

Report Highlight:

- **West Nile virus (WNV)** has been detected in 89 mosquito pools so far this week and to date, 555 pools have tested positive for WNV. WNV activity in mosquitoes is above 5-year averages.
- To date, there has been one confirmed WNV fatality reported in Camden County, 4 probable cases of WNV (Union, Essex, Gloucester, Bergen) awaiting confirmatory testing at CDC, and 1 asymptomatic viremic blood donor reported in Burlington County.
- Thirteen pools have tested positive for EEE in southern N.J., which is higher than the same period in 2020, but is consistent with 5-year averages. There have been no EEE human cases and 1 EEE horse reported in 2021.
- One additional Jamestown Canyon Virus mosquito pool was detected in Camden County in week 33, for a total of 2 cases this year.

1. Human Testing

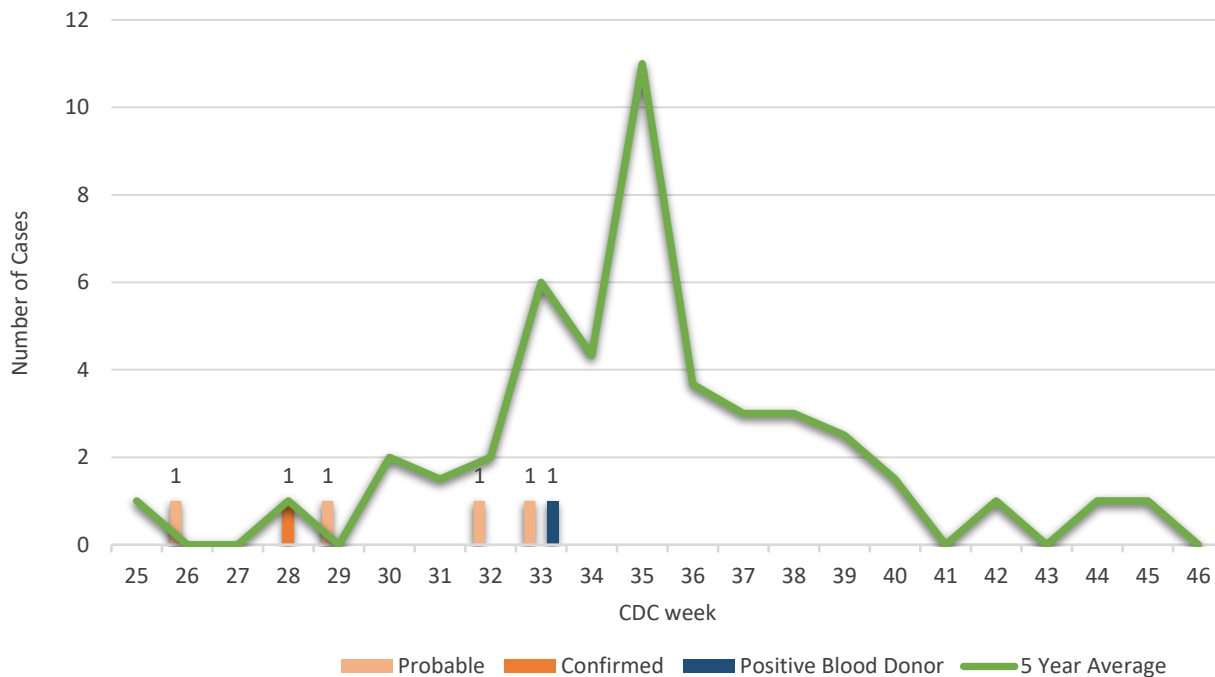
New Jersey Administrative Code (NJAC.) Title 8 Chapter 57 mandates public health reporting of specified vector-borne diseases to prevent further disease spread.

