

Report Highlight:

- There are 15 West Nile Virus (WNV) human cases (9 neuroinvasive) in 2022 from Bergen (3), Burlington, Camden (3), Middlesex, Monmouth (2), Morris, Ocean (2), & Union (2) counties. 1 presumptive viremic blood donor was detected in Middlesex County.
- Of 33 mosquito pools from 5 counties that were submitted for testing in week 40, none tested positive for WNV. There have been 595 WNV positive pools this year.
- The number of tick-related ED visits continues to decline and is below the five-year average.
- The number of human dengue cases to date in 2022 is increasing. All human dengue cases in 2022 are travel-associated.

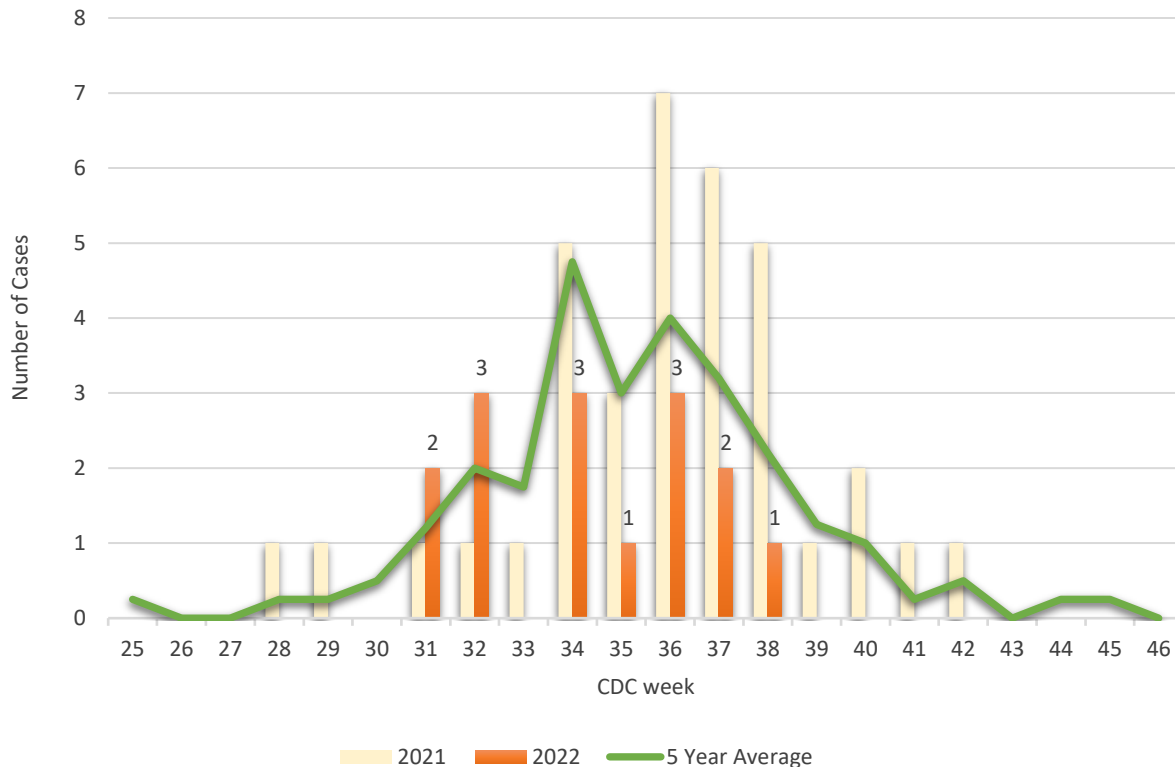
1. Human Cases

N.J.A.C.8:57 mandates public health reporting of communicable diseases. 2022 data reflect cases that have been approved by NJDOH and do not include cases under investigation. All 2022 numbers are preliminary and subject to change.

