

West Nile rates soar in 2007

Erstwhile hopes that the West Nile Virus may have been slowly disappearing in Canada dissipated this season as the country experienced the largest outbreak since the virus' arrival in 2001.

A staggering 2260 human clinical cases were reported to the Public Health Agency of Canada as of Oct. 20, a startling jump from 151 confirmed cases in 2006. That increase was most pronounced in Saskatchewan, where the number of cases rose to 1359 from 19 in 2006, and in Manitoba, where cases rose to 559 from 50 (Table 1).

Manitoba leads the nation in the number of cases (46) of the most severe form of the disease, West Nile Neurological Syndrome, in which permanent neurological damage is caused to the brain. Saskatchewan recorded 40 cases, Alberta 19, British Columbia 8, Quebec 1 and Ontario 1.

City of Winnipeg entomologist Taz Stuart says the outbreak in Manitoba was largely a function of environmental conditions, which "were very suitable for an outbreak of the *Culex tarsalis* mosquitoes. In May and June, we had a large amount of rain, which produced a habitat for the first generation. The hot

weather that followed provided conditions for lots of eggs."

Stuart also said that increased media attention resulted in a higher number of people being tested, which may have contributed to the increases in Manitoba. But Dr. Michael Drebot, head of Health Canada's Viral Zoonoses Section, says the high incidence of 2007 "stems more from the ecological factors such as climate and the high number of infected *Culex tarsalis*."

Stuart and Drebot also indicated that the 2007 increases are not necessarily an indicator of future incidence. While more accurate predictive models are being sought, using accumulated data, none are completed, or foolproof. "We hope to provide these models and possibly, risk indices to be more accurate," Stuart says. But it's a challenge because "each year is unique in itself."

"The message is that every season holds the potential for a large epidemic. People need to take precautions even if there are not swarms of mosquitoes around; the few that are around may be infected with the virus," warns Drebot. "People cannot be lulled into a false sense of security." — Shawna Lessard, Ottawa, Ont.

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Gairdner winners honoured at Toronto symposium

Advances in combating cancer and promising avenues of research highlighted the lectures of 5 newly minted Gairdner International Award winners at a University of Toronto symposium Oct. 25–26.

The culmination of a nation-wide lecture series, the symposium also featured a dozen addresses by past Gairdner winners around the themes of "Advances in the Treatment of Cancer" and "Advances in Our Understanding of Cancer." Established in 1959 by Toronto businessman James Gairdner, the awards aim to recognize research that improves the quality of life.

The 5 new winners, each of whom received \$30 000 and a La Coeur statue, sketched the research that underpinned their careers and their thoughts on where their fields are headed. The 2007 recipients:

David Allis: "K" for cancer

Honoured for his work in cancer epigenetics, the head of the Laboratory of Chromatin Biology at Rockefeller University in New York City, New York, said in his lecture that he was struck by the concept of identical twins having the same DNA, yet only 1 with autism. That notion, to Allis, seemed a powerful demonstration that DNA cannot explain all changes in gene function.

The theoretical pair of twins demonstrates that genes can remain unchanged, but suddenly "switch off" when they should remain active. Epigenetics, Allis's specialty, aims to determine how to turn these genes back on.

Allis discovered a "K" marker that may be a cancer switch inside histone tails in DNA sequences. Based on that discovery, a Sloan-Kettering study applied drugs to a lung cancer patient and discovered that his tumours hollowed out after 8 weeks of treatment (*J Clin Oncol* 2005;23[17]:3923-31).

Kim Nasmyth: Chromosome tug-of-war

Cited for decoding the mechanics of cell division, the Whitley Chair holder at the Department of Biochemistry at Oxford University in England spoke of

Table 1: Number of human cases of West Nile virus infection in Canada, 2002-2007

Province/territory	No. of reported cases					
	2002	2003	2004	2005	2006	2007*
Newfoundland and Labrador						
Prince Edward Island				1		
Nova Scotia		2		1		
New Brunswick		1		1		
Quebec	20	17	3†	4	1	1
Ontario	394†	89†	13†	95†	42†	12
Manitoba		142†	3	55	50	559
Saskatchewan		937†	5†	58†	19†	1359
Alberta		272†	1	10†	39†	311
British Columbia		20				18
Yukon Territory		1				
Northwest Territories						
Nunavut						
Total	414	1481	25	225	151	2260

*As of Oct. 6, 2007.

†Related to travel outside of the province/territory.