



CIHR IRSC

Canadian Institutes of Health Research / Instituts de recherche en santé du Canada

Fall 2006

Your Health Research Dollars at Work

An Update from the Canadian Institutes of Health Research

President's Message



CIHR – Open, Accountable and Delivering on its Mandate

CIHR's core priority is improving the health of Canadians through research. We do this in many ways. For example, CIHR-funded research carried out at the University of Toronto recently identified a drug that halts Alzheimer's disease in mice. Based on the study's results, Health Canada has approved the drug for clinical trials in humans.

All CIHR funding applications undergo peer review for their excellence. The thousands of reviewers that we call upon from Canada and abroad donate their time and their expertise for this purpose. In the past year, as part of our commitment to remaining accountable and transparent to Canadians, CIHR commissioned its own version of a peer review and has released the results of this process.

A distinguished 27-member international review panel conducted a comprehensive evaluation of CIHR. The results of the evaluation indicate that CIHR has already accomplished a great deal in support of its mandate. These are achievements that are being noticed on the world front. For example, inspired by CIHR, in March the British government announced its decision to explore merging the Medical Research Council and the Department of Health Research and Development Unit.

The International Review Panel Report provides strong confirmation of the broad directions that CIHR has established. The panel also notes the challenges that CIHR faces, given the diversity and differing needs and perspectives of the many research communities across Canada. "Few places in the world have the quality of health researchers, the universal health care system, the university structure and the mandate to put together a program such as that being developed by the CIHR," the report states.

The panel's report provides an independent and international perspective through which to evaluate issues and plan directions for the next stage in CIHR's evolution.

I invite you to read more about the panel's report on our website. CIHR is committed to remaining open and accountable for investments in research made on behalf of Canadians.

Dr. Alan Bernstein, O.C., FRSC
President, Canadian Institutes of Health Research

CIHR-FUNDED RESEARCH

Diabetes Can be Prevented with Drug Therapy: Study



Dr. Hertzell Gerstein

Many people at high risk of developing diabetes may never get the disease if they take a drug that is already currently used to treat diabetes, according to an international trial led by CIHR-funded researchers at McMaster University in Hamilton. Results of the trial known as DREAM (Diabetes REDuction Approaches with ramipril and rosiglitazone Medications) found that the drug rosiglitazone reduced the chance of getting diabetes by 60% among those taking part in the three-year, international trial. The trial involved 5,296 people from 191 clinics in 21 countries.

Dr. Hertzell Gerstein, co-principal investigator and a professor of medicine at McMaster, said the results have major implications for future health care. "If we can prevent diabetes, we may also be able to prevent the serious cardiovascular, eye, kidney, and other health consequences of diabetes," he said.

Among study participants taking rosiglitazone, only 12% developed diabetes, compared to 26% who were taking the placebo. Rosiglitazone also normalized glucose levels in 51% of participants versus 30% of those taking a placebo. It benefited all participants, and particularly those who weighed the most.

DREAM was funded by CIHR via the CIHR/Rx&D Collaborative Research Program, Sanofi-Aventis and King Pharmaceuticals (manufacturers of ramipril) as well as GlaxoSmithKline (manufacturer of rosiglitazone).

About the Canadian Institutes of Health Research

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 10,000 health researchers and trainees across Canada.

NATIONAL

Minister Clement Announces Recipients of \$348 Million in Funding for Health Research Projects

Health Minister Tony Clement announced on Oct. 13, 2006 the recipients from across Canada of 1,633 health research grants worth over \$348 million for a wide range of projects, including wait times, pandemic preparedness and heart health. The Minister made the announcement at the University of Toronto, where leading health research is being funded by the Government of Canada. "In our 2006 Budget, we increased the Canadian Institutes of Health Research budget by \$17 million dollars, and provided an additional \$21.5 million over five years for research into pandemic preparedness," said Minister Clement. "We made this investment because we understand the relation between health research and health care delivery, between health research and prevention, between health research and treatment."

Getting Youth Excited About Health Research

Encouraging students to consider a career in health research is the goal behind "Synapse – CIHR Youth Connection" – a new Canada-wide program that connects CIHR-supported researchers with young people. Elementary, middle and high school students will be given opportunities to participate in health research programs no matter where they live in Canada. *Synapse* will allow young people to interact with real scientists in the places where health research happens, be it in a university laboratory, a teaching hospital, or a pharmaceutical company.

