

# Army Vector-borne Disease Report

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23 August 2012

Data is preliminary and subject to change

**West Nile Virus:** Nationally, the 693 WNV infections are the highest since 1999; Army reports 3 cases including one death.

- **WNV mosquito trends:** In 2012, Public Health Command Region (PHCR)-North, PHCR-South, and PHCR-West report positive mosquito pools.
- **Tick-borne diseases:** In 2012, the majority of Army Lyme disease case reports are for dependents in PHCR-Europe and PHCR-North; only 4 confirmed cases of Rocky Mountain Spotted Fever among Army personnel have been reported.

## West Nile Virus

### United States

- 693 human cases have been reported; 406 (59%) were neuroinvasive (i.e., meningitis or encephalitis).
- 43 states have reported West Nile virus (WNV) infection in humans, birds, or mosquitoes.
- 32 states reported human cases of neuroinvasive disease.
- Over 80 percent of the cases have been reported from six states (Texas, Mississippi, Louisiana, Oklahoma, South Dakota, and California) and almost half of all cases have been reported from Texas.

### Cases in Army Personnel

- 3 confirmed/probable cases have been reported from Joint Base San Antonio-Fort Sam Houston (JBSA-FSH); all cases were diagnosed within the last two months.
  - One Army Active duty case was not hospitalized, reported travel and mosquito bites in the Midwest.
  - Two WNV infections in Army retirees, both hospitalized, one discharged and the other died; fatal case was over 70 years old with multiple comorbid conditions.

### DoD Mosquito Surveillance from Army Laboratories

- PHCR-North reports 38 positive pools from 5 locations (Bolling AFB, Marine Barracks, Walter Reed NMMC, Armed Forces Retirement Home, Walter Reed-Forest Glen); PHCR-South reports 33 positive pools (all from JBSA-FSH); PHCR-West reports 4 positive pools from 2 locations (Meter Range and McGregor Range, Fort Bliss).
- JBSA-FSH: 13 pools of mosquitoes and a bird tested positive on 15 August, indicating increased geographic WNV spread on JBSA-FSH.

### Prevention and Control Activities

- JBSA-FSH has increased mosquito sampling frequency to once per week, provided educational and risk communication materials to personnel, coordinated with Fort Hood and Randolph AFB to encourage increased frequency of mosquito sampling, and are initiating fogging with adulticide in addition to ongoing larvicide application

### 2012 WNV Human Cases

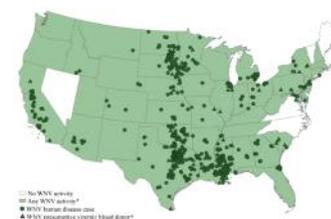
693	United States
Army (Confirmed/Probable)	
1	Army Active Duty†
2	Other Army Beneficiaries
2012 WNV Human Deaths	
26	United States
1	Army Retiree

Note: Reporting location may differ from exposure location.

Source: CDC, AIPH DRIS, and official communication.

‡ Includes recruits and cadets.

West Nile virus (WNV) activity reported to ArboNET, by state, United States, 2012 (as of August 14, 2012)



## Lyme Disease

- 49% (n=40) of all confirmed Lyme disease case reports in 2012 occurred in Army Dependents, followed by 38% among Army AD personnel.
- From 1 Jan– 20 Aug 2012, ERMC reported the largest proportion of Army Lyme disease cases, reporting 56% of AD and 46% of non-AD cases.
- 29% (50/173 of samples) of potential Lyme disease tick vectors removed from DoD personnel from May-July were positive for *Borrelia burgdorferi*.
- The majority of ticks submitted to the DoD human tick test program were from Northern and Eastern states; NY, NJ, ME, MA, and MN had positive results in July.

### 2012 Lyme Disease Cases

14,442	United States
Army Cases†	
32	Army Active Duty‡
52	Other Army Beneficiaries
Regional Distribution	
42	PHCR-Europe
25	PHCR-North
8	PHCR-South
9	Other/Unknown

Note: Reporting location may differ from exposure location.

Source: CDC and AIPH DRIS.

† Confirmed cases only.

‡ Includes recruits and cadets.

## Rickettsial Diseases (Spotted Fever Group)

- Low numbers of RMSF cases among Army beneficiaries have been reported in 2012.
- All samples (n=301) of potential RMSF disease tick vectors removed from DoD personnel from May-July tested negative for *Rickettsia rickettsii*, the causative agent of RMSF.
- Clinically, early stages of RMSF may be confused with ehrlichiosis.
- RMSF occurrence in the U.S. peaks from April-September in Southern and Central states.
- Humans can contract *R. rickettsii* if a tick attaches/feeds for at least 4-6 hours or if breaks in skin or mucous membranes are contaminated with crushed ticks or their feces.

