DoD SURVEILLANCE: As of 1300 on 16 AUG 2017, there have been 175 confirmed Zika virus (ZIKV) disease cases (see table) since the first case was reported in JAN 2016. Incidence in 2017 is significantly lower than incidence during this same period last year, with only sporadic cases reported since JAN 2017. One confirmed DoD case was linked to the outbreak in Miami-Dade County, FL, in AUG 2016. All other DoD cases have been acquired OCONUS.

The detection and reporting guidance, issued by AFHSB on 7 DEC 2016, includes the delineation between ZIKV infection versus ZIKV disease case definitions with reporting information for each. 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 NIDIL.

As of 8 AUG, no vector mosquitoes collected on DoD installations have tested positive for ZIKV in 2017.

CASE REPORT: Overall weekly incidence for travel-associated cases in U.S. States and locally acquired cases in Puerto Rico remain low and stable.

On 1 AUG, FL reported its first sexually transmitted Zika case in 2017 and stated there was no evidence of mosquito transmission in the state. The TX Department of State Health Services (TX DSHS) reported one ZIKV infection in Hidalgo County, TX, on 26 JUL. The infection was mostly likely acquired in TX via a mosquito bite “sometime in the last few months.” There are currently no identified areas with ongoing, active mosquito-borne ZIKV transmission in the U.S. Brownsville, TX, remains the only Zika cautionary (yellow) area in the U.S. States. FL (285 ZIKV infections in 2016; 8 (+3) in 2017) and TX (6 ZIKV infections in 2016; 1 in 2017) have reported the only locally acquired mosquito-borne ZIKV cases in CONUS. The eight locally acquired cases reported in FL in 2017 were acquired in 2016 and retrospectively identified.

On 7 APR, TX DSHS released updated guidance for the testing of pregnant women in six counties in South TX. The guidance recommends that all pregnant women in these counties should be tested for ZIKV in their first and second trimesters regardless of symptomatic status, and that any resident with a rash and one other common Zika symptom undergo testing.

CDC is maintaining its Alert Level 2, Practice Enhanced Precautions, travel notices for 55 (-2, Papua New Guinea and Cayman Islands) countries and territories (NORTHCOM (4), SOUTHCOM (39 (-1)), PACOM (9 (-1)), and AFRICOM (3)), recommending that pregnant women not travel to any area with a risk of ZIKV transmission. CDC also posted information about ZIKV for travelers to Haiti, Brazil, one country in CENTCOM (Pakistan),12 (+1, Papua New Guinea) additional countries in PACOM, and 27 countries in AFRICOM that are areas where ZIKV has likely been present for years with ongoing transmission. As of 16 AUG, Singapore has reported two (+2) active Zika clusters; a total of 63 (+22) cases have been reported in the country in 2017. On 1 JUL, Thailand health officials announced 11 confirmed ZIKV cases and 27 suspected cases in Bung Na Rang District, Phichit Province. Media report on 10 JUL that the first ZIKV case in Tamil Nadu, India, was confirmed.
CASE REPORT (cont’d): On 5 JUN, Puerto Rico declared its Zika epidemic over and reported that transmission levels on the islands are relatively low. CDC is maintaining a Level 2 travel notice for Puerto Rico. According to PAHO on 26 JUL, most Caribbean and North, Central, and South American OCONUS countries and territories continue to report a stable or decreasing trend in Zika cases except for Argentina, Bolivia, Brazil, Costa Rica, Ecuador, and Peru.

MICROCEPHALY and GUILLAIN-BARRÉ SYNDROME (GBS): 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, Thailand, and Vietnam.

