



Army Public Health Center
**Army Vector-borne
 Disease Report**

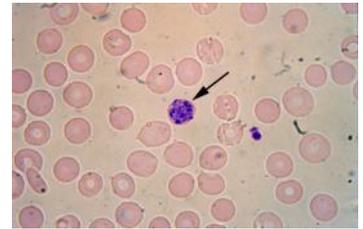
5 August 2016

Data are preliminary and subject to change

- **Zika Virus:** 1,657 travel-associated cases have been reported to the CDC in the United States; 33 confirmed and probable cases have been reported in Army beneficiaries.
- **Army-wide:** 3,168 mosquitoes were tested for Zika; none tested positive.

Malaria

- Malaria in humans is caused by five species of parasites: *Plasmodium falciparum*, *P. malariae*, *P. vivax*, *P. ovale*, and *P. knowlesi*. The parasite is transmitted to humans by infected female *Anopheles* mosquitoes.
- Symptoms of malaria include fever, headache, muscle aches, nausea, and malaise. *P. falciparum* infections can be severe and result in kidney failure, seizures, or death.
 - ⇒ Illness due to *P. malariae* and *P. ovale* may develop months or years after exposure.
- Nine cases of malaria have been diagnosed in military Service Members after their return from a recent deployment to Camp Casey, South Korea; all cases were *P. vivax*. Malaria is endemic to South Korea.
 - ⇒ Cases were treated with Malarone, chloroquine, or doxycycline, as well as terminal prophylaxis with primaquine.



Plasmodium malariae

Zika Virus (ZIKV) Update

- From January 1, 2015 through July 27, 2016, 1,657 ZIKV cases have been reported in the U.S., all travel-associated. Local ZIKV transmission has also been reported in Miami-Dade county with more information pending investigation by the CDC. 4,729 locally acquired and 21 travel-associated cases were reported in Puerto Rico, U.S. Virgin Islands, and American Samoa.
- To date, 33 confirmed and probable cases of ZIKV have been reported in Army beneficiaries: 26 AD and 7 non-AD cases.



DoD Army Laboratory Mosquito Surveillance

- PHC-Central tested 6,466 mosquitoes (*Culex*, *Aedes*, *Culiseta*, and *Ochlerotatus spp.*) from 529 pools for West Nile Virus. 298 of these mosquitoes from 97 pools were also tested for CHIKV and ZIKV; none were positive for any of these pathogens.
- PHC-Pacific (JBLM) tested 94 *Culex spp.* mosquitoes in 7 pools for WNV; 1,804 *Aedes spp.* mosquitoes in 83 pools for CHIKV, Dengue (DENV), and ZIKV; and 101 *Aedes spp.* mosquitoes in 25 pools for DENV alone; all mosquitoes were negative for these diseases.
- PHC-Atlantic tested 1,066 *Aedes* mosquito vector species for CHIKV, DENV, and ZIKV; and 5,956 *Culex spp.* mosquitoes for WNV. A pool of 17 *Culex spp.* mosquitoes collected from Walter Reed National Military Medical Center, MD tested positive for WNV.



DRSi Surveillance

- 64 cases of Lyme disease have been reported in Army AD beneficiaries in 2016, compared to 61 cases during the same time period in 2015.

Army Tick Testing

- Of 169 ticks tested for *B. burgdorferi* by the Human Tick Test Program, 25.4% were positive.

Human Tick Test Program	A. phagocytophilum	B. microti	B. burgdorferi	E. chaffeensis	E. ewingii	E. muris-like	R. parkeri	R. ricкетtsii	Panola mountain Ehrlichia
YTD No. Positive (YTD No. Tested)	4 (169)	4 (169)	43 (169)	19 (1425)	9 (1425)	0 (169)	1 (2)	0 (533)	14 (1425)

Note: CONUS data only.

*Data is YTD 2016

Lyme Disease Cases		
Population	Cum. 2016	Cum. 2015^
United States ^β	14,342	22,552
Army Cases [±] Confirmed and Probable		
Army AD [‡]	28	24
Army Non-AD [†]	36	37
Regional Case Distribution		
PHC-Atlantic	34	47
PHC-Central	14	4
PHC-Pacific	5	4
PHC-Europe	11	6
Other/Unknown	0	0

Sources: CDC and AIPH DRSI.

Note: Reporting location may differ from exposure location.

^β Provisional cases through 30 July.

[±] Cases reported through 30 July.

