

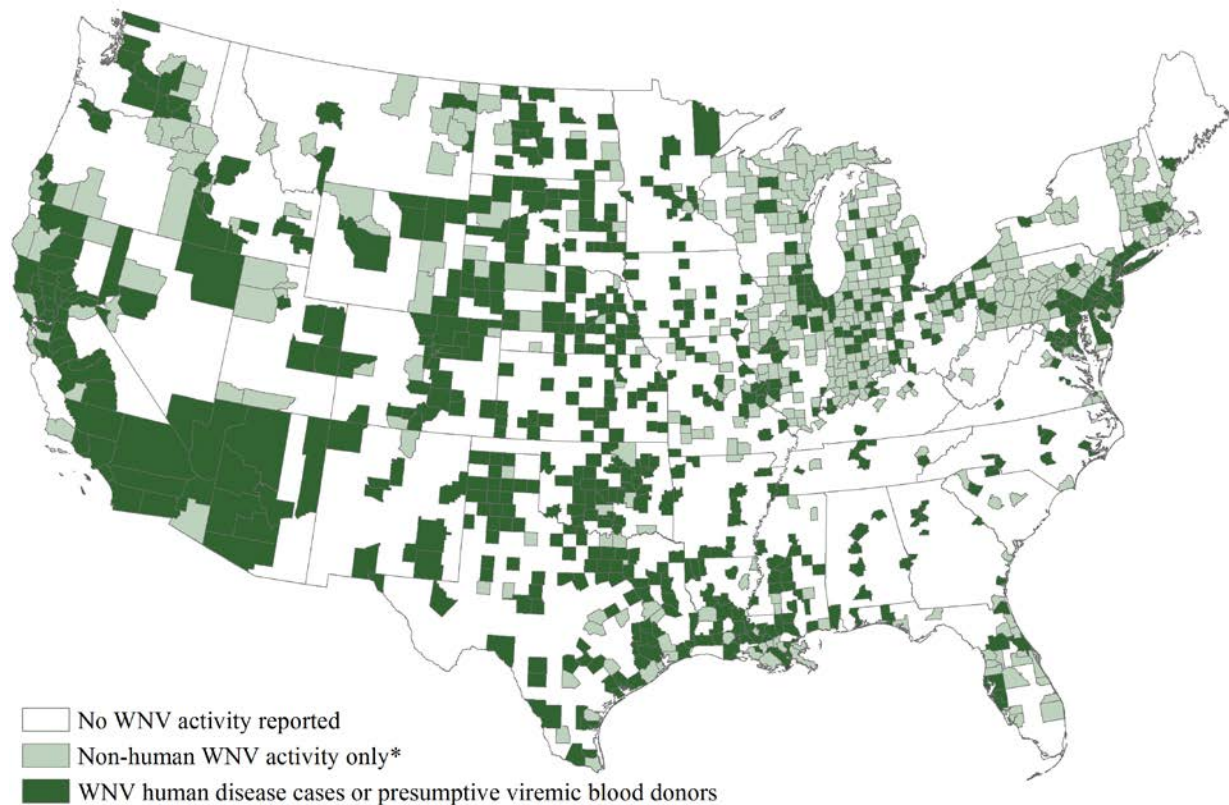
West Nile virus and other arboviral activity -- United States, 2015 Final data reported to ArboNET

These are final 2015 data reported to ArboNET for nationally notifiable arboviruses other than dengue and chikungunya viruses. Additional resources for ArboNET and arboviral diseases are provided on page 10.

West Nile virus (WNV) activity in 2015

In 2015, 1,117 counties in 48 states and the District of Columbia reported WNV activity to ArboNET; 636 counties in 44 states and the District of Columbia reported WNV human infections (i.e., disease cases or viremic blood donors) [Figure 1].

Figure 1. West Nile virus (WNV) activity reported to ArboNET, by county — United States, 2015



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

WNV human infections reported for 2015

Reported WNV disease cases

In 2015, a total of 2,175 human cases of WNV disease were reported from 561 counties in 43 states and the District of Columbia [Figure 2]. Of all WNV disease cases reported, 1,455 (67%) were classified as neuroinvasive disease (e.g., meningitis, encephalitis, acute flaccid paralysis) and 720 (33%) were classified as non-neuroinvasive disease [Table 1]. Eighty three percent of the reported cases had onset of illness in July-September [Figure 3].

