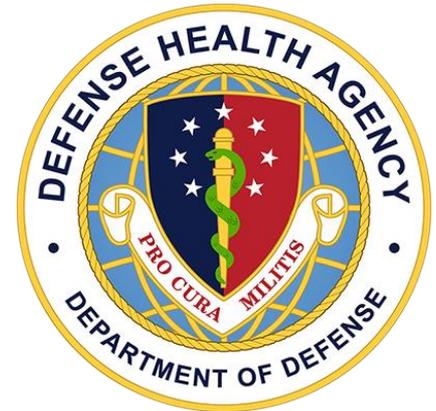


Department of Defense
Armed Forces Health Surveillance Branch
Global Zika Virus Surveillance Summary
(26 OCT 2016)



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DoD SURVEILLANCE: As of 1300 on 26 OCT, there have been 143 (+2) 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 four cases in pregnant Service members and one case in a pregnant dependent.

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](#).

CASE REPORT: As of 25 OCT, [FL health officials have reported](#) 190 (+8) 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 19 OCT, 137 (+9) met the CDC definition of a Zika case. The FL DOH believes ongoing transmission is only taking place in two defined areas of Miami-Dade County: Miami Beach and the Little River neighborhood. Advice for people living in or traveling to South Florida is available from [CDC](#). 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.

Demographic		N	%
Service	Army	64 (+2)	44.8%
	Air Force	20	14.0%
	Navy	19	13.3%
	Marine Corps	12	8.4%
	Coast Guard	28	19.6%
Status <small>*includes Reserve Component</small>	Service Member*	101 (+2)	70.6%
	Dependent	32	22.4%
	Retiree	10	7.0%
Age	0-20	10	7.0%
	21-35	65	45.5%
	36-50	43 (+1)	30.1%
	51+	16 (+1)	11.2%
	Not Reported	9	6.3%
Gender	Female	56	39.2%
	Male	87 (+2)	60.8%

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	4,016 (+80)	29,975 (+891)	589 (+120)	47
Travel-Associated	3,846 (+71)	-	-	-
Local Vector Transmission	137 (+9)	-	-	-
Laboratory Exposure	1	-	-	-
Sexual Transmission	32	-	-	-
Guillain Barré Syndrome (GBS)	13	54 (+3)†	-	-

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

As of 26 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.

U.S. Zika Pregnancy Registry Data, as of 13 OCT		
Pregnant Zika Cases	899 (+21)	1,927 (+121)
Infants Born with Birth Defects	23	1††
Pregnancy Losses with Birth Defects	5	1††

*Zika cases reported to ArboNET as of 19 OCT (U.S. States and Am. Samoa). Zika cases reported by USVI as of 18 OCT.
 **From the Puerto Rico DOH as of 6 OCT; PR DOH is tracking 2,313 (+81) ZIKV cases in pregnant women.
 † Of the 54 (+3) GBS cases, 11 are classified as evidence of flavivirus infection, but specific virus undetermined.
 †† CDC last reported these cases on 29 SEP.

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CASE REPORT (cont'd): 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 435 (+18) cases and four (+1) identified clusters as of 26 OCT.

According to PAHO on 20 OCT, over the previous four weeks, most 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 Guatemala.

MICROCEPHALY and GUILLAIN-BARRÉ SYNDROME: As of 19 OCT, 23 (+1, Grenada) countries have reported cases of microcephaly and other fetal malformations potentially associated with ZIKV infection or suggestive of a congenital infection, including four with travel-related microcephaly cases. As of 19 OCT, 19 countries and territories in the Western Hemisphere as well as French Polynesia have reported Guillain-Barré syndrome (GBS) cases that may be associated with ZIKV infection. The Western Hemisphere countries reporting microcephaly or GBS are listed in the table on [slide 7](#). Countries in PACOM and AFRICOM reporting microcephaly are Cape Verde, French Polynesia, the Marshall Islands, and Thailand. One microcephaly case in Vietnam is under investigation as of 19 OCT.

