



CIHR IRSC

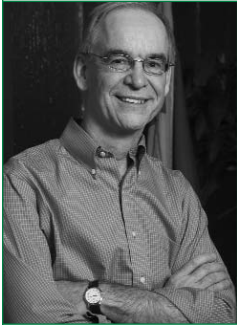
Canadian Institutes of Health Research / Instituts de recherche en santé du Canada

Spring 2008

Your Health Research Dollars at Work

An Update from the Canadian Institutes of Health Research

President's Message



Building a Stronger, More Transparent Health Research Community

This year promises to be a period of continued growth and change for CIHR and the Canadian health research community.

This growth will be fuelled in large part by the Government's renewed commitment to research. Budget 2008 provided federal research funding agencies with a financial boost, including a \$34 million budget increase for CIHR. This additional funding will enable CIHR to fund more excellent research, and it will support implementation of the priorities outlined in the Government's national Science and Technology (S&T) Strategy.

As we continue to grow as an organization, we are also working to improve the way that health research information is disseminated in Canada. This year, CIHR will introduce a new end-of-grant reporting system that will make it easier to collect and analyze the results of the research we fund. We will also improve Canadians' access to CIHR-funded scientific studies through a new open access policy.

This summer, CIHR will welcome a new president, Dr. Alain Beaudet. A prominent neuroscientist who most recently served as president of the Fonds de la recherche en santé du Québec (FRSQ), Dr. Beaudet will help lead our organization in new directions and build on past accomplishments.

As CIHR moves forward with new leadership, we remain committed to supporting the best research and improving the lives of Canadians.

Pierre Chartrand, PhD
Acting President
Canadian Institutes of Health Research

764 PROJECTS ANNOUNCED

Canada Invests Over \$298 million to Improve the Health of Canadians

Resuscitating newborns who experience oxygen deprivation at birth is among the 764 new health research projects to share more than \$298 million in CIHR funding.

In making the announcement on May 7 at the National Press Theatre in Ottawa, the Honourable Tony Clement, Minister of Health, said the projects "will help us address important health issues affecting Canadians, such as cancer, heart disease and HIV/AIDS."

"CIHR funds the best ideas and the brightest minds, and the projects announced today are no exception," added Dr. Patrick McGrath, a member of CIHR's Governing Council. "The talented researchers leading these projects will advance knowledge in many important areas, providing a stimulating environment for young Canadians training for careers in health research."

Dr. Po-Yin Cheung, a clinical researcher at the University of Alberta, was awarded a CIHR grant that will provide him with \$642,420 over four years to examine ways to reduce damage to the heart from resuscitating oxygen-deprived newborns. Dr. Cheung participated in the announcement along with Oksana and Luis Delgado, an Edmonton couple whose 22-month-old son Adrian suffered oxygen deprivation at birth and recovered under Dr. Cheung's care.



From left to right: Luis Delgado with seven-week-old daughter Marina, Oksana Delgado with son Adrian, Dr. Po-Yin Cheung, Health Minister Tony Clement, and Dr. Patrick McGrath.

(Continued on next page)

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 healthcare system. Composed of 13 Institutes, CIHR provides leadership and support to more than 11,000 health researchers and trainees across Canada.



Canadian Institutes of Health Research

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Canada

(Continued from cover)

“This funding from CIHR is very important because it will allow me to continue my work discovering novel ways to improve the recovery of babies born with oxygen deprivation,” said Dr. Cheung.

Other researchers from across Canada receiving funding include:

- **Dr. Deborah Money** (*University of British Columbia*), who will evaluate how the HPV vaccine works in HIV-positive women and whether it can help protect women against HPV and its related health issues. (\$1,389,043 over five years)
- **Dr. Janet Smylie** (*St. Michael's Hospital, University of Toronto*), who will work with First Nations and Métis communities to make parenting and child health programs more responsive to the needs of children and their families. (\$933,191 over five years)
- **Dr. Sylvain Martel** (*Polytechnique Montreal, University of Montreal*), who will use an MRI scanner to deliver microbeads carrying anti-cancer drugs directly into liver tumours. (\$218,913 over three years)

NATIONAL

New Network Will Focus on Improving Aboriginal Health

Winnipeg: CIHR is investing \$15.8 million over three years to create a new national program that will increase the impact of Aboriginal health research by improving the health of First Nations, Inuit and Métis people in Canada. Based at the University of Manitoba, the Network Environments for Aboriginal Health Research program will support several research projects and train more than 200 graduate students working on a broad range of health issues, such as mental health and addiction, food security, nutrition, diabetes, Northern health issues, tobacco control and Aboriginal youth suicide. “This investment will establish a national network of health researchers from across Canada to work on health priorities identified within Aboriginal communities,” said Dr. Jeff Reading, Scientific Director of CIHR’s Institute of Aboriginal Peoples’ Health.