Presumptive viremic donors (PVDs)

In 2015, a total of 345 WNV presumptive viremic blood donors were reported from 39 states [Table 1]. Of these, 40 (12%) developed clinical illness and are also included as disease cases.

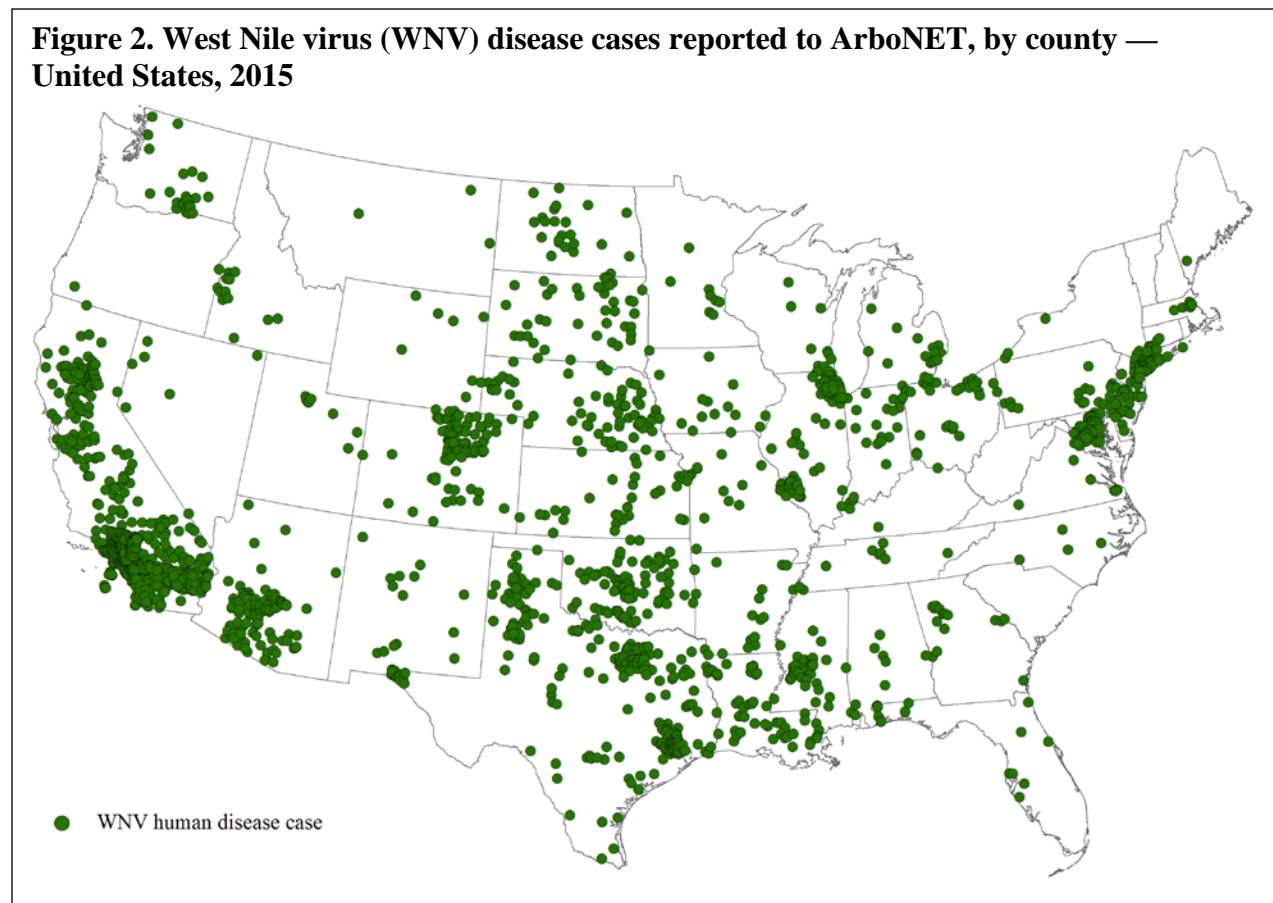


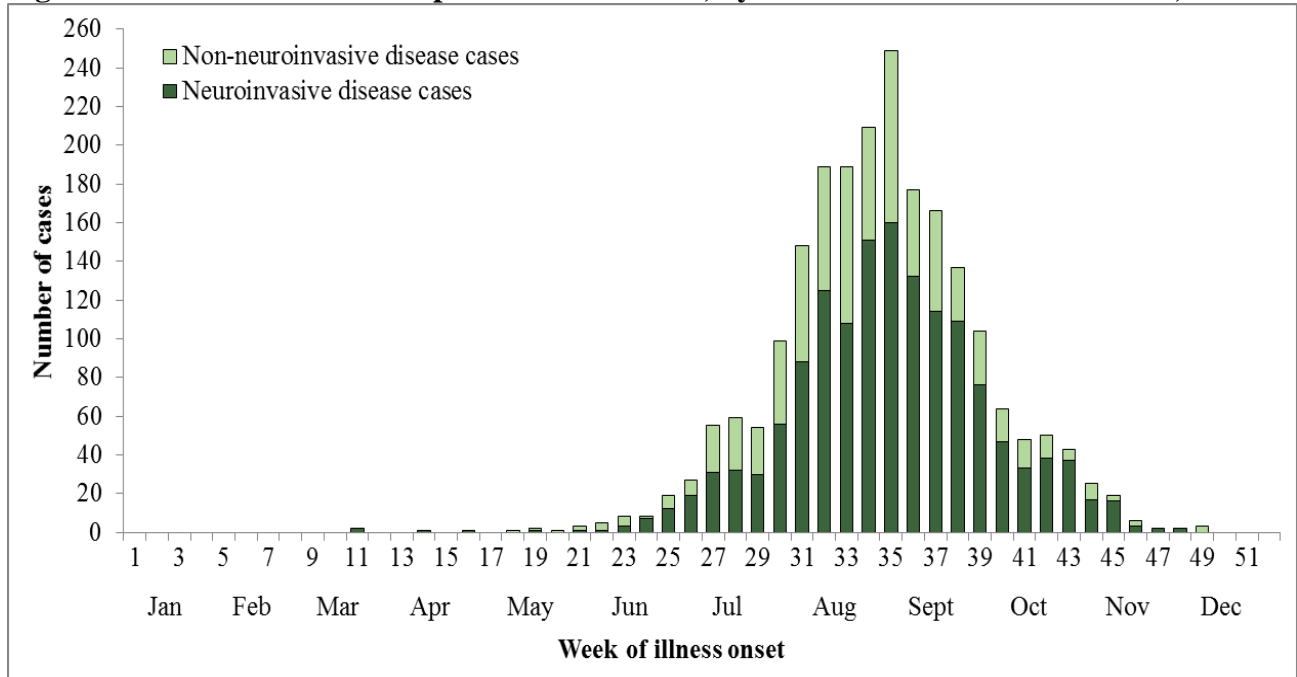
Table 1. West Nile virus infections in humans reported to ArboNET, 2015

State	Human disease cases reported to CDC*			Deaths	Presumptive viremic blood donors
	Neuroinvasive	Non-neuroinvasive	Total		
Alabama	5	4	9	0	1
Arizona	67	36	103	7	17
Arkansas	16	2	18	2	0
California	585	198	783	53	77
Colorado	57	44	101	3	8
Connecticut	8	2	10	0	0
Delaware	0	6	6	0	4
District of Columbia	3	2	5	0	0
Florida	12	1	13	2	2
Georgia	13	2	15	0	2
Idaho	5	8	13	0	6