Turning Coffee Shops into Science Cafes



CIHR is helping to bring lively discussions about science and technology into cafes in cities across Canada. At a Café Scientifique, for the cost of a cup of coffee, anyone can meet informally to learn about and discuss hot topics in science and their impact on society, from obesity to nanotechnology, to science and religion and creativity and genetics. The cafes are already held in 180 cities worldwide. In Canada, cafes

are scheduled for Hamilton, London, Ottawa, Toronto and Vancouver. For a list of events, visit: www.cafescientifique.ca.

Stem Cell Research Offers Hope for People with Type 1 Diabetes

Vancouver and Montreal: CIHR and the Juvenile Diabetes Research Foundation have teamed up to fund stem cell research on type 1 diabetes. In one project, Dr. Tim Kieffer of the University of British Columbia is studying a novel gene therapy strategy that could lead to the prevention and reversal of diabetes. In a second project, Dr. Lawrence Rosenberg of McGill University Health Centre and his team are developing an innovative bioengineered process for the production of pancreatic endocrine tissue to treat diabetes.

Contradictory Research – What to Believe

Canadians are bombarded with more health studies than any time in history, but contradictory research can leave many people, including doctors, unsure what to believe. CIHR is providing more than \$7 million over five years to support the Canadian



Federal Health Minister Tony Clement (centre) is joined by Dr. Janet Rossant, CIHR (from left), Dr. John Challis, VP Research, U of T, and Dr. Shirley Wu, during a tour of the U of T pharmacy lab, following the CIHR national funding announcement.

INTERNATIONAL

Clinical Study Seeks Better Way to Treat Blood Loss

Canada-US: What is the best way to treat people who have suffered severe blood loss from a car accident, gun shot or other traumatic injury? A highly concentrated saline solution at the site of an accident, in place of the less salty liquid now commonly used, could improve survival or recovery of brain function. This experimental therapy is being tested in the largest study of its kind in North America, involving 10 hospitals in Canada and the U.S. CIHR is one of the funding partners.

Understanding How "Superbugs" Attack

London, Ontario, and San Diego: What do flesh-eating disease, food poisoning and toxic shock syndrome have in common? In all cases, the immune system breaks down. A new study, funded in part by CIHR, describes – for the first time – the precise molecular chain of events that initiates these breakdowns. This new information moves researchers a step closer to the development of targeted drug therapies for these devastating diseases. Dr. Joaquín Madrenas of the Robarts Research Institute led the study with collaborators in London, Ontario, and San Diego, California.

Cochrane Network and Centre, an international organization that evaluates research to find right answers. Read more about recent Canadian Cochrane reviews below.

Just Give the Kids Water for Dehydration

Edmonton: Pediatricians in wealthy countries often prefer to give children with diarrhea fluids intravenously rather than orally, which results in increased trauma for children and higher health care costs. A review of data from 18 trials revealed that, in fact, oral rehydration therapy is just as effective. Dr. William Craig at the University of Alberta was the senior review author.

Breastfeeding Reduces Pain in Newborns

Toronto: Breastfeeding a newborn can help relieve the pain from a needle prick used to screen their blood for disease, according to a review by Toronto's Mount Sinai Hospital of existing research. It may be that closeness to the mother offers comfort, or it may be that a high concentration of a chemical in breast milk triggers the production of endorphins, a natural painkiller.



Soldier in Afghanistan, Department of National Defence



Dr. Brenda Elias

WESTERN CANADA

Could Painful Catheters Become Obsolete?

Vancouver: Many patients have experienced the discomfort, if not outright pain, of a catheter insertion to treat a bladder condition. Now, Urodynamix Technologies Ltd., Vancouver, is poised to hit the market in 2007 with a fast, safe and painless technology that uses a disposable light emitting sensor. CIHR is supporting a clinical study of this new technology, developed at the University of British Columbia, with CIHR support.



Peripheral Nerves and Spine Could Hold Clue to “Phantom” Pain

Edmonton: Amputations resulting from military operations in Afghanistan are focusing even more scientific attention on the “phantom pain” people experience when they lose a limb. Called chronic neuropathic pain, this mysterious yet very real pain also affects thousands of Canadians suffering from arthritis, cancer and diabetes. Neuropathic pain is difficult to treat because there is no agreed location to which to target therapy – until now. The place to look, according to CIHR-supported research from the University of Alberta, is between the nerves that are producing the pain and the spine.

Are Hospitals Affecting the Health of Nurses and their Children?

Vancouver: A new CIHR-supported study is investigating the reproductive health of nurses to determine if workplace exposure to radiation and chemicals is affecting their health or is a factor in high rates of cancer among children. Led by Drs. Nhu Le and Helen Ward at the University of British Columbia, the research will identify potential hazards for health care workers and their families, and will allow workplaces and policy-makers to take steps to remove them.