Table 1.1 Human Cases^a

Mosquito-borne diseases			Tickborne Diseases		
	2021 ^b	2020		2021 ^b	2020
Chikungunya	-	3	Anaplasmosis	106	115
Dengue	1	2	Babesiosis	131	238
Eastern equine encephalitis	-	-	<i>Borrelia miyamotoi</i>	7	9
Jamestown Canyon	1	-	Ehrlichiosis	33	78
Malaria	30	24	Lyme disease	1633	2572
West Nile	5	3	Powassan	-	1
Zika	-	3	Spotted fever group rickettsioses	15	35

^a Data for 2021 reflect confirmed and probable cases that have been reviewed/approved by the NJDOH. This does not include cases under investigation. All 2021 numbers are preliminary and are subject to change. ^b Cumulative through Week 34: August 22-28, 2021

West Nile Virus Cases by Week of Illness Onset, 2021



*Positive blood donor based on specimen collection date

2. Mosquito Testing

The New Jersey Department of Health Public Health and Environmental Laboratories (PHEL) and the Cape May County Department of Mosquito Control Bio-safety Level 3 Laboratory (CMBSL3) perform arboviral testing on mosquito pools collected by county mosquito control agencies throughout New Jersey.

West Nile virus (WNV):

- A total of 5644 mosquito pools have been tested for WNV.
- 555 pools were positive for WNV this year.
- The positive pools were detected in *Culex pipiens/restuans/salinarius* species mix (523), *Aedes trivittatus* (1), *Ae. triseriatus* (2), *Ae. albopictus* (17), *Ae. japonicus* (3), *Ae. vexans* (1), *Anopheles bradleyi* (1), *An. quadrimaculatus s.l.* (1), *Coquillettidia perturbans* (2), and *Culiseta melanura* (4).
- The first WNV positive pool was detected in Week 23 from Somerset County. In 2020, the first WNV positive mosquito pool was identified in Week 27 from Mercer and Monmouth counties.

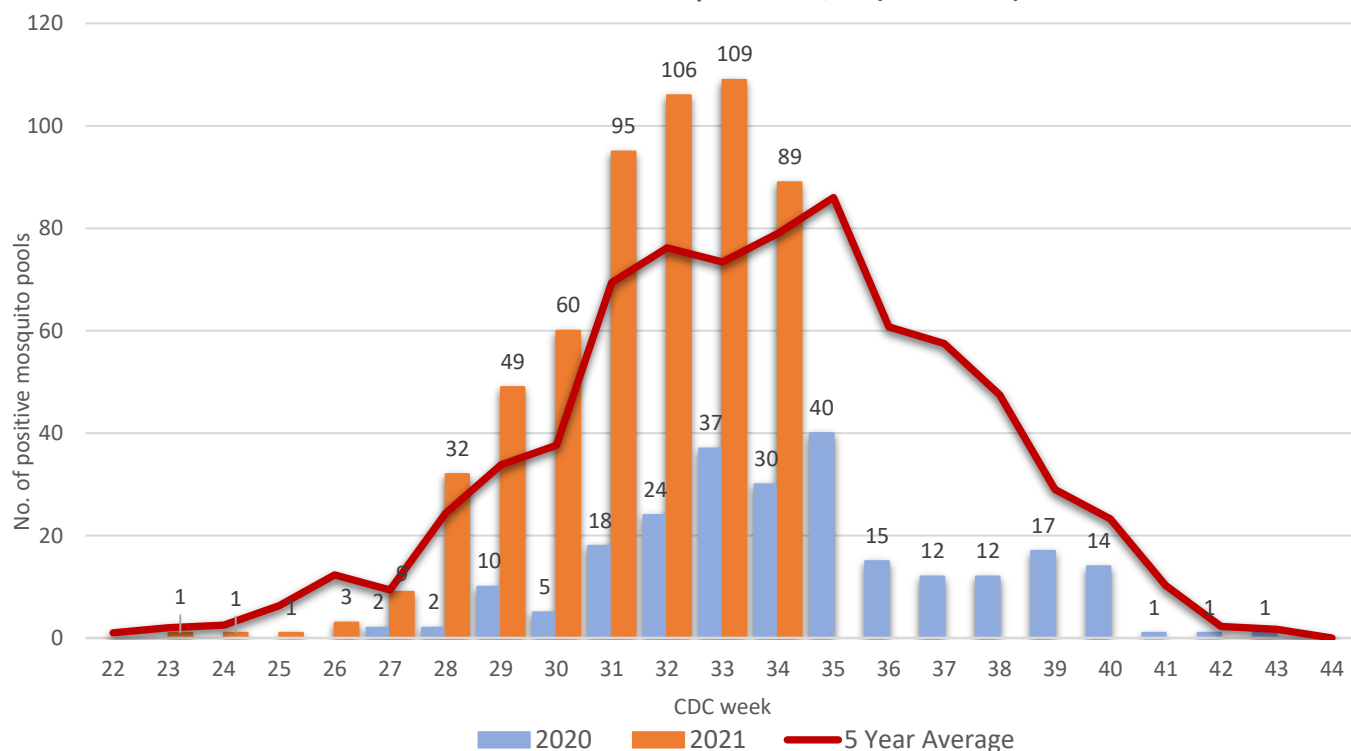
**Test results may be incomplete; counties submit pools for testing on specific weekdays. Mosquito testing data reflects test results received from PHEL as of September 1, 2021*