Illinois	51	26	77	9	1
Indiana	16	5	21	3	11
Iowa	4	10	14	0	5
Kansas	12	22	34	2	17
Kentucky	1	1	2	1	3
Louisiana	41	10	51	5	21
Maine	1	0	1	0	0
Maryland	31	14	45	5	9
Massachusetts	7	3	10	2	2
Michigan	16	2	18	2	3
Minnesota	3	6	9	0	7
Mississippi	25	13	38	1	3
Missouri	23	6	29	4	16
Montana	3	0	3	0	1
Nebraska	19	49	68	2	25
Nevada	4	3	7	0	6
New Jersey	23	3	26	3	0
New Mexico	12	2	14	1	3
New York	42	15	57	5	2
North Carolina	4	0	4	1	2
North Dakota	10	13	23	1	2
Ohio	23	12	35	2	10
Oklahoma	49	40	89	9	18
Oregon	0	1	1	0	6
Pennsylvania	17	13	30	1	2
South Carolina	0	0	0	0	2
South Dakota	11	29	40	0	2
Tennessee	5	3	8	0	4
Texas	196	79	275	16	29
Utah	5	3	8	0	2
Virginia	13	8	21	2	3
Washington	8	16	24	1	10
Wisconsin	6	3	9	1	1
Wyoming	3	5	8	0	0
Totals	1,455	720	2,175	146	345

