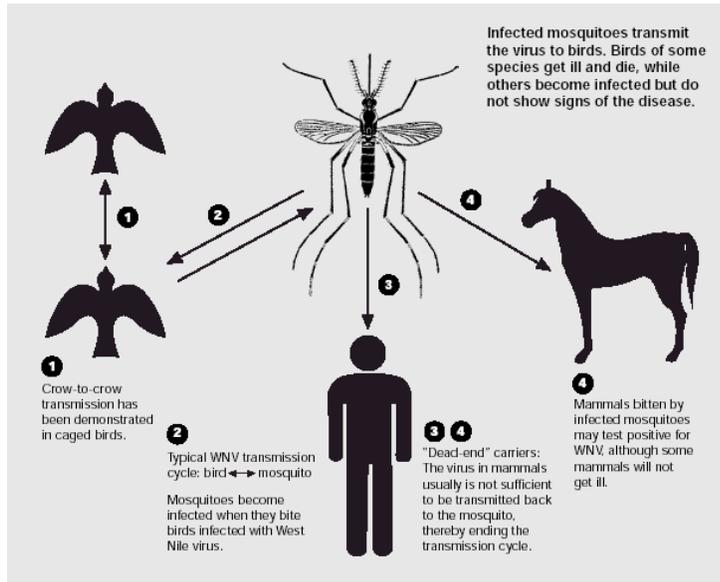


The Disease Cycle of West Nile Virus

[Arboviral encephalitis](#) is an inflammation of the brain caused by arboviruses (viruses carried by arthropods, such as mosquitoes and ticks). Other forms of encephalitis can be caused by other types of viruses and bacteria. In Illinois, arboviruses are primarily transmitted to humans by the bites of infected



mosquitoes. Most individuals who are bitten by an infected mosquito will experience no symptoms of the disease or will have only very mild symptoms. Approximately 1 to 2 percent will develop recognizable symptoms. Some persons may have mild symptoms, such as a fever and headache. Severe infection may cause rapid onset of severe headache, high fever, muscle aches, stiffness in the back of the neck, problems with muscle coordination, disorientation, convulsions and coma. Symptoms usually occur 5 to 15 days after the bite of an infected mosquito. Not all viruses that cause encephalitis are carried

by mosquitoes. The basic transmission cycle for WNV is as follows:

A mosquito feeds on a bird infected with WNV. The mosquito then carries the virus for approximately two weeks, then it is able to transmit the virus to animals and humans via a bite. When the mosquito bites and feeds, the virus may be transmitted into the bite victim. The virus may then multiply and cause illness.

Various agencies take part in mosquito control and prevention through fogging, spraying, or spreading solid products, which can include larvicide briquets, in areas that mosquitoes are a problem or are more susceptible to harboring mosquitoes. Spraying and fogging will only kill mosquitoes that come in contact with the chemical and will only control mosquitoes for a short time period until the spray or fog dissipated. Applying larvicides to breeding areas is a longer-term control method as it will help kill mosquitoes in the larval stage before they reach adulthood. Agencies also conduct surveys to determine the abundance of species of mosquitoes in the area, and some also use various methods to collect mosquito specimens to test for diseases such as West Nile virus.

In addition to WNV, mosquitoes can also transmit diseases such as malaria, dog heartworm, dengue, yellow fever, eastern equine encephalitis (EEE), St. Louis encephalitis (SLE), LaCrosse encephalitis (LAC), and western equine encephalitis (WEE).