



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

10 June 2016

Data are preliminary and subject to change

- **West Nile Virus:** Six neuroinvasive cases have been reported by the CDC in 2016. No confirmed or probable cases have been reported in Army AD Service Members and beneficiaries.
- **PHC-Central:** 69 mosquitoes were tested for chikungunya and Zika virus; none were positive for any of these pathogens.

West Nile Virus (WNV)

- West Nile Virus is common in the United States during the summer and early fall months. It is transmitted mainly by *Culex spp.* mosquitoes. Most people infected with WNV remain asymptomatic or experience mild symptoms (fever, headache, nausea, body aches, and vomiting). However, a small number of individuals may develop serious symptoms including high fever, disorientation, coma, convulsions, muscle weakness, vision loss, and paralysis. Although there is no vaccine for WNV, the disease can be prevented. For information about mosquito control around the home, click [here](#).

United States

- From the beginning of the year through 4 June 2016, six human WNV cases have been reported to the CDC. No fatal cases were reported. During the same time period in 2015, 16 cases were reported.
- All of the reported cases were classified as neuroinvasive (i.e., meningitis or encephalitis).

Cases in Army AD and Other Beneficiaries

- No confirmed or probable WNV cases have been reported in Army AD and beneficiaries in 2016.

Zika Virus (ZIKV) Update

- From January 1, 2015 through June 8, 2016, 691 ZIKV cases have been reported in the U.S., all travel-associated. 1,301 locally acquired and 4 travel-associated cases were reported in Puerto Rico, U.S. Virgin Islands, and American Samoa.
- To date, six confirmed cases of ZIKV have been reported in Army beneficiaries: 4 AD and 2 non-AD cases.

WNV Human Cases ^β		
Population	Cum. 2016	Cum. 2015 [^]
United States	6	16
Army Cases [±] Confirmed and Probable		
Army AD [‡]	0	0
Army Non-AD [‡]	0	0
WNV Human Deaths		
United States	0	0
Army	0	0

Sources: CDC 4 June, DRSI 4 June 2016
 Note: Reporting location may differ from exposure location.

^β Confirmed and probable neuroinvasive and non-neuroinvasive cases.

[±] Only cases whose case status is verified as confirmed/ probable.

[‡] Active duty, recruits, cadets.

[^] Cumulative through 6 June 2015.

DoD Army Laboratory Mosquito Surveillance

- PHC-Central tested 1835 mosquitoes (*Culex*, *Aedes*, and *Ochlerotatus spp.*) from 149 pools for WNV and 69 mosquitoes (*Aedes* and *Ochlerotatus spp.*) from 22 pools were tested for CHIKV and ZIKV; none were positive for any of these pathogens.
- PHC-Pacific tested 1190 *Aedes spp.* and 11 *Armigeres subulbatus* mosquitoes for chikungunya (CHIKV), dengue (DENV), and ZIKV, 321 *Culex spp.* mosquitoes for Japanese encephalitis (JEV), and 25 *Anopheles spp.* mosquitoes for malaria (*Plasmodium vivax*, *P. malariae*, *P. ovale*, and *P. falciparum*); all were negative.
- PHC-Atlantic tested 344 *Aedes spp.* mosquitoes for CHIKV and DENV (340 of which were also tested for ZIKV) and 184 *Culex spp.* mosquitoes for WNV; all were negative.

DRSi Surveillance

- 23 cases of Lyme disease have been reported in Army AD and beneficiaries in 2016, compared to 18 cases during the same time period in 2015.
 - Of the 23 cases, 13 (57%) were AD, three of whom reported duty-related exposure.

Army Tick Testing

- PHC-Atlantic tested 503 *Ixodes scapularis* ticks for *Borrelia burgdorferi*, the pathogen that causes Lyme disease, and *B. miyamotoi*, which produces symptoms typical of tick-borne relapsing fever. 37 ticks tested positive for *B. burgdorferi* and 10 tested positive for *B. miyamotoi*. The positive ticks were collected from Fort Drum, NY, Blossom Point, MD, Fort Knox, KY, and Adelphi Laboratories, MD.
- PHC-Central collected 32 *I. scapularis* ticks from Camp Bullis, TX and Ft. Hood, TX. Test results are pending.
- Of 104 *Ixodes* ticks tested by the Human Tick Test Program, 28% (n=29) were positive for the Lyme disease pathogen *B. burgdorferi*.

Lyme Disease Cases		
Population	Cum. 2016	Cum. 2015 [^]
United States ^β	5,275	6,208
Army Cases [±] Confirmed and Probable		
Army AD [‡]	13	6
Army Non-AD [‡]	10	12
Regional Case Distribution		
PHC-Atlantic	9	14
PHC-Central	10	0
PHC-Pacific	2	3
PHC-Europe	2	1
Other/Unknown	0	0

Sources: CDC and AIPH DRSI.

Note: Reporting location may differ from exposure location.

^β Provisional cases through 4 June.

[±] Cases reported through 4 June.

[‡] Active duty, recruits, cadets.

[†] Army-associated beneficiaries.

[^] Cumulative through 6 June 2015

Human Tick Test Program	A. phagocytophilum	B. microti	B. burgdorferi	E. chaffeensis	E. ewingii	E. muris-like	R. parkeri	R. rickettsii
YTD No. Positive (YTD No. Tested)	3 (104)	0 (104)	29 (104)	4 (259)	4 (259)	0 (104)	0 (0)	0 (72)

Note: CONUS data only.

Resources: CDC West Nile Virus • 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

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