	Mosquito-borne diseases		Tickborne Diseases/Conditions		
	2022	2021		2022	2021
Chikungunya	1	4	Alpha-gal syndrome	94	-
Dengue	14	12	Anaplasmosis	63	202
Eastern equine encephalitis	-	-	Babesiosis	189	258
Jamestown Canyon	-	2	<i>Borrelia miyamotoi</i>	4	16
Malaria	34	71	Ehrlichiosis (<i>chaffeensis, ewingii</i>)	79	77
West Nile	15	36	Lyme disease*	196	3,518
Zika	-	-	Powassan	-	-
			Spotted fever group rickettsioses	13	39
			Tularemia	1	4

* Lyme disease surveillance has transitioned to a laboratory-only surveillance approach in 2022; as such, case reporting is delayed.

West Nile Virus Cases by Week of Illness Onset, 2021-2022



2. Mosquito Testing

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

West Nile virus (WNV):

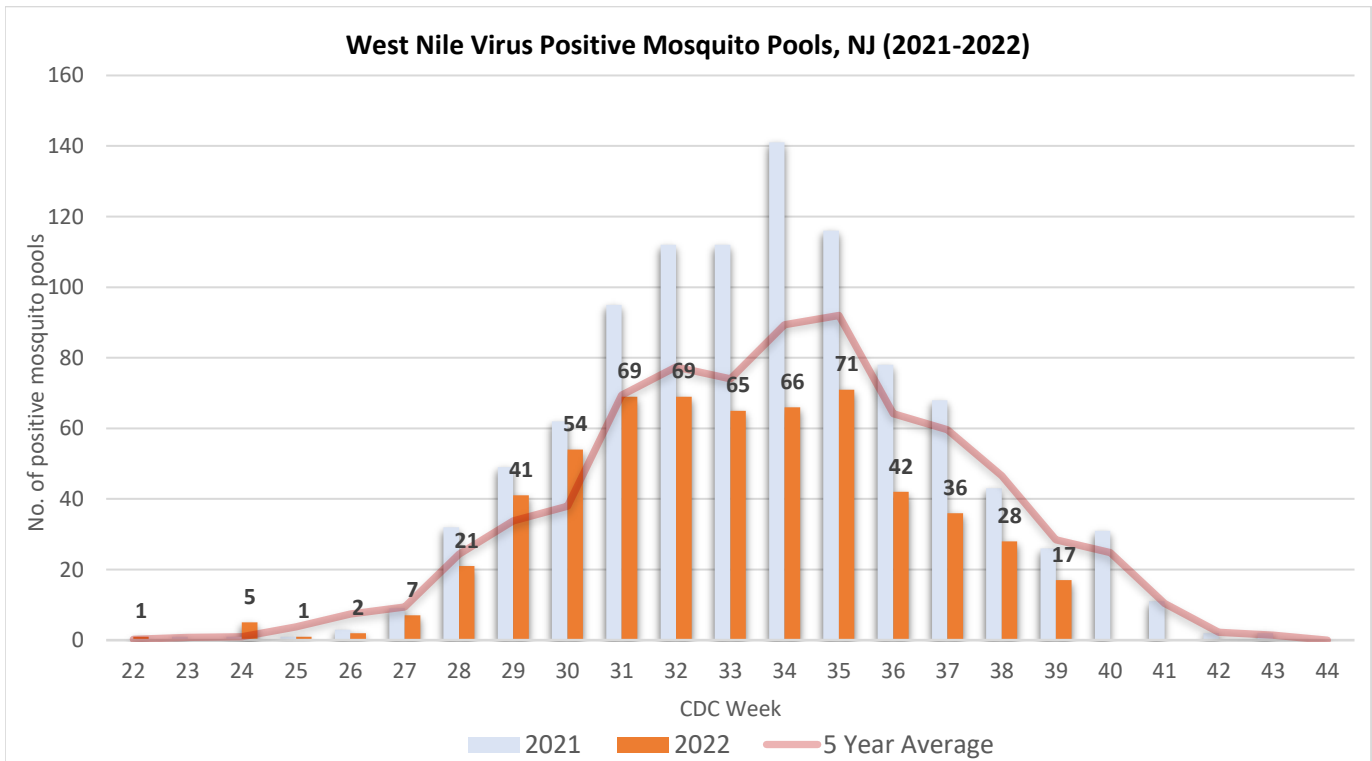
- A total of 7054 mosquito pools from 21 counties have been tested for WNV.
- No pools tested positive for WNV in Week 40. There have been 595 positive WNV pools so far this year, detected in all counties.
- The positive pools were detected in *Aedes albopictus* (13), *Ae. canadensis*(1), *Ae. cantator*(1), *Ae. japonicus* (11), *Ae. triseriatus* (2), *Ae. vexans* (1), *Anopheles punctipennis* (1), *An. quadrimaculatus* (1), *Coquillettia perturbans* (1), *Culex sp.* (75), *Cx. erraticus* (2), *Cx. pipiens* (19), *Cx. pipiens/quinqüefasciatus/ restuans species mix* (45), *Cx. pipiens/restuans/ salinarius species mix* (419), and *Cx. restuans* (3).
- The first WNV positive mosquito pool (*Ae. cantator*) was detected in week 22 from Burlington County.

