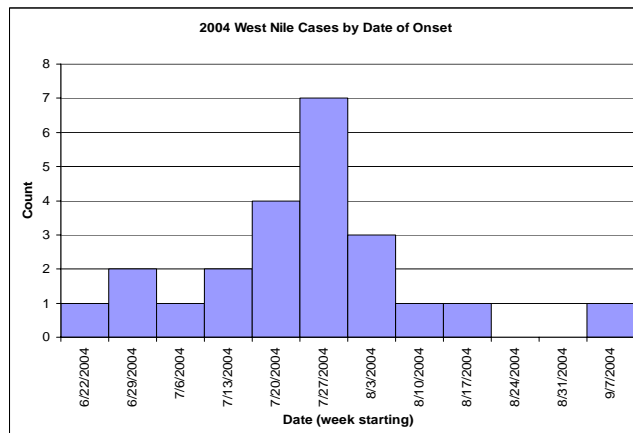


## May 2005 – West Nile Virus Update

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### 2004 Clark County West Nile Virus Synopsis:

Nevada’s first human case of West Nile Virus (WNV) infection occurred in June 2004 in Clark County. In total, staff at Clark County Health District (CCHD) investigated 50 reports of WNV illness in 2004. Subsequent to completion of the case investigations, 20 were laboratory-confirmed and 3 were classified as probable cases. Of these 23 cases, 10 were West Nile Fever and 13 had neuroinvasive disease. Ages of cases ranged from 14 to 84 years. The temporal distribution of the cases is shown in the figure below, with a peak in July.



The Centers for Disease Control and Prevention (CDC) have identified that in North America, the peak incidence of human disease usually occurs in late August and early September. The earlier peak in Clark County is mostly likely due to earlier arrival of warm weather which supports mosquito breeding.

### 2005 Surveillance:

This past winter was relatively warm and because of heavier than usual rains, there are concerns that Clark County may experience increased mosquito proliferation. In order to assure earliest possible detection of WNV activity, CCHD staff began mosquito surveillance in April 2005. CCHD is also

testing dead birds of specific species for WNV and routinely tests five sentinel chicken flocks located throughout the county. To date, the mosquitoes, dead birds and sentinel chickens tested have been negative for WNV.

Although the health district conducts surveillance on the mosquito and animal populations in Clark County, medical providers play a key role in identifying, testing and confirming human cases. Most WNV infections are mild and often clinically inapparent. Approximately 20% of those infected develop a generally mild illness called West Nile fever, while 1 in 150 infections will result in severe neurological disease, such as aseptic meningitis or encephalitis (See Table 1). The most significant risk factor for developing severe neurological disease is advanced age, though these symptoms have occurred in individuals of all ages.

**Table 1. Symptomatology of West Nile Virus Infection**

West Nile Fever	West Nile encephalitis/meningitis
Fever	Fever
Anorexia	Muscle weakness
Nausea	Gastrointestinal Symptoms
Vomiting	Change in mental status
Eye Pain	Flaccid paralysis
Headache	Cranial nerve abnormalities
Myalgia	Myelitis
Rash	Optic neuritis
Lymphadenopathy	Polyradiculitis
Malaise	Seizures
	Ataxia and extrapyramidal signs

From: <http://www.cdc.gov/ncidod/dvbid/westnile/clinicians/clindesc.htm#feverclinfeatures>

Laboratory findings among patients in recent outbreaks include:

- Peripheral blood total leukocyte counts were mostly normal or elevated, with lymphocytopenia and anemia also occurring.

- Hyponatremia was sometimes present, particularly among patients with encephalitis.
- CSF pleocytosis, usually with a predominance of lymphocytes.
- CSF protein was elevated and glucose was normal.
- CT scans of the brain did not show evidence of acute disease in most cases. In approximately one-third of patients, MRI revealed enhancement of the leptomeninges, the periventricular areas, or both.

Testing for patients suspected of having disease caused by WNV is available through local commercial laboratories. Due to the excellent correlation in 2004 between positive tests in commercial labs and subsequent confirmation in public health reference laboratories, specimens positive for acute WNV infection in commercial labs no longer require confirmation by the Southern Nevada Public Health Laboratory. Acute specimens should be collected less than 7 days after onset of symptoms. CCHD does not recommend screening for WNV unless individuals have the following symptoms or diagnoses:

1. **Fever lasting 3 or more days, with one or more of the following symptoms; headache, muscle pain or rash (West Nile Fever)**
2. **Encephalitis**
3. **Aseptic Meningitis (in individuals > 18 years of age)**
4. **Individuals < 18 years of age with aseptic meningitis, in conjunction with workup for enterovirus infection (e.g. submission of CSF, throat swabs or stool samples for virus isolation)**
5. **Acute flaccid paralysis/atypical Guillain-Barré syndrome/transverse myelitis**

It is recommended that physicians screen these individuals for both IgM and IgG West Nile Virus serum antibodies. Serum (2mL) is required for analysis. CSF (1-2mL) can also be tested but only in conjunction with serum.

**Report positive results to the CCHD Office of Epidemiology at 759-1300.**

Healthcare providers also play an important role in patient education about WNV. While most people know that the disease is transmitted by the bite of a mosquito, surveys have shown that few people change their behavior sufficiently to protect themselves against acquiring the disease. Encouraging patients to adopt personal behaviors that can minimize their risk of being exposed to WNV is essential for reducing the number of cases. WNV fact sheets for patients in English and Spanish are downloadable from the Clark County Health District Website at:

[http://www.cchd.org/download/fact\\_sheets/west\\_nile\\_virus.pdf](http://www.cchd.org/download/fact_sheets/west_nile_virus.pdf)  
and  
[http://www.cchd.org/download/fact\\_sheets/west\\_nile\\_spanish.pdf](http://www.cchd.org/download/fact_sheets/west_nile_spanish.pdf)

For additional information on WNV visit the following websites:

*Centers for Disease Control and Prevention West Nile Virus Website:*

<http://www.cdc.gov/ncidod/dvbid/westnile/index.htm>

*Nevada State Health Division West Nile Virus Homepage:*

<http://health2k.state.nv.us/special/wnv>