From left to right: Dr. Jeff Reading, Scientific Director of CIHR’s Institute of Aboriginal Peoples’ Health; Steven Fletcher, Parliamentary Secretary for Health and MP for Charleswood-St. James-Assiniboia; and Elder Margaret Lavallee.

INTERNATIONAL

Breastfeeding Increases Intelligence

Quebec, Belarus: Results from the largest study ever conducted on the benefits of breastfeeding have shown that it raises children’s IQs and improves their academic performance.



Dr. Michael Kramer

In collaboration with researchers from Canada and Belarus, Dr. Michael Kramer, Scientific Director of CIHR’s Institute of Human Development, Child and Youth Health, followed a group of 14,000 children born in maternity hospitals and clinics in Belarus over a period of 6.5 years. “Our study provides the strongest evidence to date that prolonged and exclusive breastfeeding makes kids smarter,” said Dr. Kramer, also a professor in the Faculty of Medicine at McGill University. These findings, which attracted international media attention, appeared in the May 2008 edition of the *Archives of General Psychiatry*. The study was funded by CIHR.

Researchers Identify New Therapeutic Target for Treating MS

Quebec, Switzerland: An international team, led by Dr. Alexandre Prat of the Centre hospitalier de l’Université de Montréal (CHUM), has identified new therapeutic targets for treating multiple sclerosis (MS). With funding from CIHR, researchers from CHUM, McGill University, the University of Montreal, the National Research Council of Canada and the University of Zürich have identified a molecule that shows promise as a therapeutic target for dampening neuroinflammation and decreasing the lesions characteristic of MS. Understanding the molecular mechanisms of brain inflammation is essential in the development of new treatments for MS.

WESTERN CANADA

SFU Team Harnesses Energy from Walking



Photo courtesy of Greg Ehlers, SFU

The biomechanical energy harvester generates electricity from a subject walking on a treadmill while Dr. Max Donelan watches on.

Burnaby: A team of medical scientists and engineers at Simon Fraser University made international headlines with the development of a wearable technology that generates up to 13 watts of electricity from the natural motion of walking. Funded in part by CIHR, the Biomechanical Energy Harvester – which resembles an orthopedic knee brace – could be used in medical, military and consumer applications. “Unlike conventional human-powered generators that use positive muscle work, this technology assists muscles in performing negative work. It’s like regenerative braking in a hybrid car, where energy normally dissipated as heat in braking drives a generator instead,” says lead author Dr. Max Donelan. Burnaby, BC-based company Bionic Power is commercializing the device for the defence and biomedical markets.

Therapy for Colorectal Cancer Moves Closer to Market

Vancouver: Clinical trials are beginning and commercial partners are being sought for a promising new therapeutic for colorectal cancer, the second-leading cause of cancer death in Canada. CIHR provided crucial Proof-of-Principle funding that is enabling Dr. Dawn Waterhouse, a researcher at the British Columbia Cancer Agency, to test Irinophore C™ on cancer patients in the province. As Dr. Waterhouse and her colleagues explain in a research journal, their patented formula fits with the goal of an “ideal drug delivery system [which retains] its therapeutic payload until it reaches the target site whereupon the drug [is] released.”



Dr. Dawn Waterhouse



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Spinal Cord Researcher Helping Paralyzed People to Walk

Edmonton: Dr. Richard Stein’s WalkAide System, an electrical stimulation device, is helping thousands of people who have difficulty walking due to central nervous system disorders. Now, his latest CIHR-funded research is developing a novel micro-stimulation device that would be placed on the spinal cord of paralyzed persons to help them walk. In April, Dr. Stein was named the 2007 recipient of the Barbara Turnbull Award for Spinal Cord Research, presented annually to a top-ranked CIHR researcher. For more than 40 years, he has studied ways to help people with spinal cord injuries improve their ability to move.



Dr. Richard Stein

Photo courtesy of the University of Alberta

Reducing Injury and Death on Canada’s Farms

Saskatoon: Dr. James Dosman, considered the “Father of Agricultural Medicine” in Canada, is working with experts in the United States and Australia to reduce the number of agricultural deaths by 20% across Canada over the next few years. The University of Saskatchewan researcher, who leads the CIHR-funded Canadian Centre for Health and Safety in Agriculture, is studying some 6,000 farms and 15,000 individuals living on farms in Saskatchewan to examine what can be done to reduce injury and death among children, farm operators, young workers and the elderly.