*Test results may be incomplete; counties submit pools for testing on specific weekdays. Mosquito testing data reflects test results received from PHEL and CMBSL3 as of October 13, 2022

WNV Mosquito Pool Testing

County	Week 40 Positive Pools		Cumulative Pos. Total (Week 40)		# Pools Tested
	2022*	2021	2022*	2021	2022*
Bergen		2	95	109	405
Hudson			86	43	301
Middlesex		2	67	91	304
Passaic			46	19	233
Union		2	44	104	226
Monmouth			34	45	461
Mercer			33	25	422
Somerset		1	29	87	299
Morris		4	28	63	507
Burlington		4	27	78	276
Camden		5	24	92	227
Gloucester			19	33	374
Hunterdon		2	15	59	303
Essex			11	4	151
Ocean			10	23	296
Warren			8	25	488
Sussex		7	8	18	440
Atlantic		1	6	39	437
Cape May		1	2	20	149
Salem			2		400
Cumberland			1	3	355
Total	-	31	595	980	7054

Week 40: Oct 3-9, 2021; Oct 2-8, 2022



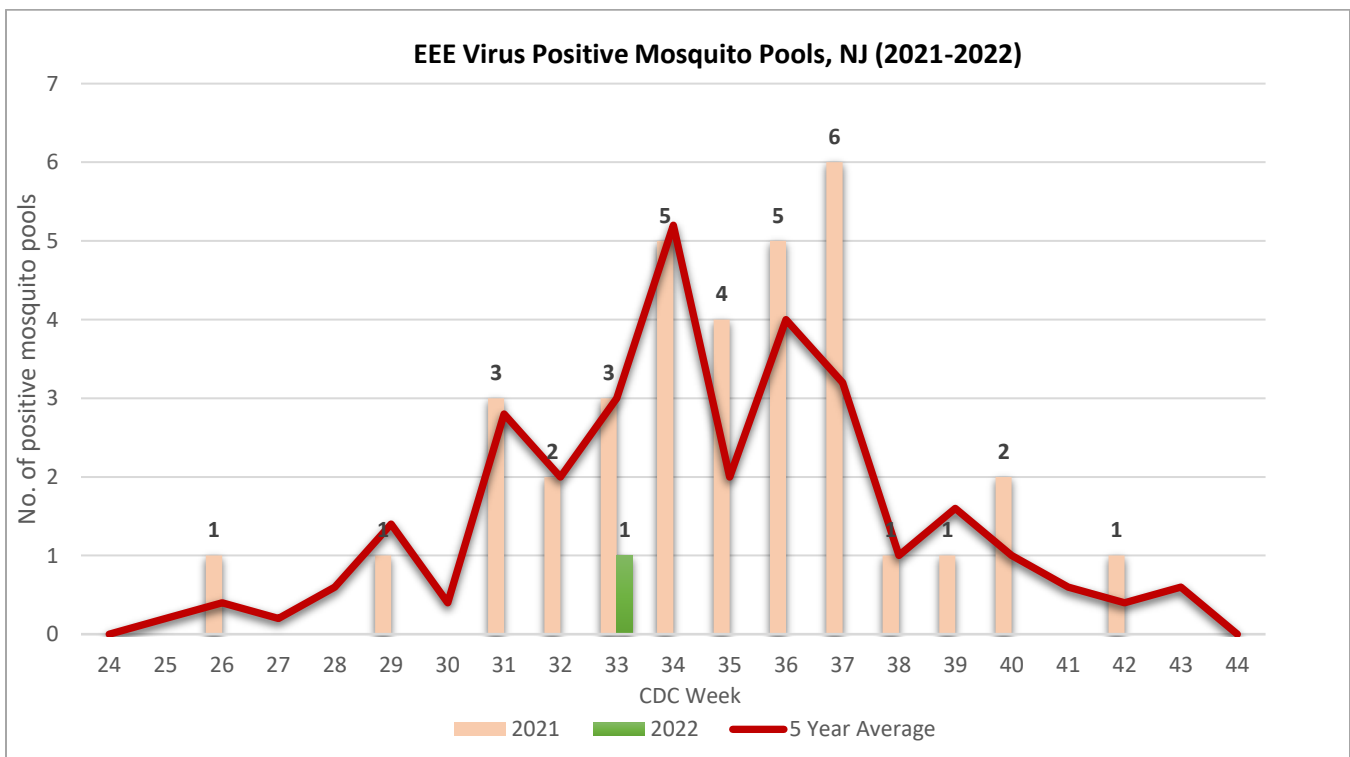
Eastern equine encephalitis virus (EEE)

