

HIV/AIDS



CIHR IRSC

The Canadian Institutes of Health Research (CIHR) is the Government of Canada's agency for health research. Through CIHR, the Government of Canada invested approximately **\$37.5 million in 2006-07 across Canada in research on HIV/AIDS.**

The Facts

- Human immunodeficiency virus (HIV) is the virus that causes acquired immunodeficiency syndrome (AIDS). The virus mutates rapidly, creating new strains that make it hard to detect, prevent and treat. While treatments exist, they are costly and not readily available in developing countries. There is no cure for AIDS.
- The HIV virus is transmitted by the transfer of blood and semen through such activities as sexual intercourse and the sharing of needles. It can also be transmitted by infected mothers who breastfeed their infants.
- The first case of AIDS in Canada was reported in 1982. By December 31, 2005, there were a total of 60,160 positive HIV test reports in Canada.
- The Public Health Agency of Canada estimates that 27% of HIV-positive Canadians do not know they are infected.
- In 2006, around 4.3 million adults and children became infected with HIV worldwide. By the end of the year, an estimated 39.5 million people were living with HIV/AIDS. The year also saw 2.9 million deaths from AIDS.
- In Canada, HIV and AIDS disproportionately targets vulnerable populations in our society such as youth, injection drug users and Aboriginal people. For example, in 2005, 16.4% of Canadian AIDS cases with known ethnicity were Aboriginal people; Aboriginal people account for 4.4% of the Canadian population.



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About CIHR

The Canadian Institutes of Health Research (CIHR) is the Government of Canada's agency for health research. CIHR's mission is to create new scientific knowledge and to catalyze its translation into improved health, more effective health services and products, and a strengthened Canadian health-care system. Composed of 13 Institutes, CIHR provides leadership and support to more than 11,000 health researchers and trainees across Canada.

Finding Solutions

Male circumcision prevents HIV transmission

Researchers estimate that HIV infection rates in sub-Saharan Africa could be reduced by up to two-thirds if male circumcision becomes standard practice. An international team of researchers, including Dr. Stephen Moses at the University of Manitoba, conducted a large study in Kisumu, Kenya, where 18% of the men and 25% of the women are HIV positive. Dr. Moses found that circumcised men in that community were 53% less likely to contract the deadly virus than uncircumcised men. The project, co-funded by CIHR, confirms the findings of several previous studies. The findings of these studies have collectively resulted in the World Health Organization developing recommendations regarding male circumcision.

Message to immune system – Keep working

A CIHR-supported research team has found a way of encouraging the immune system to keep working even in the presence of HIV. Dr. Rafick-Pierre Sékaly of the University of Montreal discovered that high levels of the HIV virus prompt the body to overproduce a protein called PD-1 which, in turn, sends a message to the immune system cells to stop working. However, the research team also found a way to block this protein, in effect, turning back the clock and improving the chances that the body will eliminate the virus. The new discovery could eventually lead to new treatments in the ongoing fight against HIV/AIDS.

Aboriginals with HIV/AIDS – Better services needed

The rate of HIV/AIDS within Canada's Aboriginal community is on the rise. CIHR-supported researcher Dr. Randy Jackson of the University of Ottawa and head of the Canadian Aboriginal AIDS Network is identifying areas for improvement in health-care services to Aboriginal people with HIV/AIDS. A survey by Dr. Jackson found that nearly half of respondents felt they received poor care and 30% said they experienced racial prejudice or homophobia in the health-care system. An alarming 12% reported they simply do not use primary medical services. Meanwhile, 60% of respondents said they use or need traditional Aboriginal health and wellness services, such as sharing/healing circles.



The Researchers

Dr. Catherine Worthington – Listening to those in need

When it comes to her research, Dr. Catherine Worthington of the University of Calgary gets her best ideas from the street. It's a necessity given the people she hopes to reach, those on the edge of society and most at risk for HIV/AIDS.

Researchers face major challenges translating the results of their work into meaningful programs that will have results in the "real world." Dr. Worthington feels that including the community from the start helps ensure one's results will have a positive impact.

"If you involve service providers, policy-makers and advocates right in the research process, then you can't fail at getting use of the research results, because the very people that you want to hear the message have been involved from the beginning," she explains.

Dr. Worthington, a CIHR-funded researcher, wants to know why people do or do not use health services such as HIV/AIDS prevention programs. HIV/AIDS has greatest impact on street youth, injection drug users and those from other vulnerable populations, such as Aboriginal peoples.

"With the street youth study, the community approached us, we didn't go to the community," she says. AIDS Calgary asked Dr. Worthington and colleague Dr. Bruce MacLaurin to work with them on the study.

Working closely with the people who will be affected by her research has allowed Dr. Worthington to learn a lot about them, gain an appreciation of the challenges they face and understand how they can be reached to help prevent further transmission of HIV.

"These street youth are the kids that a lot of people are wary of because they are different," says Dr. Worthington. "But there is strength and huge diversity among these groups of youth, and we have to respect that and understand that in order to provide appropriate services."