[‡] Active duty, recruits, cadets.

[†] Army-associated beneficiaries.

[^]Cumulative through 01 August 2015

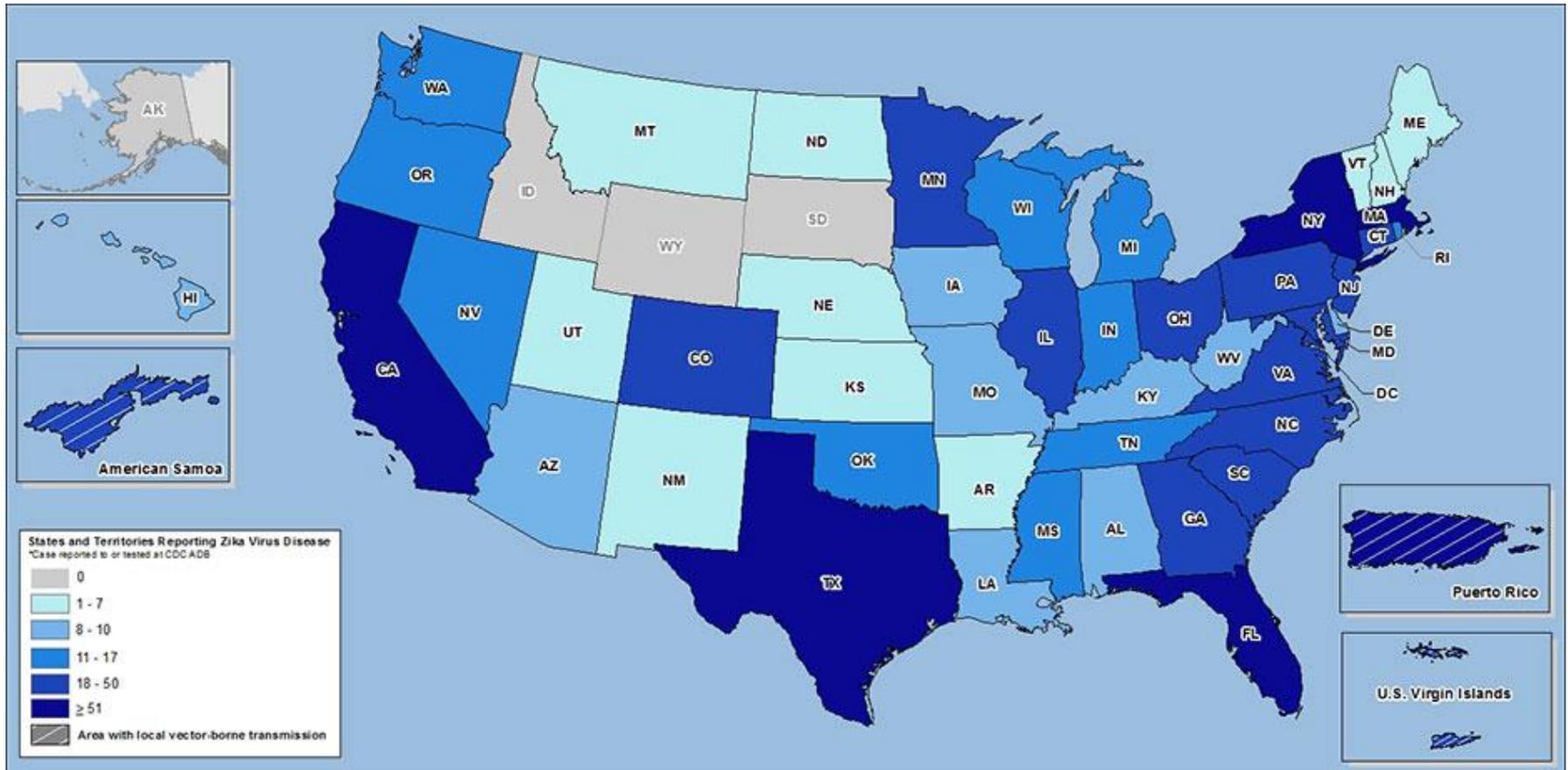
Resources: CDC Malaria • CDC Lyme Disease • APHC Zika Virus • Permethrin Treated Uniforms • Army Vector-borne Disease Reports • APHC

Key: CDC Centers for Disease Control and Prevention; DRSi Disease Reporting System Internet; AD Active Duty