- A total of 6898 mosquito pools from all 21 counties have been tested for EEE.
- One EEE positive mosquito pool was identified in Morris County in Week 33, in a *Culex sp.* pool.
- In 2021, the first positive mosquito pool was detected in Week 26 from Gloucester County.

EEE Mosquito Pool Testing

County	Week 40 Positive Pools		Cumulative Pos. Total (Week 40)		# Pools Tested
	2022*	2021	2022*	2021	
Morris			1		507
Atlantic				9	437
Bergen					366
Burlington		2		3	274
Camden				12	226
Cape May				2	149
Cumberland				1	355
Essex					151
Gloucester				6	360
Hudson					301
Hunterdon					303
Mercer					407
Middlesex					303
Monmouth					460
Ocean				1	295
Passaic					226
Salem					385
Somerset					299
Sussex					428
Union					214
Warren					452
Total	-	2	1	34	6898

Week 40: Oct 3-9, 2021; Oct 2-8, 2022



Other viruses:

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

Cumulative 2022 Mosquito Pool Testing (Other Viruses^a)

County	SLE		JCV		LAC		CHIKV		DENV		ZIKV	
	Pools	Pos	Pools	Pos	Pools	Pos	Pools	Pos	Pools	Pos	Pools	Pos
Atlantic	437		437				4		4		4	
Bergen	366		366	2	17		2		2		2	
Burlington	274		274		2		2		2		2	
Camden	226		211		1		13		13		13	
Cape May	149											
Cumberland	355		355									
Essex	151		151									
Gloucester	360		348		14							
Hudson	301		301									
Hunterdon	303		303									
Mercer	407		407		15							
Middlesex	303		303		1							
Monmouth	460		460		1							
Morris	507		507									
Ocean	295		295		1							
Passaic	226		226		7							
Salem	385		372		16		1		1		1	
Somerset	299		299									
Sussex	428		428	1	11							
Union	214		214		12							
Warren	452		452		36							
Total	6898	-	6709	3	134	-	22	-	22	-	22	-

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

Numbers in white columns represent number of pools tested to date in 2022

Numbers in green shaded columns represent positive pools in 2022

Jamestown Canyon virus (JCV):

