West Nile Virus
United States
• From the beginning of the year through 7 July 2015, ten human WNV cases have been reported to the CDC. No fatal cases were reported.
• Two of the 10 cases were classified as neuroinvasive (i.e., meningoencephalitis); the remaining 8 were non-neuroinvasive.
• As of 7 July, 23 states report WNV activity of some type (infections in humans, birds, or mosquitoes).
• States reporting human WNV cases are: Arizona, Delaware, Kansas, New Mexico, Oklahoma, South Dakota and Texas.

Cases in Army AD and Other Beneficiaries
• No confirmed or probable WNV cases have been reported in Army AD and beneficiaries in 2015.

DoD Mosquito Surveillance from Army Laboratories
• PHCR-North and South report no West Nile Virus positive mosquito pools.
• PHCR-West reported one WNV positive pool of Culex tarsalis mosquitoes from Fort Bliss, Texas.
• Four public health regional commands are able to test for chikungunya virus and WNV in mosquito pools.
• PHCR-South tested pools of Aedes albopictus for chikungunya virus and WNV. All mosquito pools tested negative for both viruses.

DRSi Surveillance
• 28 cases of Lyme disease have been reported in Army AD and beneficiaries compared to 45 cases during the same time period in 2014.
• Of the 28 cases, 9 (32%) were AD, one of whom reported duty-related exposure.

Army Tick Testing
• PHCR-North tested 576 Ixodes scapularis ticks for Borrelia burgdorferi, the pathogen that causes Lyme disease, and B. miyamotoi, which produces symptoms typical of tick-borne relapsing fever. 83 ticks tested positive for B. burgdorferi and 6 tested positive for B. miyamotoi. The positive ticks were collected from Fort A.P. Hill, VA, USMA West Point, NY, and Fort Drum, NY.
• As of 7 July, PHCR-West tested 84 I. pacificus ticks for B. burgdorferi, all pathogens tested negative.
• Of 170 Ixodes ticks tested by the Human Tick Test Program, 44% (n=75) were positive for the Lyme disease pathogen B. burgdorferi.

Human Tick Test Program

<table>
<thead>
<tr>
<th>Human Tick Test Program</th>
<th>Phagocytosis</th>
<th>Microtii</th>
<th>Burgdorferi</th>
<th>Chaffeensis</th>
<th>Ewingii</th>
<th>Muricata-like</th>
<th>Parkeri</th>
<th>Rickettsii</th>
</tr>
</thead>
<tbody>
<tr>
<td>YTD No. Positive (YTD No. Tested)</td>
<td>10 (170)</td>
<td>2 (170)</td>
<td>57 (170)</td>
<td>7 (584)</td>
<td>7 (712)</td>
<td>0 (170)</td>
<td>0 (0)</td>
<td>0 (132)</td>
</tr>
</tbody>
</table>

Note: CONUS data only.

Recent study published in the Journal of Clinical Microbiology provides evidence that lone star ticks (Amblyomma americanum) are highly unlikely to transmit the pathogen that causes Lyme disease. You can read the article here.

Lyme Disease Cases

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>United States</td>
<td>331</td>
<td>7,068</td>
<td>8,843</td>
</tr>
<tr>
<td>Army AD†</td>
<td>2</td>
<td>9</td>
<td>16</td>
</tr>
<tr>
<td>Army Non-AD†</td>
<td>4</td>
<td>19</td>
<td>29</td>
</tr>
</tbody>
</table>

Regional Case Distribution

<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>PHCR-Europe</td>
<td>1</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>PHCR-North</td>
<td>2</td>
<td>14</td>
<td>26</td>
</tr>
<tr>
<td>PHCR-Pacif</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>PHCR-South</td>
<td>0</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>PHCR-West</td>
<td>2</td>
<td>3</td>
<td>7</td>
</tr>
<tr>
<td>Other/Unknown</td>
<td>1</td>
<td>6</td>
<td>3</td>
</tr>
</tbody>
</table>

Sources: CDC and DRSI.
Note: Reporting location may differ from exposure location.
† Active duty, recruits, cadets.
† Army-associated beneficiaries.

Resources: CDC WNV • CDC Tickborne Diseases • Human Tick Test Program • USAPHC WNV Fact Sheet • Army Vector-borne Disease Reports • USAPHC
Key: CDC Centers for Disease Control and Prevention; DRSI Disease Reporting System Internet; Mosquito pool 1 to 50 mosquitoes; AD Active Duty
Contact us: USAPHC Disease Epidemiology or 410-417-2377

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West Nile Virus Activity by State – United States, 2015
(as of July 7, 2015)

*WNV human disease cases or presumptive viremic blood donors. Presumptive viremic blood donors have a positive screening test which has not necessarily been confirmed.

†WNV veterinary disease cases, or infections in mosquitoes, birds, or sentinel animals.

Data table:
WNV infections in mosquitoes, birds, sentinel animals, or veterinary animals have been reported to CDC ArboNET from the following states: California, Florida, Idaho, Illinois, Indiana, Michigan, Mississippi, Missouri, Nebraska, Nevada, New York, Ohio, Oklahoma, Pennsylvania, South Dakota, Texas, Utah, Washington, and Wisconsin.

West Nile virus infections in humans have been reported to CDC ArboNET from the following states: Arizona, Delaware, Kansas, New Mexico, Oklahoma, South Dakota, and Texas.

West Nile Virus Activity, by State and Army Public Health Command Region (PHCR), United States, 2015

As of July 7, 2015

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.