*Includes confirmed and probable cases



Figure 3. WNV disease cases reported to ArboNET, by week of onset — United States, 2015



Eastern equine encephalitis virus (EEEV) activity in 2015

In 2015, a total of five counties in four states reported human cases of EEEV disease to ArboNET [Figure 4 and Table 2]. Eighty-six additional counties in 17 states reported EEEV activity in non-human species only.

Figure 4. Eastern equine encephalitis virus (EEEV) activity reported to ArboNET, by county — United States, 2015

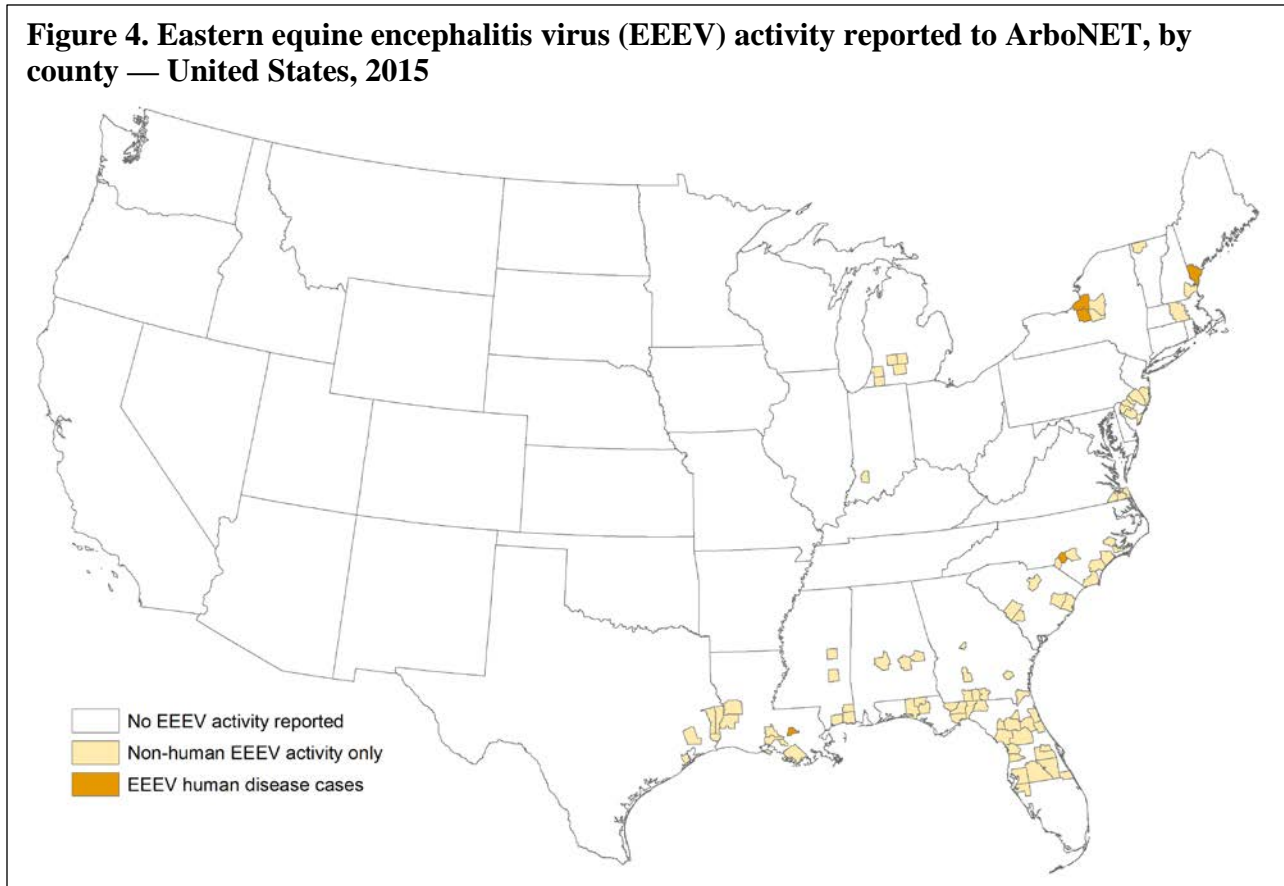


Table 2. Eastern equine encephalitis virus human disease cases reported to ArboNET, United States, 2015

	Neuroinvasive disease cases	Nonneuroinvasive disease cases	Total cases*	Deaths
Louisiana	1	0	1	0
Maine	1	0	1	1
New York	3	0	3	2
North Carolina	1	0	1	1
Totals	6	0	6	4

*Includes confirmed and probable cases.

Jamestown Canyon virus (JCV) activity in 2015

In 2015, a total of 10 counties in seven states reported human cases of JCV disease to ArboNET [Figure 5 and Table 3]. Twelve additional counties in two states reported JCV activity in non-human species only.

Figure 5. Jamestown Canyon virus (JCV) activity reported to ArboNET, by county — United States, 2015