- The first mosquito pool (*Anopheles punctipennis*) in Sussex County tested positive for JCV in Week 33. In 2021, the first positive pool was also detected in Sussex County, 6 weeks earlier in Week 27.
- Two mosquito pools (*Ae. cantator*) from Bergen County tested positive for JCV in Week 22 and Week 24.
- In 2021, eight positive JCV pools were reported in Atlantic, Camden, Essex, Gloucester, and Sussex counties.
- Jamestown Canyon virus has not been detected in humans in 2022.
- NJ reported 2 human JCV cases in 2021 in Sussex County (week 18) and in Essex County (Week 37). The first NJ JCV case was reported in 2015 in Sussex County.

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.

- Four raptors tested positive for WNV in Week 34: a Cooper's hawk in Morris County and red-tailed hawks in Morris, Essex, and Somerset counties.
- A red-tailed hawk tested positive for WNV in Week 31 in Somerset County.
- No animals have tested positive for EEE in 2022.
- Routine avian testing has been discontinued but is available upon request at PHEL.

WNV/EEE Positive Test Results

	Week 40		Cum. Total (Week 40)	
	2022*	2021	2022*	2021
Equine (EEE)				3
Equine (WNV)				
Avian (WNV)			5	13
Other				

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4. Surveillance Maps

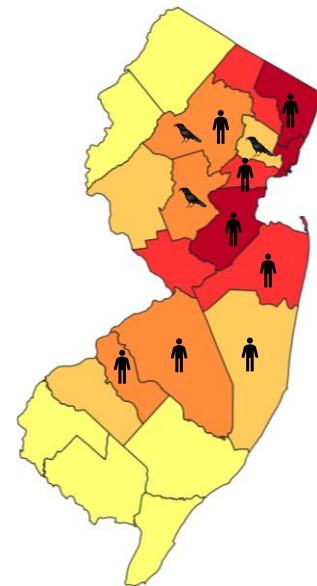
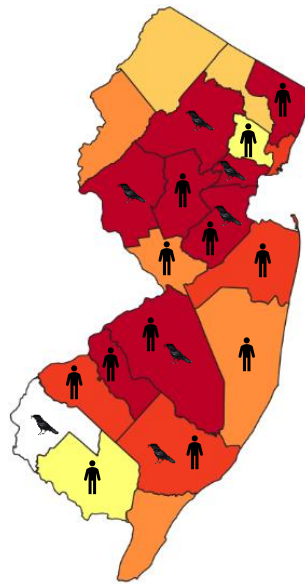
West Nile Virus (WNV)

2021 WNV Activity

Cumulative WNV Activity 2022

WNV Positive Pools

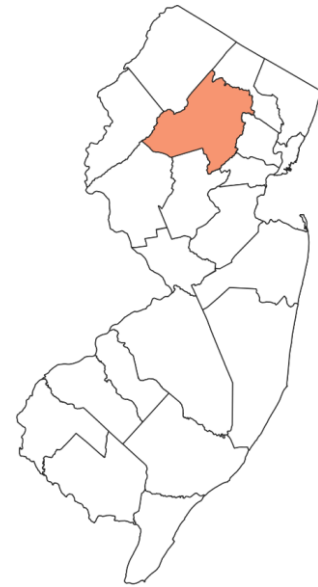
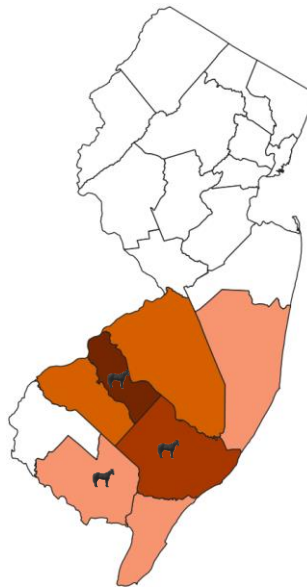
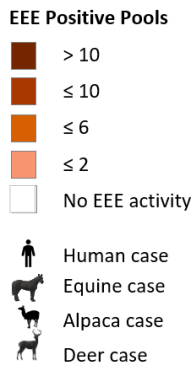
- > 50
 - ≤ 50
 - ≤ 30
 - ≤ 20
 - < 10
 - 0
-
- ≥ 1 WNV human case
 - ≥ 1 WNV equine case
 - ≥ 1 WNV avian case