WNV Positive Mosquito Pools

County	Week 34		Cumulative Total (Week 34)	
	2021*	2020	2021*	2020
Union		2	69	21
Middlesex	17		68	2
Bergen		12	65	28
Camden	7		64	3
Somerset	8	1	52	5
Burlington	12	1	47	12
Hudson		4	29	19
Hunterdon	11		28	2
Monmouth	9	3	28	13
Morris		2	25	4
Ocean	7		17	
Warren	2	1	16	2
Mercer	6	2	14	9
Atlantic	4	1	10	1
Passaic	3		10	5
Cape May	3		6	
Gloucester		1	3	2
Sussex			2	
Cumberland			1	
Essex			1	
Salem				
Total	89	30	555	128

Week 34: August 16-22, 2020; August 22-28, 2021

West Nile Virus Positive Mosquito Pools, NJ (2020-2021)



Eastern equine encephalitis virus (EEE)

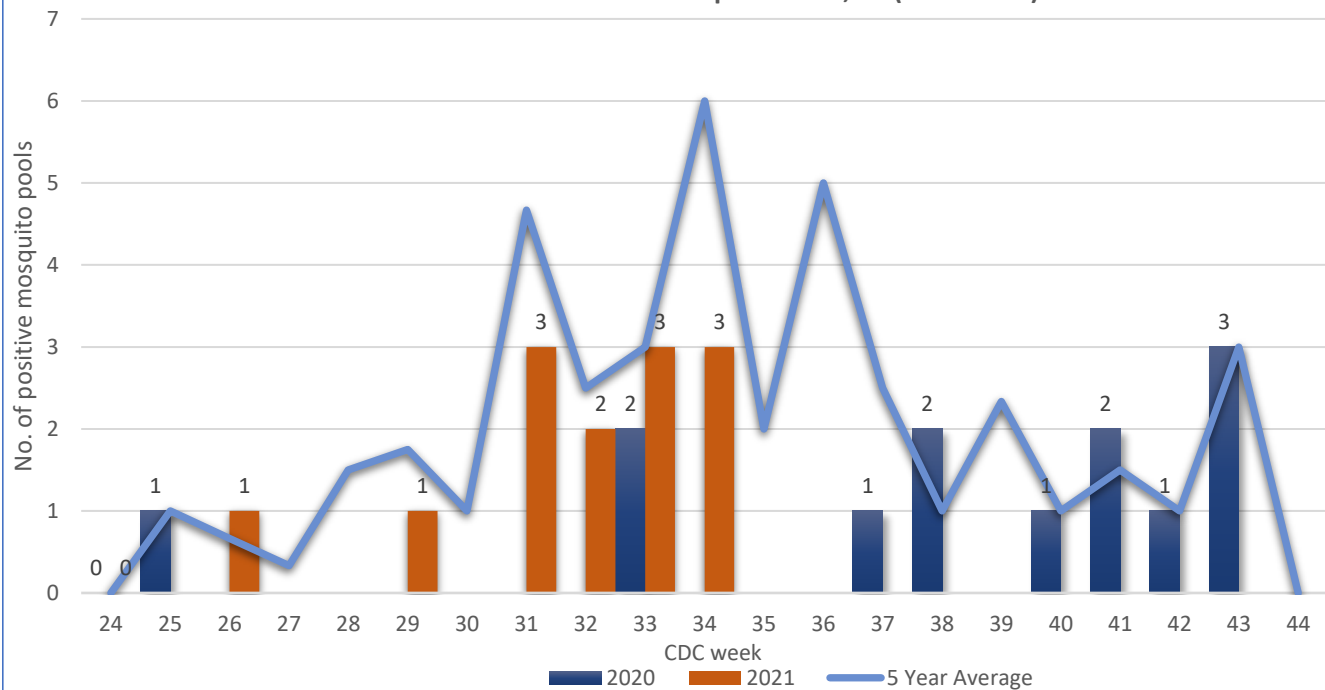
- A total of 4824 mosquito pools have been tested for EEE.
- 13 pools tested positive for EEE this year in *Cs. melanura* (10), *Ae. taeniorhynchus* (1), *Cx. pipiens/restuans/salinarius* (1), and *Cx. erraticus* (1).
- The first positive mosquito pool was detected in Week 26 from Gloucester County. In 2020, the first EEE mosquito pool was reported from Atlantic County in Week 25.

EEE Positive Mosquito Pools

County	Week 34		Cumulative Total (Week 34)	
	2021*	2020	2021*	2020
Atlantic	2		6	2
Camden			2	
Cape May			2	
Gloucester			2	
Ocean	1		1	
Bergen				
Burlington				1
Cumberland				
Essex				
Hudson				
Hunterdon				
Mercer				
Middlesex				