USG RESPONSE: CDC issued [ZIKV infection control guidance](#) on 25 OCT. On 19 OCT [CDC released guidance](#) on 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.

GLOBAL RESPONSE: On 26 OCT, WHO published its [Zika Virus Research Agenda](#). On 25 OCT, WHO issued the [first quarterly update](#) to its [JUL 2016 Zika Strategic Response Plan](#). 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: In an [early release Emerging Infectious Diseases article](#), researchers estimated the incidence of GBS in Puerto Rico following the introduction of ZIKV was 3.2 to 5.1 times above baseline in 2016. 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 Institutes 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. Moderna submitted an Investigational New Drug (IND) application to the FDA on 14 OCT for their mRNA vaccine. Clinical trials should begin in approximately 30 days at three U.S. sites: Peoria, IL, San Diego, CA, and Melbourne, FL. Phase 1 clinical testing of a Zika purified inactivated virus (ZPIV) that was first developed by Walter Reed Army Institute of Research (WRAIR) and Harvard University is expected to begin later this year. Sanofi-Pasteur, received a [\\$43 million development grant from BARDA](#) on 26 SEP to continue development of the ZPIV. 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.

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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 26 OCT

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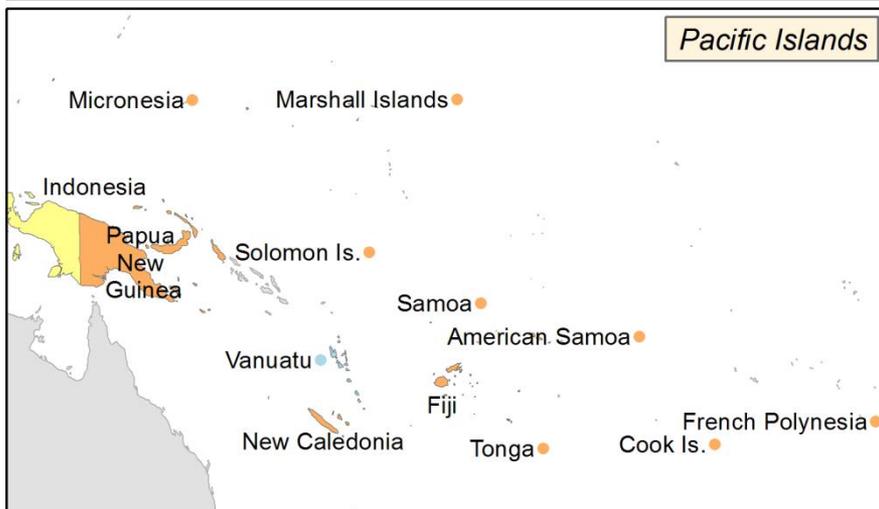
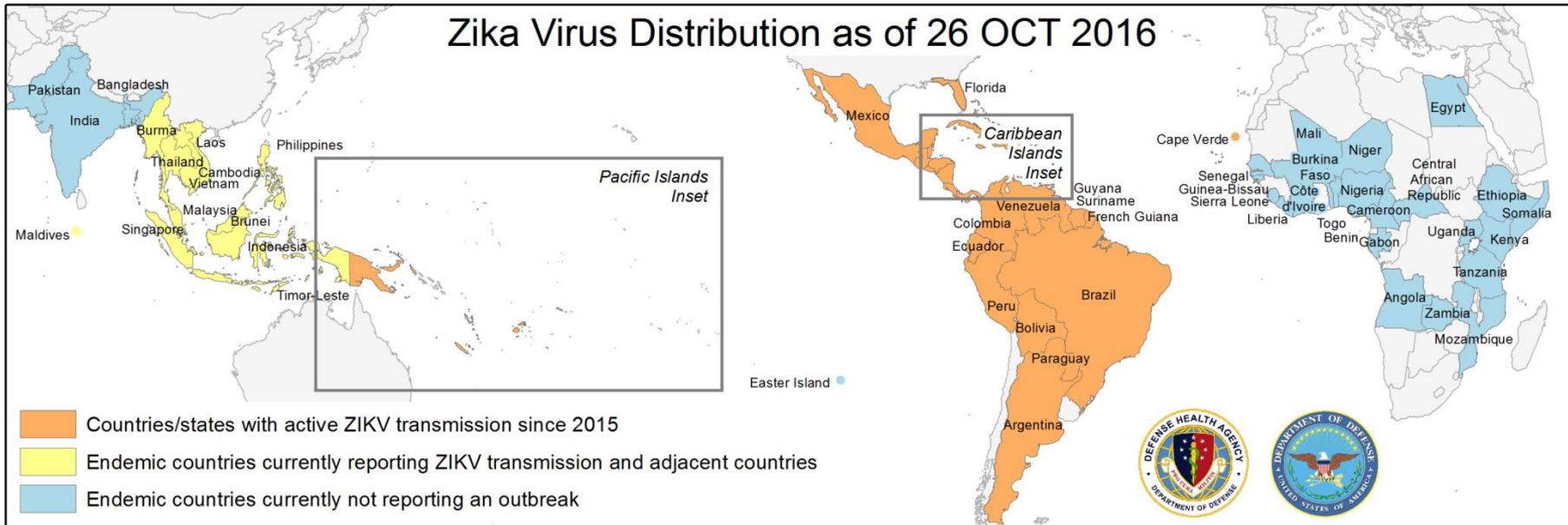
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Zika Virus Distribution as of 26 OCT 2016