USG RESPONSE: In a 28 JUL MMWR, CDC updated the interim guidance for U.S. healthcare providers caring for pregnant women with possible ZIKV exposure in response to: 1) declining prevalence of Zika virus disease in the Americas and 2) emerging evidence indicating prolonged detection of Zika virus immunoglobulin M (IgM) antibodies. CDC also released updated guidance on 24 JUL for U.S. laboratories testing for ZIKV and algorithms for the testing of symptomatic and asymptomatic pregnant women. CDC had issued a HAN detailing updated guidance on the interpretation of Zika testing results for pregnant women; due to the potential for prolonged IgM antibody response (>12 weeks post infection) on 5 MAY. Also on 5 MAY, CDC published an updated ZIKV response plan for CONUS and Hawaii, which includes travel guidance for areas with local ZIKV transmission. On 10 APR, CDC issued Interim Guidance for Managing Occupational Exposures to ZIKV for Healthcare Personnel. On 16 MAR, CDC issued updated guidance for the testing of pregnant women traveling to or living in areas with a CDC Zika travel notice and areas with Zika risk but no CDC Zika travel notice. On 13 MAR, CDC reported the identification of a potential risk of ZIKV transmission via blood and tissue donors, including semen donors, in Miami-Dade, Broward, and Palm Beach counties in FL beginning on 15 JUN 2016. Testing of tissue donors is not currently available; however, blood donations throughout the U.S. are screened for ZIKV. On 16 NOV, CDC released Updated: Guidance for US Laboratories Testing for Zika Virus Infection. CDC issued ZIKV infection control guidance on 25 OCT.

GLOBAL RESPONSE: Following the fifth meeting of the Emergency Committee (EC) on ZIKV, microcephaly, and other neurological disorders on 18 NOV, WHO declared that the event no longer meets the criteria for a Public Health Emergency of International Concern (PHEIC). ZIKV and its associated consequences remain a significant enduring public health challenge requiring intense action, but no longer a PHEIC as defined under the International Health Regulations. WHO had declared the PHEIC on 1 FEB 2016. On 25 OCT, WHO issued the first quarterly update to its JUL 2016 Zika Strategic Response Plan. 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 the 11 AUG MMWR, TX reported that ZIKV–associated birth defects were identified in 15 of 185 (8%) pregnancies in women with laboratory evidence of a possible recent ZIKV infection identified between JAN 2016 and JUL 2017. A study published in JAMA Neurology on 14 AUG found that 35 of 44 (48%) adults hospitalized in Brazil with GBS, meningoencephalitis, or transverse myelitis between DEC 2015 and MAY 2016 had molecular and/or serologic evidence of recent ZIKV infection in serum and/or cerebrospinal fluid. An ahead of print article in Emerging Infectious Diseases (EID) found that no members of the Spanish Olympic Team (n=117) were positive for ZIKV infection after participation in the Olympic Games in 2016, which supports the minimal risk of infection assessed by officials prior to the start of the Games. In another EID article published ahead of print, researchers performed mosquito-based surveillance of Aedes aegypti in Rio de Janeiro, Brazil, from 2014 to 2016; their analysis suggests ZIKV was likely introduced to Rio de Janeiro through multiple international sources between MAY and NOV 2013 and provides evidence that ZIKV was introduced in Brazil between OCT 2012 and MAY 2013. Investigators from CDC and Utah assessed the potential route of exposure for one patient in Utah who contracted ZIKV while caring for a fatal ZIKV case, who had a very high viral load (~100,000 greater than average). In an ahead of print EID article, the researchers concluded that the transmission mechanism remains unknown but was likely person-to-person contact. In an MMWR article published on 23 JUN, placental and fetal tissue specimens from 627 live births and fetal losses in the 50 U.S. states and D.C. with possible maternal ZIKV exposure were evaluated for potential ZIKV infection; findings indicate 78 (12%) were RT-PCR positive for ZIKV. Ten percent (n=38) of samples from live births with maternal serological evidence of recent unspecified Flavivirus infection and 10% (n=9) from live births with a negative maternal IgM but possible maternal exposure greater than 12 weeks prior to serum testing were positive for ZIKV. This finding supports the potential contribution the testing of placental and fetal tissue specimens could have on the diagnosis and treatment of ZIKV infection in mothers and their infants. An article published in the Lancet on 21 JUN characterizes the temporal and spatial clustering of the ZIKV outbreak and associated microcephaly cases in Brazil from JAN 2015 to NOV 2016 using surveillance data published by Brazil’s Ministry of Health, citing the occurrence of two distinct waves of ZIKV infection and an unexplained regional variance in the monthly peak incidence of infection-related microcephaly cases during each wave. In an article published in Clinical Infectious Diseases on 20 JUN, investigators found that there were no signs of antibody-dependent enhancement among patients in São Paulo, Brazil, with acute ZIKV infection who had prior dengue virus (DENV) exposure (n=35). In another ahead of print EID article, a cross-sectional survey of 183 patients in Roatán, Honduras, who presented with suspected DENV infection between SEP 2015 and JUL 2016 was conducted: RT-PCR results indicated 79 patients tested positive for ZIKV, 13 for chikungunya virus, and six for DENV, highlighting the low specificity of clinical diagnoses in the absence of laboratory diagnostics. In an early release MMWR article, researchers evaluated data from the U.S. Zika Pregnancy Registry and Puerto Rico Zika Active Pregnancy Surveillance System and found that among completed pregnancies with laboratory evidence of possible ZIKV infection in the U.S. territories (n=2,549), 5% resulted in ZIKV-associated birth defects, which equates to the percentage reported among completed pregnancies with evidence of possible ZIKV infection in U.S. States in 2016 reported in an MMWR article published on 7 APR.