Monmouth				
Morris				
Passaic				
Salem				
Somerset				
Sussex				
Union				
Warren				
Total	3	-	13	3

Week 34: August 16-22, 2020; August 22-28, 2021

EEE Virus Positive Mosquito Pools, NJ (2020-2021)



Other viruses:

Mosquito pools from 21 counties have been tested for other arboviruses. Two pools have tested positive for JCV.

Cumulative 2021 Mosquito Pool Testing (Other Viruses ^a)

County	CHIKV		DENV		JCV		LACV		SLEV		ZIKV	
	Pools	Pos	Pools	Pos	Pools	Pos	Pools	Pos	Pools	Pos	Pools	Pos
Atlantic	12		12		306				306		12	
Bergen	1		1		243				245		1	
Burlington					282		11		316			
Camden					203	1			203			
Cape May	1		1		331				348		1	
Cumberland					277				332			
Essex					74				85			
Gloucester					275				325			
Hudson					190				196			
Hunterdon					224				264			
Mercer	2		2		254		7		309		2	
Middlesex					230				267			
Monmouth					321				374			
Morris	2		2		256				300		2	
Ocean					207				220			
Passaic					180		2		203			
Salem					302		12		338			
Somerset					192				192			
Sussex					370	1	9		370			
Union					129				129			
Warren					291		4		291			
Total	18	0	18	0	5137	2	45	0	5613	0	18	0

^a Chikungunya virus (CHIKV), Dengue virus (DENV), Jamestown Canyon Virus (JCV), La Crosse encephalitis virus (LAC), St. Louis encephalitis virus (SLE), Zika Virus (ZIKV)