Eastern equine encephalitis (EEE)

2021 EEE Activity

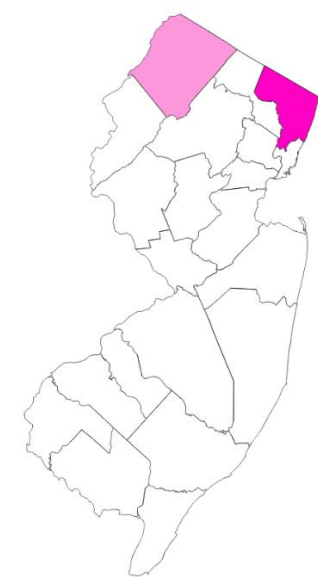
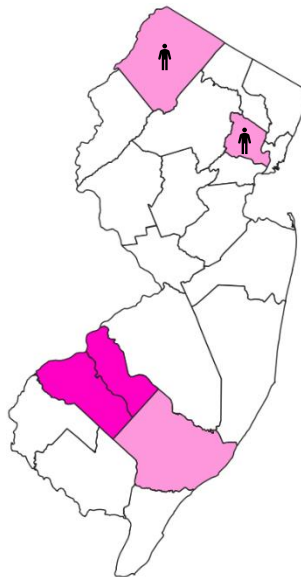
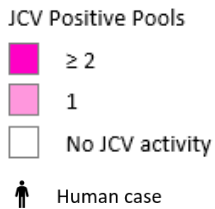
Cumulative EEE Activity 2022



Jamestown Canyon Virus

2021 JCV Activity

Cummulative JCV Activity 2022



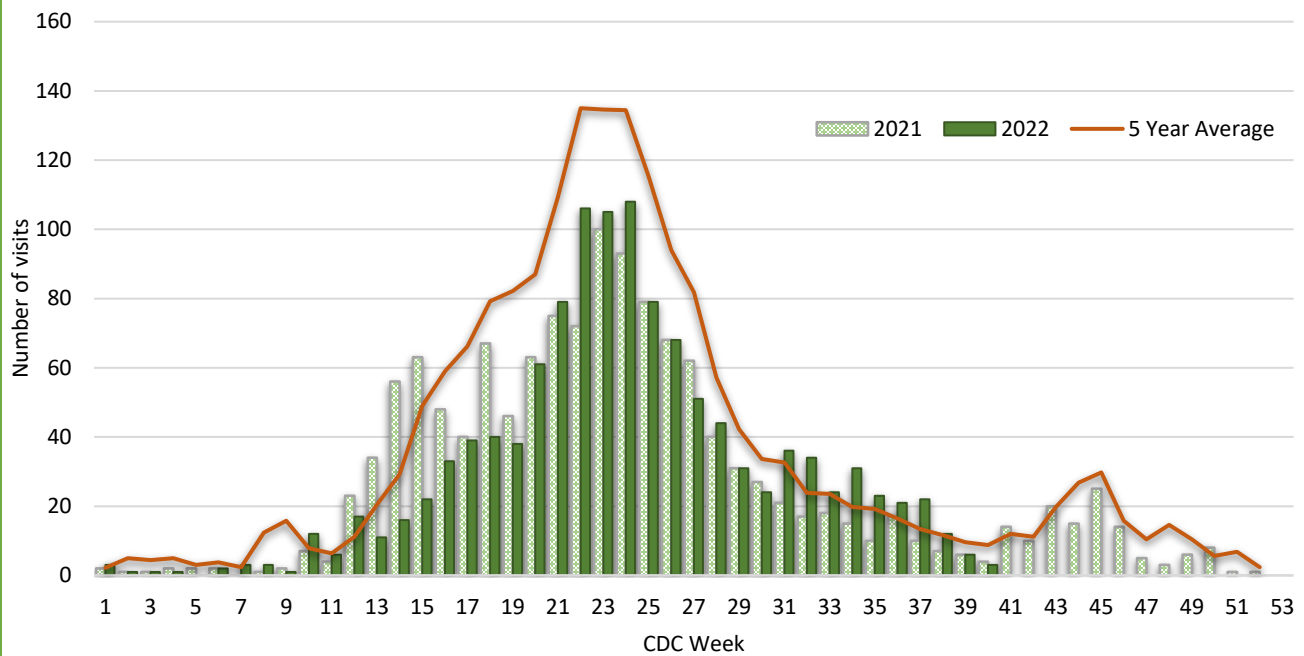
5. Syndromic Surveillance for Tick-related Emergency Department Visits