CENTRAL CANADA

Yellow Curry May Prevent Heart Failure

Toronto: Eating curcumin, a natural ingredient in the spice turmeric, may dramatically reduce the risk of heart failure, CIHR-funded researchers at the Peter Munk Cardiac Centre of the Toronto General Hospital have discovered. The study found that when the herb is given orally to mice, it can prevent and reverse hypertrophy, restore heart function and reduce scar formation. Dr. Peter Liu, cardiologist at the Peter Munk Cardiac Centre and Scientific Director of CIHR’s Institute of Circulatory and Respiratory Health, says that since curcumin is a naturally-occurring compound readily available at a low cost, it may be a safe and effective means of preventing heart failure in the future.

Taking a New Approach to Creating Safe and Healthy Communities

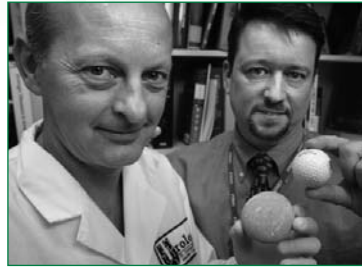
Ottawa: The City of Ottawa is working with a CIHR-funded researcher, social service providers, residents and the police on a new strategy to prevent crime and address social determinants of health. Led by Dr. Elizabeth Kristjansson at the University of Ottawa, the project examines 89 neighbourhoods for everything from language and housing profiles to income, education, physical health, health-care accessibility, community engagement and crime levels. For neighbourhoods with poor socio-economic and health indicators (e.g. low birth weights in Vanier North), the plan is to apply an innovative neighbourhood improvement approach (www.nocommunityleftbehind.ca), which has proved successful in the Ledbury-Banff neighbourhood as well as in other cities.



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Atomic Imaging Could Improve Kidney Stone Care

London: In a landmark CIHR-funded study, a scientist at the Robarts Research Institute has produced the world's only imaging technology capable of determining the composition of an intact kidney stone. Dr. Ian Cunningham's technology will make it possible for doctors – for the first time ever – to analyze the composition of the stone to determine the best removal strategy and what patients can do to cut their risk of a recurrence. This new atomic imaging technology will help doctors decide when to use lithotripsy, a common but expensive kidney stone treatment that is ineffective if the stone is too hard.



Surgeon John Denstedt, left, holds a kidney stone he removed from a patient's bladder. It's larger than the golf ball held by CIHR-funded scientist Dr. Ian Cunningham.

Photo courtesy Ken Wightman, Sun Media Corp.

Why the Immune System Protects Some from Hep C and Not Others

Laval: Dr. Alain Lamarre wants to know why up to 25% of people infected with the Hepatitis C virus are able to successfully fight the disease and fully recover, while most others succumb to complete liver failure. The CIHR-funded immunologist, based at the INRS-Institut Armand-Frappier research centre, is studying the role of natural antibodies in triggering an effective immune response, particularly during the early stages of infection.



Dr. Alain Lamarre

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 has also produced an information kit called *Your Health Research Dollars at Work 2006-2007* 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 caroline.kay@cihr-irsc.gc.ca.

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McGill Researchers Narrow Gap in Treating Type 1 Diabetes

Montreal: A CIHR-funded research team at the McGill University Health Centre has identified a type of white blood cell that, when defective, predisposes children to diabetes. These cells, known as CD4+ Treg cells, normally inhibit unwarranted immune responses and inflammation in a healthy body. In type 1 diabetes, however, recent evidence suggests that these CD4+ Treg cells may not function properly in controlling immune responses in the pancreas. This malfunction can thus lead to a breakdown in the pancreas' ability to produce insulin. Lead researcher Dr. Ciriaco Piccirillo said the discovery could lead to immunosuppression therapies targeted toward the pancreas.

EASTERN CANADA

Newfoundland Researchers Identify Gene Behind Deadly Heart Flaw

St. John's: Twelve years of CIHR-supported research is now enabling doctors to perform life-saving interventions for people with a sudden and fatal genetic heart condition. Arrhythmogenic right ventricular cardiomyopathy, or ARVC, strikes quickly



Dr. Terry-Lynn Young

with few or no symptoms and is difficult to diagnose. It's estimated that 80% of untreated men who carry the gene won't survive to age 50. But a team of Memorial University of Newfoundland researchers led by molecular geneticist Dr. Terry-Lynn Young has identified the gene behind a type of ARVC that's believed to be more prevalent in Newfoundland than elsewhere in the world. Researchers are currently studying the gene's prevalence among ARVC patients in the United Kingdom "It means that with 100% accuracy we can tell who's at risk of getting this disease and just as importantly, who's not," says Dr. Young.

Upcoming Events/News

Each month: Café Scientifiques in cities across Canada dealing with topical health issues. www.cihr.gc.ca/cafe_scientifique.html

Health Research with Impact (www.cihr-irsc.gc.ca/e/32495.html): Easy-to-access information on exciting CIHR-funded projects, monthly research profiles and CIHR's community outreach programs.