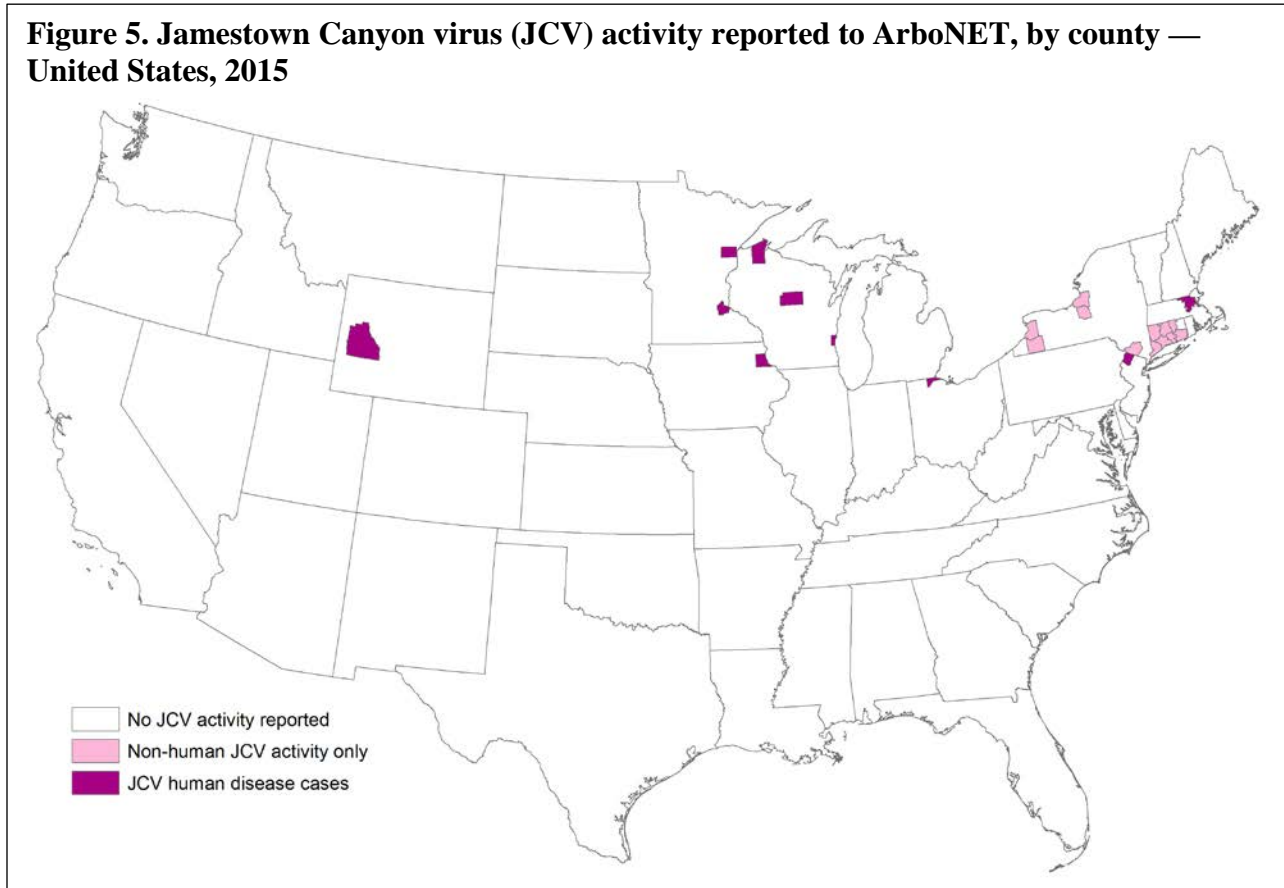


Table 3. Jamestown Canyon virus human disease cases reported to ArboNET, United States, 2015

	Neuroinvasive disease cases	Nonneuroinvasive disease cases	Total cases*	Deaths
Iowa	0	1	1	0
Massachusetts	1	0	1	0
Minnesota	1	1	2	0
New Jersey	1	0	1	0
Ohio	1	0	1	0
Wisconsin	2	2	4	0
Wyoming	0	1	1	0
Totals	6	5	11	0

*Includes confirmed and probable cases.

La Crosse encephalitis virus (LACV) activity in 2015

In 2015, a total of 39 counties in 10 states reported human cases of LACV disease to ArboNET [Figure 6 and Table 4]. One additional county in Connecticut reported LACV activity in non-human species only.

Figure 6. La Crosse encephalitis virus (LACV) activity reported to ArboNET, by county — United States, 2015