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.

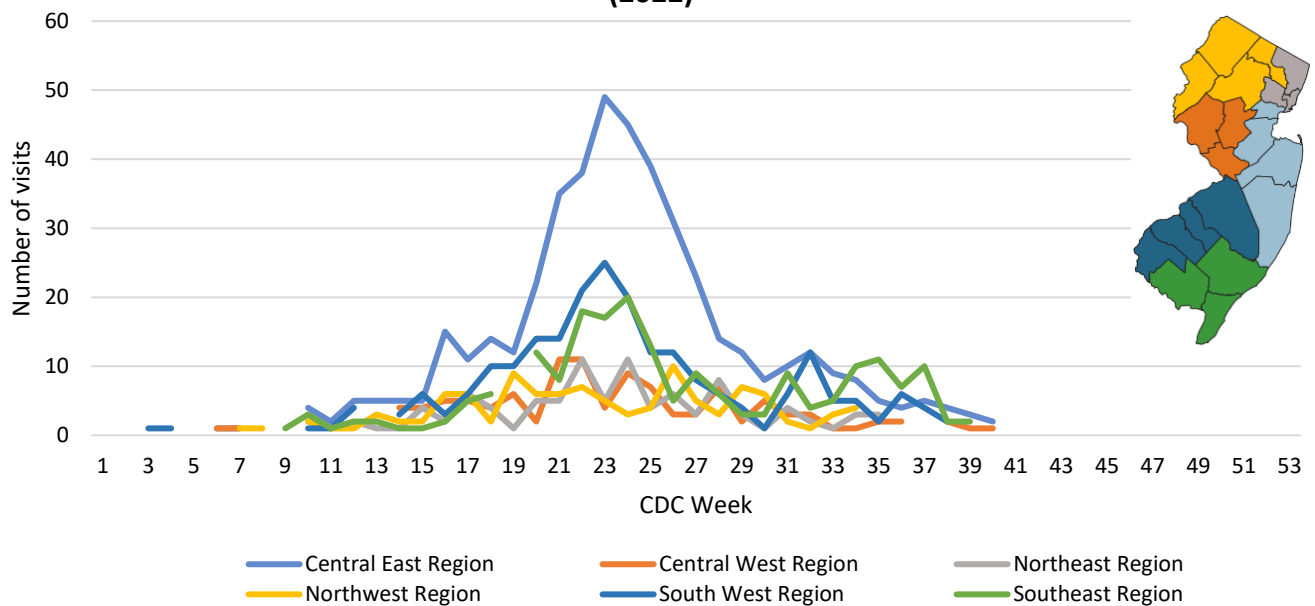
The chart below represents NJ residents seen at emergency departments statewide with a tick-bite complaint or signs/symptoms associated with a reported tick-bite. Tick-related ED visits occur throughout the year with peak number of visits in the summer months and a smaller peak in the fall weeks when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

In Week 40, the number of tick-related ED visits continued to decline and is below the 5-year average

New Jersey EpiCenter: Tick-Related Emergency Department Visits



New Jersey EpiCenter: Tick-Related Emergency Department Visits by Region (2022)



Data reflects ED visits downloaded from EpiCenter as of October 13, 2022

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/>