### 2012 RMSF Cases†

106	United States
Army Cases	
3	Army Active Duty‡
1	Army Beneficiaries
Regional Distribution	
0	PHCR-Europe
2	PHCR-North
2	PHCR-South
0	Other/Unknown

Note: Reporting location may differ from exposure location. CDC data is for Spotted Fever Rickettsiosis (including RMSF).

Source: CDC and AIPH DRIS.

† Confirmed cases only.

‡ Includes recruits and cadets.

**Additional Resources:** CDC West Nile Virus • CDC US Tickborne Diseases • Human Tick Test Program • USAPHC WNV Fact Sheet

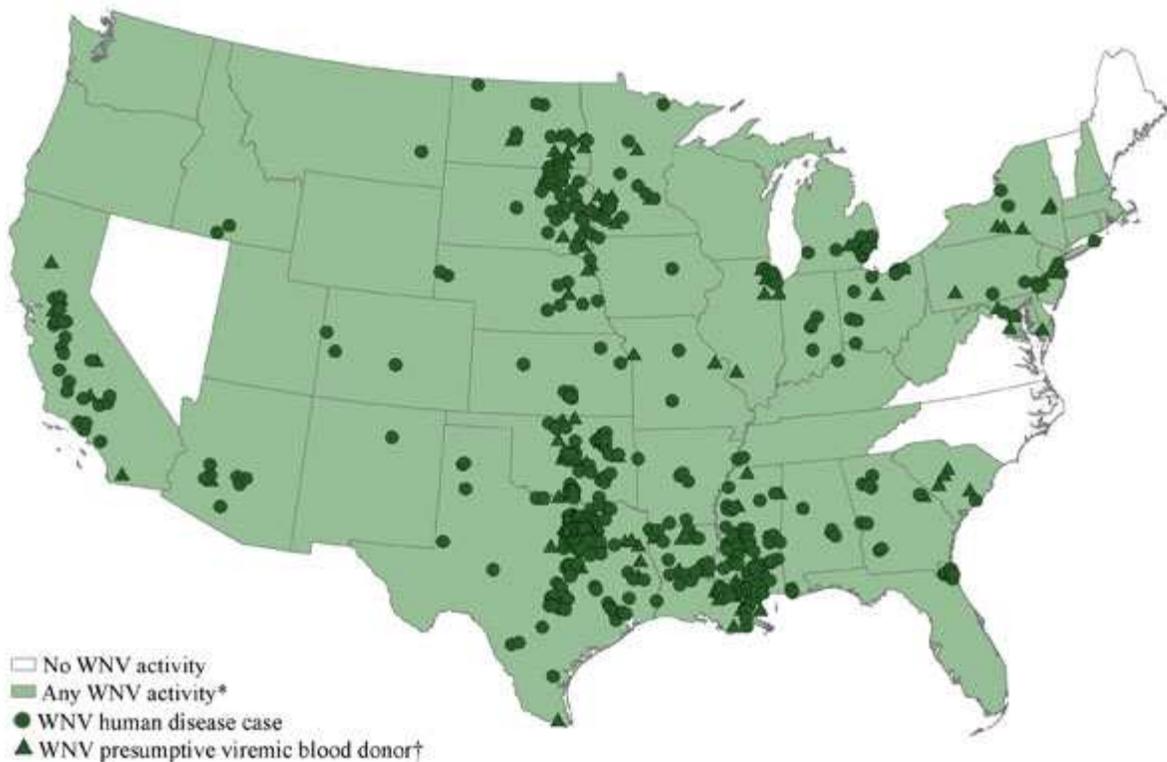
**Key:** CDC-Centers for Disease Control and Prevention; DRIS-Disease Reporting System Internet; RMSF-Rocky Mountain Spotted Fever; Mosquito pool-1 to 50 mosquitoes; MIR-Minimum Infection Rate = (no. of positive pools/no. of mosquitoes tested) x 1000

Contact us at: [USAPHC Disease Epidemiology](http://USAPHC.Disease.Epidemiology) or 410-417-2377

## Questions?

<http://phc.amedd.army.mil>

## West Nile virus (WNV) activity reported to ArboNET, by state, United States, 2012 (as of August 14, 2012)



Footnote: The map displays white areas that represent no WNV activity reported, light green areas that represent any WNV activity\* , dark green circles that represent disease cases, and dark green triangles that represent presumptive viremic blood donors.

\* Includes WNV human disease cases, presumptive viremic blood donors, veterinary disease cases and infections in mosquitoes, birds, and sentinel animals.

† Presumptive viremic blood donors have a positive screening test which has not necessarily been confirmed.

Map shows the distribution of WNV activity\* (shaded in light green), human infections (dark green circles), and presumptive viremic blood donors (dark green triangles) occurring during 2012 by state. If West Nile virus infection is reported from any area of a state, that entire state is shaded.

Source: <http://www.cdc.gov/ncidod/dvbid/westnile/Mapsactivity/surv&control12MapsAnybyState.htm>