* 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[‡] and Territories with Autochthonous Transmission of Zika Virus: 1 JAN 2015 – 20 OCT 2016

	Confirmed	Suspected	Microcephaly Cases*	Reporting GBS [†]
Total	165,102	511,681	2,147	19 Countries/Territories

Country/Territory	Confirmed	Suspected	Microcephaly Cases*	Reporting GBS [†]
Anguilla	5	35		
Antigua & Barbuda	14	393		
Argentina	26	1,821		
Aruba	26	0		
Bahamas	15	0		
Barbados	29	604		
Belize	49	537		
Bolivia	128	597		
Bonaire, St. Eustatius, Saba	63	0		
Brazil	109,465	200,465	2,033	Yes
British Virgin Islands	5	0		
Cayman Islands	17	0		
Colombia	8,826	95,793	47	Yes
Costa Rica	1,254	2,324	1	Yes
Cuba	3	0		
Curaçao	322	0		
Dominica	78	1,138		
Dominican Republic	328	4,875	10	Yes
Ecuador	801	2,706		Yes
El Salvador	51	11,264	4	Yes
French Guiana	483	9,790	10	Yes
Grenada	100	313	1	Yes
Guadeloupe	379	30,590		Yes
Guatemala	442	2,535	17	Yes

Country/Territory	Confirmed	Suspected	Microcephaly Cases*	Reporting GBS [†]
Guyana	6	0		
Haiti	5	2,955	1	Yes
Honduras	285	31,648	1	Yes
Jamaica	96	6,281		Yes
Martinique	12	36,445	12	Yes
Mexico	4,837	0		Yes
Nicaragua	2,002	0		
Panama	424	1,818	5	Yes
Paraguay	12	545	2	
Peru	110	0		
Puerto Rico	29,975	0	2	Yes
Saint Barthelemy	61	770		
Saint Kitts & Nevis	16	387		No
Saint Lucia	50	822		
Saint Martin	200	2,595		
Saint Vincent & the Grenadines	38	156		
Sint Maarten	62	0		
Suriname	723	2,749	1	Yes
Trinidad and Tobago	488	0		
Turks & Caicos	2	0		
U.S. Virgin Islands	589	139		
Venezuela	2,200	58,591		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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