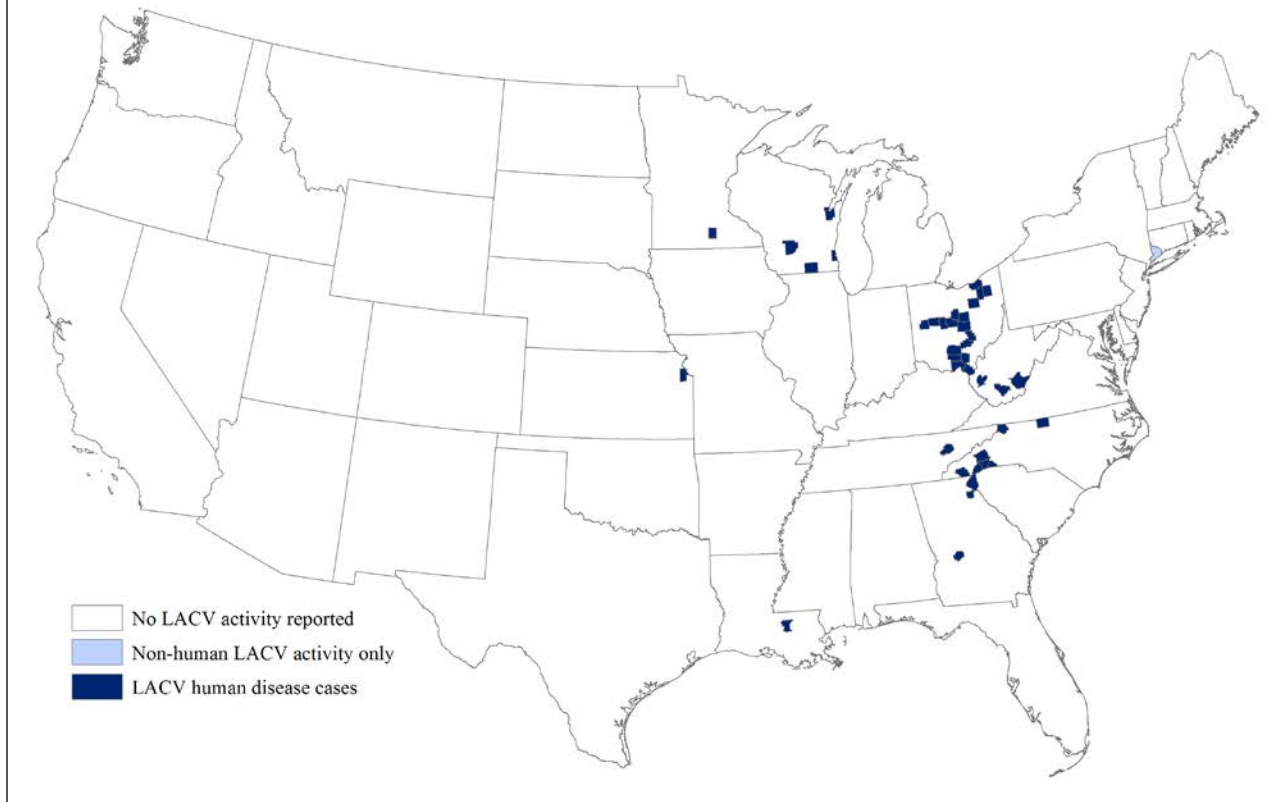


Table 4. La Crosse encephalitis virus human disease cases reported to ArboNET, United States, 2015

	Neuroinvasive disease cases	Nonneuroinvasive disease cases	Total cases*	Deaths
Georgia	2	0	2	0
Kansas	1	0	1	0
Louisiana	1	0	1	0
Minnesota	0	1	1	0
North Carolina	11	0	11	0
Ohio	23	1	24	0
South Carolina	1	0	1	0
Tennessee	3	1	4	0
West Virginia	3	1	4	0
Wisconsin	6	0	6	0
Totals	51	4	55	0

*Includes confirmed and probable cases.

Powassan virus (POWV) activity in 2015

In 2015, a total of seven counties in five states reported human cases of POWV disease to ArboNET [Figure 7 and Table 5].

Figure 7. Powassan virus (POWV) activity reported to ArboNET, by county — United States, 2015