Contact us: APHC Disease Epidemiology or 410-417-2377

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Zika virus disease in the United States, 2015-2016



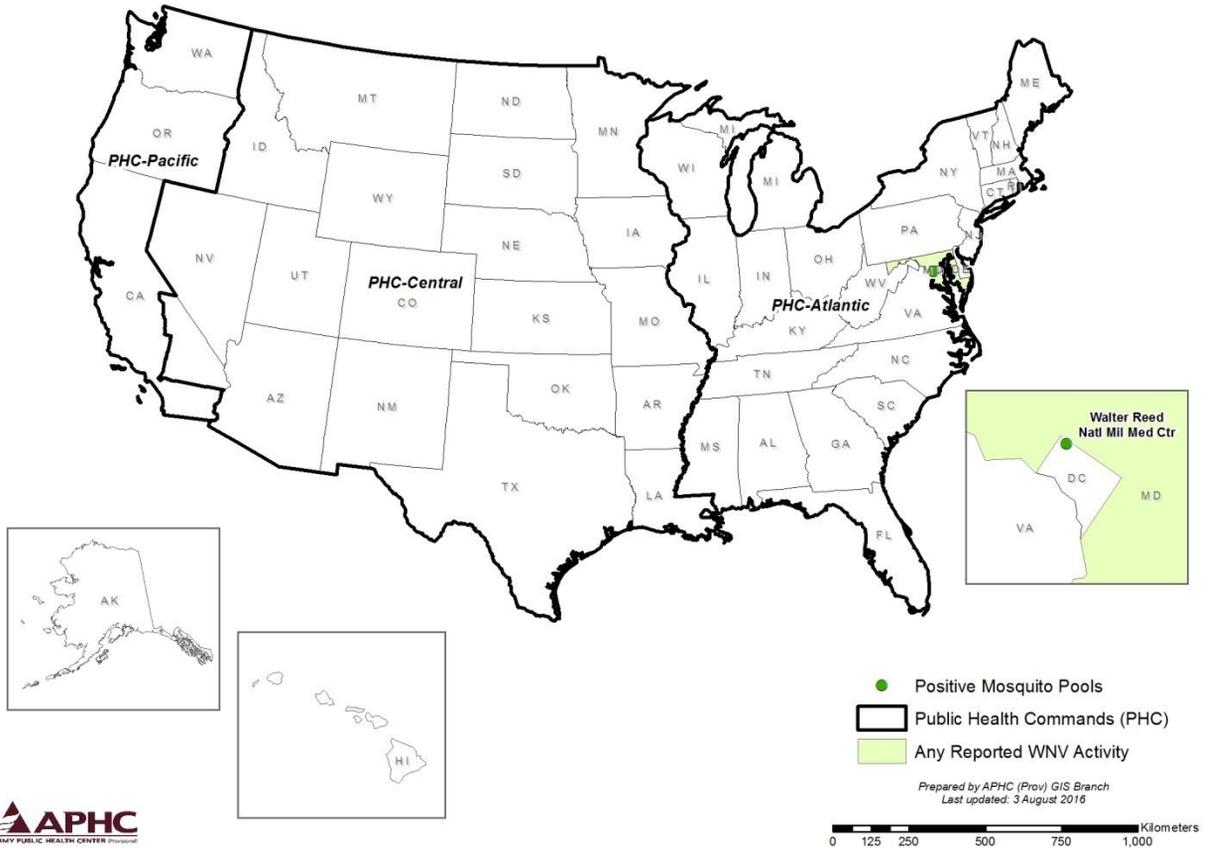
Provisional data reported to ArboNET for January 1, 2015 – July 27, 2016. *Data as of July 27, 2016.*

Source: Centers for Disease Control and Prevention (CDC) Arboviral Disease Branch. *Zika virus disease in the United States, 2015-2016.*

Available at: <http://www.cdc.gov/zika/geo/united-states.html>

West Nile Virus Activity, by State and Army Public Health Command (PHC), United States, 2016

As of July 29, 2016



Footnote: The map displays white areas that indicate no reported West Nile virus (WNV) activity. Light green areas represent any reported WNV activity* within a state and dark green circles represent WNV positive mosquito pools on military installations. If West Nile virus infection is reported from any area of a state, that entire state is shaded light green.

*Includes WNV Army human disease cases (probable and/or confirmed) and infections in mosquito pools on military installations.

Prepared by: Army Public Health Center (Provisional) Geographic Information Systems Branch.