

## Media Backgrounder: West Nile Virus Reporting July 2014

For the 2014 season, Saskatchewan is changing its approach to West Nile Virus reporting.

### **Why we're changing:**

West Nile virus (WNV) was first identified in Saskatchewan in 2002 and is here to stay. We have learned over the years that by the time we have reports of human cases, opportunities to prevent infection in humans have been lost. As WNV is transmitted to humans by the *Culex tarsalis* mosquito, precautions against getting bitten by these infected mosquitoes need to be taken well before we have information about human cases. Reports of human cases occur weeks after the time of infection.

### **What we're changing:**

We are focusing our reporting on the estimated risk of being bitten by a WNV infected mosquito. The level of risk is determined by a number of environmental factors, such as the number and location of infected mosquitoes and number of days with sufficient heat.

Since WNV was first identified in Saskatchewan, Regional Health Authorities have followed up on every positive WNV laboratory result to determine the person's history of exposure and signs and symptoms of infection. This was done because WNV disease was entirely new to Canada and we did not have a good understanding of the disease. WNV has been present in North America since 1999 and we now have a detailed understanding of WNV transmission and human disease as well as how to reduce risk of disease. Public Health will not follow up on every positive laboratory result as this does not add value to the prevention and control of WNV.

### **What this means:**

We will continue to report human cases of WNV neuroinvasive disease.

This is the best indicator to estimate the burden of WNV illness in the population and to assess our prevention and control efforts from year to year. Neuroinvasive disease is a severe form of WNV infection. Symptoms of WNV infection usually appear two to 15 days following a mosquito bite, but can take several weeks to appear in immuno-compromised persons, who are most at risk for getting severe disease. So there can be considerable a time lag from when someone is bitten to when WNV neuroinvasive disease is diagnosed and reported.

For every case of WNV neuroinvasive disease, there are approximately 150 WNV infections.

We will also report the number of positive laboratory results.

However, there are significant limitations in interpreting these results:

- Personal information about the persons' symptoms and exposure histories is not available;
- there may be multiple positive tests for one person;
- a positive laboratory test does not necessarily indicate a current WNV infection - it may show a WNV infection from the previous year or a cross-reaction with other viruses; and
- positive lab results will not be followed up by Public Health unless requested by a physician.

**WNV information is online:** Saskatchewan's WNV information will be updated weekly to provide a timely measure of the risk of WNV transmission to humans, and the public better understand the urgency and importance of using personal protective measures.

The WNV risk depends on a number of environmental indicators, such as the number and location of infected mosquitoes and number of days with sufficient heat. WNV risk will be estimated by ecological risk area.

#### Ecological risk areas by health region

<b>Mixed-Grass Prairie</b>	<b>Moist Mixed-Grass Prairie</b>	<b>Boreal Transition</b>	<b>Boreal Forest</b>
Cypress, Five Hills, Regina Qu'Appelle, Heartland, Sun Country	Prairie North, Saskatoon, Sunrise	Kelsey Trail, Prince Albert Parkland	Keewatin Yatthé, Mamawetan Churchill River

#### Historic information on human WNV disease

Saskatchewan data for the number of reported cases of human WNV neuroinvasive disease from 2003 to 2013 are presented in the table below.

#### Reported cases of WNV neuroinvasive disease 2003–2013

<b>Year</b>	<b>Neuroinvasive Cases</b>	<b>Deaths</b>
<b>2003</b>	63	7
<b>2004</b>	0	0
<b>2005</b>	6	3
<b>2006</b>	2	0
<b>2007</b>	75	6
<b>2008</b>	1	0
<b>2009</b>	0	0
<b>2010</b>	0	0
<b>2011</b>	0	0
<b>2012</b>	0	0
<b>2013</b>	7	1
<b>Total</b>	154	17

WNV neuroinvasive disease is a stable indicator of the burden of WNV illness from year to year. This data demonstrates that outbreaks of WNV infection occurred in 2003 and 2007.

Updated information on WNV including WNV risk levels, maps and surveillance results will be posted every Friday before noon on [www.saskatchewan.ca/west-nile-virus](http://www.saskatchewan.ca/west-nile-virus).