Researchers Prepare Aboriginal Health Report Card

Winnipeg: Dr. Brenda Elias of the University of Manitoba and her team are researching health indicators of First Nations peoples with the aim of developing a comprehensive national health report card for First Nations communities. The information will identify health disparities across the country and help to promote equity in the First Nations population.

A New Approach to Osteoporosis

Edmonton: About 20% of people over 60 have had a vertebral fracture, but don't know it. In a new CIHR-funded project, Dr. Sumit Majumdar of the University of Alberta will use chest x-rays from emergency departments to remind family physicians about the need to test for and treat osteoporosis when their x-rays reveal a fracture. It could lead to more people receiving treatment for this debilitating condition.

CENTRAL CANADA

Major Breakthrough in Controlling the AIDS Virus

Montreal: CIHR-supported researchers from the Université de Montréal and its research hospital (CHUM) have discovered the key to reviving the immune system of people with HIV. Led by Dr. Rafick-Pierre Sékaly, the team's findings offer hope that doctors could one day awaken the immune system to fight HIV as well as cancer and other infectious diseases.



Dr. Rafick-Pierre Sékaly

Discovery Could Help People With HIV Lead Healthier Lives

Montreal: A team of CIHR-supported researchers has discovered defective immune cells that can make HIV-infected individuals susceptible to candidiasis (thrush), a common and often debilitating secondary infection that is often resistant to conventional therapies. "This new knowledge will be instrumental in designing more powerful and effective treatments, which will directly improve the health status of HIV-infected patients who suffer from candidiasis," says Dr. Louis de Repentigny of Université de Montréal, one of the study's lead researchers.

Do C-sections Affect the Health of Mom and Baby?

Hamilton and Toronto: Some 3,800 new mothers from ten Ontario hospitals are participating in a new study examining the health benefits and costs of a vaginal versus a C-section birth. Led by researchers at McMaster University and the University of Toronto, the CIHR-funded Ontario Mother and Infant Study is important given the increasing C-section rates and the growing number of women choosing a C-section for non-medical reasons.

CIHR's *Your Health Research Dollars at Work* is available to Members of Parliament, Senators and policy-makers to communicate the benefits of the Government of Canada's investment in health research. News items can be reproduced for use in householders and other communications materials. Visit CIHR's website to download this issue in electronic form: www.cihr-irsc.gc.ca.

CIHR also produces an information kit called *Your Health Research Dollars at Work 2005-2006*, that provides a snapshot of the research results that are making a difference to the health of Canadians, to our health care system and to our economy. If you would like a copy, please contact Caroline Kay, CIHR's Production Coordinator at ckay@cihr-irsc.gc.ca.

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EASTERN CANADA

Treating Inflammatory Diseases

Dr. Marc Surette, a Canada Research Chair in cellular fatty acid metabolism at the Université de Moncton, is studying the role of enzymes in a process that affects cell growth in cancer and autoimmune diseases such as lupus and rheumatoid arthritis. His CIHR-funded work may lead to the development of new drugs for treating or managing these diseases.

Fighting HIV/AIDS without Antiretroviral Drugs

St. John's: Dr. Michael Grant of Memorial University wants to develop a new vaccine that uses the body's own immune system to treat HIV infection. In this CIHR-funded project, he is studying the parts of immune cells that respond against HIV, in hopes of developing a vaccine that would be non-toxic and have long-lasting effects after a single dose.

What Causes Some People with Depression to Relapse

Toronto: Mild stress or sadness can cause some individuals with a history of depression to relapse, according to CIHR-funded research at the University of Toronto and Centre for Addiction and Mental Health. Led by Dr. Zindel Segal, the study found that even a mild negative mood can trigger thinking patterns associated with the condition, increasing the risk for relapse. The research could lead to new approaches to help people manage depression.

No Need to Hospitalize Nursing-Home Residents with Pneumonia

Hamilton: Nursing-home residents are routinely hospitalized with pneumonia, but a CIHR-supported study has raised questions about this approach. Researchers at McMaster University reported that nursing-home residents with pneumonia treated in hospitals may become susceptible to other health risks. The study of 680 residents in 22 long-term care facilities in the Hamilton area also found that providing initial treatment within nursing homes cut subsequent hospital admissions for pneumonia and other lower-respiratory tract infections by more than half.

Upcoming Event

Nov. 22, 2006: Canadian Health Research Awards – A Celebration of Excellence
5:30 to 8:00 p.m. National Gallery of Canada