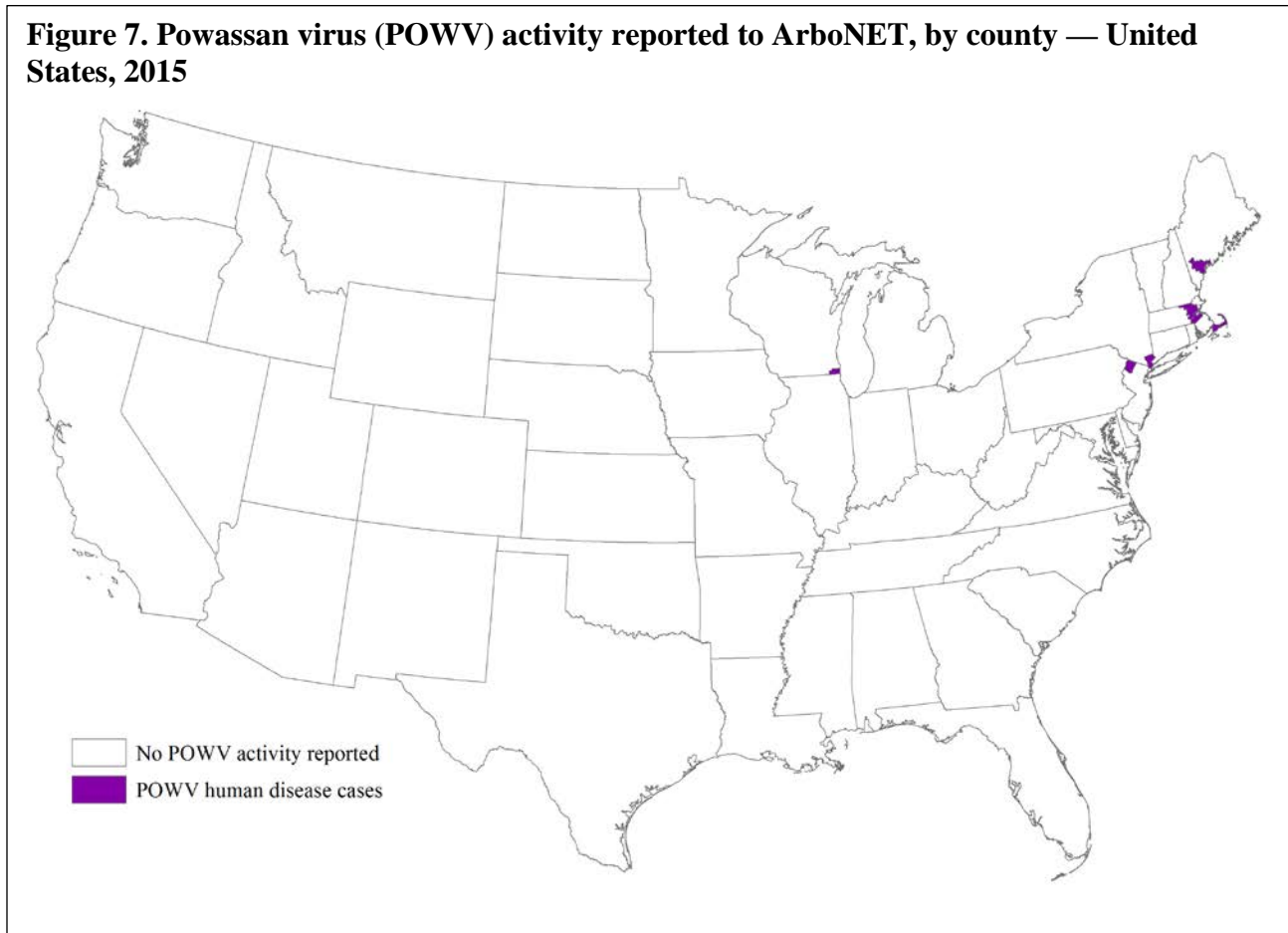


Table 5. Powassan virus human disease cases reported to ArboNET, United States, 2015

	Neuroinvasive disease cases	Nonneuroinvasive disease cases	Total cases*	Deaths
Maine	1	0	1	0
Massachusetts	3	0	3	1
New Jersey	1	0	1	0
New York	0	1	1	0
Wisconsin	1	0	1	0
Totals	6	1	7	1

*Includes confirmed and probable cases.

St. Louis encephalitis virus (SLEV) activity in 2015

In 2015, a total of two counties in Arizona reported human cases of SLEV disease to ArboNET [Figure 8 and Table 6]. Nineteen additional counties in eight states reported SLEV activity in non-human species only.

Figure 8. St. Louis encephalitis virus (SLEV) activity reported to ArboNET, by county — United States, 2015



Table 6. St. Louis encephalitis virus human disease cases reported to ArboNET, United States, 2015

	Neuroinvasive disease cases	Nonneuroinvasive disease cases	Total cases*	Deaths
Arizona	19	4	23	2
Totals	19	4	23	2

*Includes confirmed and probable cases.



About ArboNET

ArboNET is a national arboviral surveillance system managed by CDC and state health departments. In addition to human disease, ArboNET maintains data on arboviral infections among presumptive viremic blood donors (PVDs), veterinary disease cases, mosquitoes, dead birds, and sentinel animals. As with other national surveillance data, ArboNET data has several limitations that should be considered in analysis, interpretation, and reporting [Box].

Box: Limitations of ArboNET data

The following should be considered in the analysis, interpretation, and reporting of ArboNET data:

