



West Nile Virus Backgrounder

West Nile Virus (WNV) has emerged in recent years in temperate regions of Europe and North America, presenting a threat to public, equine, and animal health. The most serious manifestation of WNV infection is the fatal encephalitis (inflammation of the brain) in humans and horses, as well as mortality in certain domestic and wild birds.

WNV was first isolated from a febrile adult woman in the West Nile District of Uganda in 1937. The ecology was characterized in Egypt in the 1950's. The virus became recognized as a cause of severe human meningoencephalitis (inflammation of the spinal cord and brain) in elderly patients during an outbreak in Israel in 1957. Equine disease was first noted in Egypt and France in the early 1960's. The appearance of WNV in Northern America in 1999, with encephalitis reported in humans and horses, may be an important milestone in the evaluating history of this virus.

WNV was recently discovered in the United States. Although the specific date of introduction will never be known, the presence of the disease was first noted in 1999. The first outbreak occurred in Queens N.Y., New York City and was confined to an area within a 75-mile radius. That year, of the 62 people who were hospitalized with symptoms associate with the central nervous system, seven died. Thousands of birds were affected by disease, but only nine infected horses were reported that year.

The following year, it was obvious that the disease survived its first winter in the United States as it spread down the east coast, making its presence known in 12 states, while the incidence in humans decreased considerably to 20 cases and only two deaths.

During 2001, WNV became much more widely spread and was reported in 27 states and the District of Columbia. Fifty human cases and five deaths were reported. The median age of those affected was 70 years, meaning that the elderly population seems to be more susceptible to the disease.

Additional concerns are the impact of the disease on bird populations and the significant health threat it poses to horses. Besides humans and horses, 162 species of birds and 32 species of mosquitoes have been found infected with the virus. A variety of other mammals and reptiles have become infected include bats, cats, rabbits and dogs.

In the U.S. from 1999 through December 23, 2002, Nevada was the only state that did not report a local case or an imported case, a person or horse that came into the state from another state after being infected, of West Nile virus.

People are infected with WNV from a mosquito bite; many of those who became ill have an infection of the nervous system. Symptoms include fever, headache and body ache, often with skin rash and swollen lymph glands. More severeh infections may manifest themselves with a headache, high fever, neck stiffness, stupor, disorientation, coma, tremors, convulsions, muscle weakness and paralysis. The disease is only fatal in 3% to 15% of all cases and the highest fatality rates are in the elderly and those with impaired immune systems.