Numbers in white columns represent the number of pools tested to date in 2021

Numbers in blue shaded columns represent positive pools in 2021

Jamestown Canyon virus (JCV):

- NJ reported its 2nd ever human case of Jamestown Canyon virus this year in Week 18 in a Sussex County resident. The first case was reported in 2015 in a Sussex County resident.
- Two positive Jamestown Canyon virus pools were reported in Sussex County on Week 27 and in Camden County on Week 33.
- In 2020, six mosquito pools from 4 counties tested positive for Jamestown Canyon virus. The positive pools were identified in Bergen (Week 23 and Week 25), Cumberland (Week 28 and Week 33), Middlesex (Week 31) and Monmouth (Week 29).

La Crosse encephalitis virus (LAC):

- No positive La Crosse virus pools have been identified in 2021.
- Prior to the current year, a mosquito pool collected in Passaic County tested positive for La Crosse virus at PHEL in 2019.
- There has not been any human La Crosse virus cases reported in at least the past 20 years.

3. Equine/Avian /Other Animal Testing

Equine testing for WNV and EEE is conducted at the New Jersey Department of Agriculture's Animal Health and Diagnostic Laboratory.

- One unvaccinated horse (7-year-old mare) from Cumberland County tested positive for EEE in Week 33 (onset Aug 18; euthanized Aug 19).
- One American crow from Burlington County tested positive for WNV on Week 27.
- Three Cooper's hawks from Union County tested positive for WNV on Week 31.
- Routine avian testing has been discontinued but is available upon request at PHEL.

WNV/EEE Positive Test Results

	Week 34		Cum. Total (Year)	
	2021*	2020	2021*	2020
Equine (EEE)			1	
Equine (WNV)				
Avian (WNV)			4	
Other				

Week 34: August 2-8, 2020; August 22-28, 2021

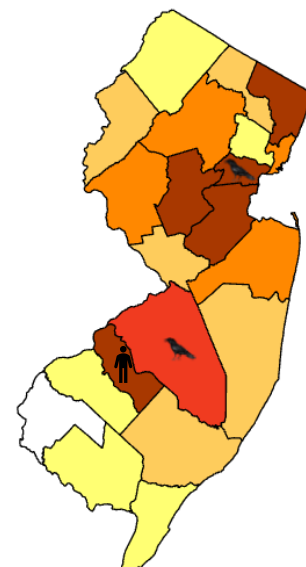
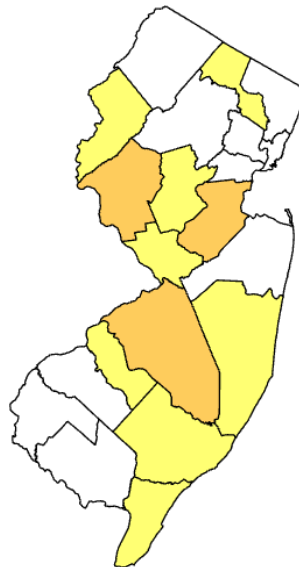
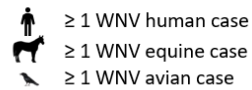
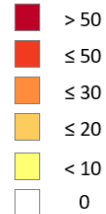
4. Surveillance Maps

West Nile Virus (WNV)