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

Approved for Public Release
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

NIDIL
Naval Infectious Diseases
Diagnostic Laboratory

TAMC
Tripler Army Medical Center

USAFSAM
U.S. Air Force School of
Aerospace Medicine

USAMRIL
United States Army Medical
Research Institute of
Infectious Diseases

WAMC
Womack Army Medical Center

WBAMC
William Beaumont Army
Medical Center

WRNNMC
Walter Reed National Military
Medical Center

CDC Zika Triplex rRT-PCR
IgM ELISA

As of 16 AUG 2017

*Plaque-reduction neutralization test (PRNT)
### Western Hemisphere Countries and Territories with Autochthonous Transmission of Zika Virus: 1 JAN 2015 – 10 AUG 2017

<table>
<thead>
<tr>
<th>Country/Territory</th>
<th>Confirmed</th>
<th>Suspected</th>
<th>Microcephaly Cases*</th>
<th>Reporting GBS†</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anguilla</td>
<td>23</td>
<td>31</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Antigua &amp; Barbuda</td>
<td>14</td>
<td>465</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Argentina</td>
<td>138</td>
<td>869</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Aruba</td>
<td>703</td>
<td>1,208</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bahamas</td>
<td>25</td>
<td>440</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Barbados</td>
<td>150</td>
<td>715</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Belize</td>
<td>255</td>
<td>1,701</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bolivia</td>
<td>784</td>
<td>2,508</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Bonaire, Sint Eustatusis, Saba</td>
<td>437</td>
<td>235</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Brazil</td>
<td>135,740</td>
<td>218,931</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>British Virgin Islands</td>
<td>53</td>
<td>74</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cayman Islands</td>
<td>31</td>
<td>232</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Colombia</td>
<td>9,802</td>
<td>98,496</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Costa Rica</td>
<td>1,887</td>
<td>6,923</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Cuba</td>
<td>187</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Curaçao</td>
<td>2,049</td>
<td>4,476</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dominica</td>
<td>79</td>
<td>1,164</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dominican Republic</td>
<td>345</td>
<td>4,913</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Ecuador</td>
<td>2,214</td>
<td>3,842</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>El Salvador</td>
<td>51</td>
<td>11,610</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>French Guiana</td>
<td>483</td>
<td>10,500</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Grenada</td>
<td>118</td>
<td>335</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Guadeloupe</td>
<td>382</td>
<td>30,845</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Guatemala</td>
<td>983</td>
<td>3,741</td>
<td>Yes</td>
<td></td>
</tr>
</tbody>
</table>

* Reported 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.**

*For questions or comments, please contact: dha.ncr.health-srv.list.afhs-ib-alert-response@mail.mil*

Approved for Public Release

6