1. ArboNET is a passive surveillance system. It is dependent on clinicians considering the diagnosis of an arboviral disease and obtaining the appropriate diagnostic test, and reporting of laboratory-confirmed cases to public health authorities. Diagnosis and reporting are incomplete, and the incidence of arboviral diseases is underestimated.
2. Reported neuroinvasive disease cases are considered the most accurate indicator of arboviral activity in humans because of the substantial associated morbidity. In contrast, reported cases of nonneuroinvasive arboviral disease are more likely to be affected by disease awareness and healthcare-seeking behavior in different communities and by the availability and specificity of laboratory tests performed. Surveillance data for nonneuroinvasive disease should be interpreted with caution and generally should not be used to make comparisons between geographic areas or over time.

Additional resources

For additional arboviral disease information and data, please visit the following websites:

- CDC's Division of Vector-Borne Diseases:
<http://www.cdc.gov/ncezid/dvbd/>
- National Notifiable Diseases Surveillance System:
<http://wwwn.cdc.gov/nndss/conditions/arboviral-diseases-neuroinvasive-and-non-neuroinvasive/case-definition/2015/>
- U.S. Geological Survey (USGS):
<http://diseasemaps.usgs.gov/> or <http://diseasemaps.usgs.gov/mapviewer/>
- AABB (American Association of Blood Banks):
www.aabb.org/programs/biovigilance/Pages/wnv.aspx