Week 34 WNV Activity (2021)*

Cumulative WNV Activity 2021

WNV Positive Pools

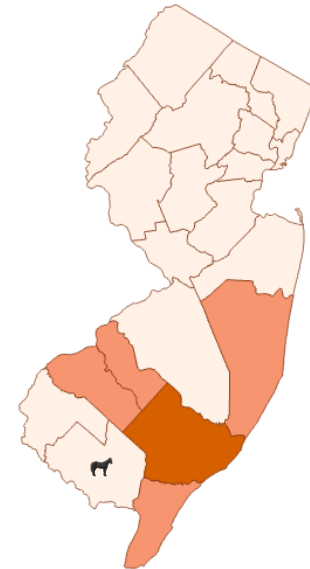
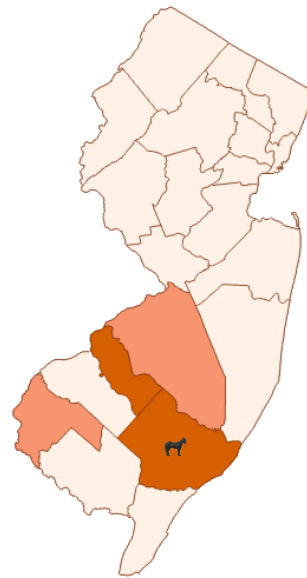
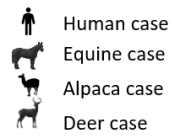
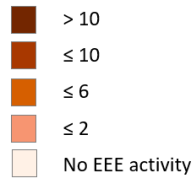


Eastern equine encephalitis (EEE)

2020 EEE Activity

Cumulative EEE Activity 2021

EEE Positive Pools

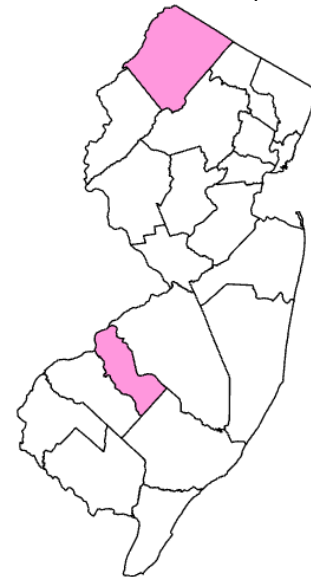
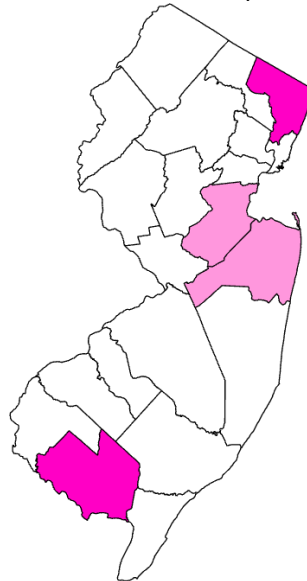
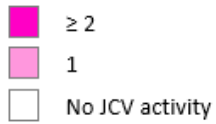


Jamestown Canyon Virus (JCV)

2020 JCV Activity

Cumulative JCV Activity 2021

JCV Positive Pools

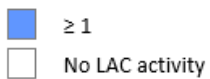


La Crosse Virus (LAC)

