

West Nile Virus

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| 2009 Case Total | 10 | 2009 Rate | 0.3 per 100,000 |
| 2008 Case Total | 9 | 2008 Rate | 0.3 per 100,000 |

Since national surveillance began 10 years ago, there have been a total of 29,683 human cases of West Nile (WN) disease with 1,163 deaths reported in the United States. In 2009, a total of 722 human cases of WN disease were reported to the Centers for Disease Control and Prevention by 47 states representing a 93% decrease from national peak activity in 2003 with 9,862 human cases. The highest number of cases was reported from Texas (115), California (112), and Colorado (103). Three hundred and twenty-five cases of WN disease were reported in Oklahoma from 2002-2009 with the highest incidence occurring in 2007 (3.0 per 100,000) followed by 2003 (2.3 per 100,000). The 2009 statewide incidence of human WN disease was 10 cases of WN Fever or WN neuroinvasive disease (0.3 per 100,000) was unchanged from the previous season. For the second consecutive year, the incidence of WN disease was the lowest since it was identified in Oklahoma in 2002.

The counties with the highest cumulative seven year rates were Texas (143.0 per 100,000), Cimarron (117.4 per 100,000), and Beaver (114.3 per 100,000). In 2009, reported cases were distributed across 7 counties with Jefferson (16.1 per 100,000), Choctaw (6.7 per 100,000), and Carter (4.2 per 100,000) having the highest incidence rates per 100,000 population. By gender, seven (70%) case patients were male; eight (80%) were white, one was an American Indian and race was unknown for one. Dates of symptom onset ranged from July 16 to September 28, 2009. The highest incidence rate of WN disease was in those 70 years of age and older (2.9 per 100,000); age range of all cases was 33–78 years.

While persons of any age may develop symptoms of disease, those over the age of 50 are at greater risk of developing WN neuroinvasive disease. From 2002-2009, the cumulative incidence rate of WN disease in adults 50 years of age and older was 17.0 per 100,000 population. Since 2002, 200 hospitalizations (61.5%) and 204 neuroinvasive disease cases (62.7%) were reported. Twenty deaths due to WN disease have occurred with one fatality in 2009 resulting in a seven year cumulative fatality rate of 6.2. In 2009, neuroinvasive disease comprised 80% (8) of reported WN cases. Hypertension and cardiovascular disease have been identified as independent risk factors for developing WN neuroinvasive disease. Seven (70%) case patients reported hypertension and four (40%) reported cardiovascular disease.

Since 2002, the majority of case patients developed WN disease in August (41.5%, N=135) and September (32.9%, N=107) with the earliest onset date occurring in March 2003. Typically, WN disease in Oklahoma has a seasonal pattern with most human cases occurring between July and October. In 2009, onset dates of illness spanned from mid-July to late September and with peaks in August and September.

Due to the risk of WN virus transmission through contaminated blood products, blood collection facilities routinely perform nucleic acid amplification testing (NAT) to screen donors for WN viremia. Donations from all NAT-positive donors are excluded. From 2002-2009, 79 viremic blood donors were reported. Four viremic Oklahoma blood donors were reported in 2009 as compared to one in 2008. One viremic blood donor developed WN disease. In 2009, none of the WN cases reported wearing insect repellent. Personal protection measures such as regular use of an insect repellent containing DEET, Picaridin, Oil of Lemon Eucalyptus (PMD) or IR3535 are the only WN disease prevention methods available.