

EASTERN EQUINE ENCEPHALITIS

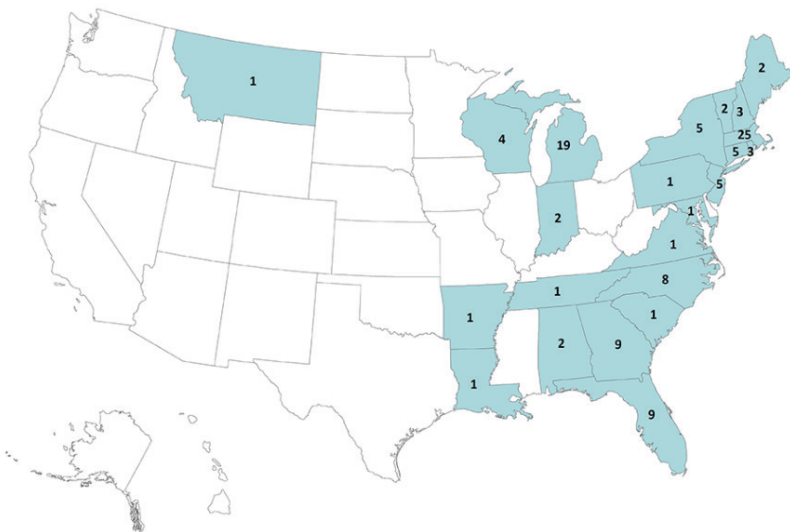
Mosquito-borne diseases information sheet



Eastern Equine Encephalitis Virus (EEEV) belongs to the virus family Togaviridae and was first identified in an infected horse in 1831; it wasn't until 1938 that a human case was discovered. Out of all the mosquito-borne encephalitis viruses in the U.S., EEEV is considered the most pathogenic, causing high morbidity and mortality. Although rare, approximately 1 in 10,000 people are infected each year, with a fatality rate of at least 33% of cases. Children and the elderly are extremely susceptible to the infection with mortality rates in clinical cases exceeding 50%.

EEV is transmitted by the enzootic vector, *Culiseta melanura*, which occurs in swamps throughout the eastern U.S. *Culiseta melanura* female mosquitoes are highly efficient vectors at transmitting the virus among passeriform birds, especially those nesting in swamps. Epidemics in the U.S. have usually involved horses, birds, and humans.

EEEV HUMAN INFECTIONS, 2011-2020



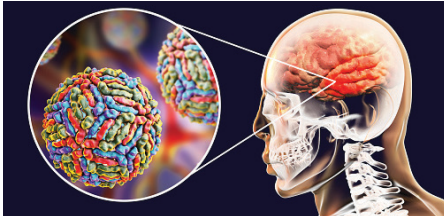
Source: ArboNET, Arboviral Diseases Branch, Centers for Disease Control and Prevention

DISEASE TRANSMISSION

- *Culiseta melanura* is the primary vector, while *Aedes sollicitans* and *Coquillettidia perturbans* can serve as bridge vectors.
- EEEV cases typically peak during late summer and early fall.



- Though horses are a natural host, 4-38 human cases have been reported each year since 2011.
- Alpacas, llamas, emus, ostriches, and a few other animals are also susceptible.



CHART/GRAPH OF CDC CASE COUNTS

Year	Total Cases	Deaths
2018	6	1
2019	38	19
2020	13	4

SIGNS AND SYMPTOMS IN HUMANS

- Sickness typically occurs 4-10 days after infection, often manifesting as flu-like symptoms and include vomiting, high fever, and drowsiness.
- In roughly 5% of cases, inflammation of the brain and spinal cord may cause seizures, coma, and death. Survivors may have permanent brain damage.
- Vaccinations are available to horses, but no vaccines or antiviral drugs exist for humans.

TIPS TO REDUCE YOUR RISK OF INFECTION

- Use insect repellent.
- Be aware of peak mosquito biting and feeding hours. *Culiseta melanura* feed early morning or early evening.
- Wear clothing to protect yourself.
- Empty standing water.
- Install and repair window screens.

HOW VDCI CAN HELP

VDCI offers comprehensive services that support government entities and businesses with education and reducing the risk of mosquito-borne disease. Visit vdc.net for more details on Integrated Mosquito Management (IMM) programs.



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Contact our experts at admin@vdc.net or call **866.403.4111** so that they can help you develop a custom IMM program to meet your workplace's needs.