2020 LAC Activity

Cumulative LAC Activity 2021

LAC Positive Pools

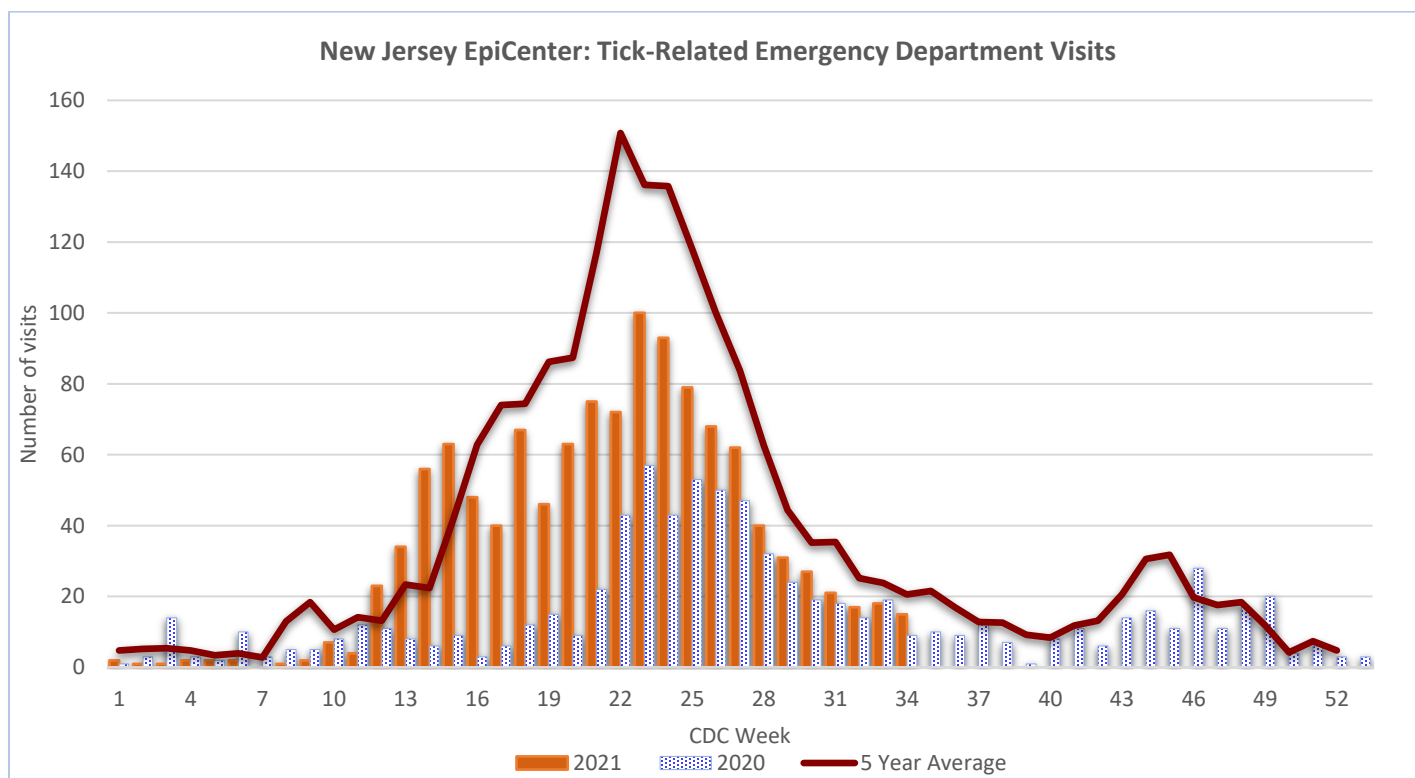


5. Syndromic Surveillance for Tick-related Emergency Department Visits

EpiCenter is a syndromic surveillance system developed and maintained by Health Monitoring Systems, Inc, for monitoring by health departments in the United States. New Jersey's EpiCenter receives real time Emergency Department (ED) data from 78 acute care and satellite health (99 percent reporting) facilities statewide. The system collects "chief complaint" information and limited patient registration data from existing ED computer systems.

The chart below represents NJ residents seen at emergency departments statewide with a tick-bite complaint or signs/symptoms associated with a reported tick-bite. Tick-related ED visits occur throughout the year with peak number of visits in the summer months and a smaller peak in the fall weeks when adult *Ixodes scapularis* (blacklegged ticks) are active.

In Week 34, the overall number of ED visits is lower than the 5-year average but comparable to 2020 levels. There is a significant increase in activity compared with last year starting from week 12.



Data reflects ED visits downloaded from EpiCenter as of September 1, 2021

For More Information

- NJDOH Communicable Disease Service: <http://nj.gov/health/cd/topics/vectorborne.shtml>
- New Jersey Arboviral Activity Maps: <http://bit.ly/JerseySurv>
- NJDEP Office of Mosquito Control Coordination: <http://www.nj.gov/dep/mosquito/>
- NJDA Division of Animal Health: <http://www.nj.gov/agriculture/divisions/ah/>
- Rutgers Center for Vector Biology: <http://vectorbio.rutgers.edu/>