



Canadian Institutes
of Health Research

Instituts de recherche
en santé du Canada



Institute of Aging Biennial Report • 2005 – 2007



CIHR IRSC

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



Canada 

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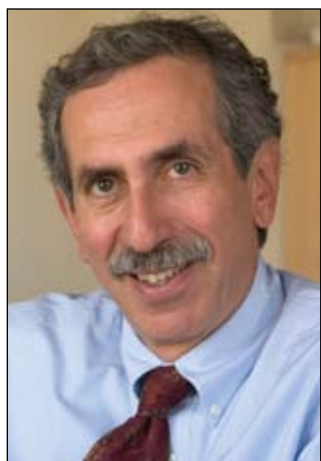
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As the population of Canada ages, we are experiencing a heightened imperative to better understand factors affecting health and aging. Over the past seven years, CIHR's Institute of Aging has significantly expanded knowledge in this area – and

its uptake – through innovative programs of researcher development, public consultation, partnerships and strategic investments in research.

Historically a small community, the number of new and established scientists who are turning their attention to problems of health and aging has increased, largely through the focused efforts of CIHR-IA. The Institute was recognized for its success in this regard and for its loyal community of stakeholders by the 2005-2006 International Review Panel, a panel of elite scientists from outside Canada that reviewed the Institutes.

CIHR's Institute of Aging has been exceptional for its ambitious series of constituent consultations, the Regional Seniors' Workshops on Research. These events have drawn important public attention to the work of CIHR and the science it supports, while at the same time uncovering the health-related issues that are of concern to the end users of research knowledge.

It is also important to acknowledge the vision and determination of Dr. Anne Martin-Matthews and the three Principal Investigators of the Canadian Longitudinal Study on Aging (CLSA), Parminder Raina, Susan Kirkland and Christina Wolfson. Together, they are successfully

advancing this leading venture of the Canadian Lifelong Health Initiative, a wide-ranging multigenerational cohort study encompassing reproductive and child health, cancer and healthy aging.

I would like to extend my thanks to the members of CIHR-IA's Institute Advisory Board, the Institute staff and those who are engaged in research on aging throughout the country. I would also particularly like to acknowledge the accomplished leadership of Dr. Anne Martin-Matthews, who is ably guiding the Institute through its second mandate – one that is already making a difference in the health and quality of life of older Canadians.

A handwritten signature in black ink, appearing to read "Alan Bernstein". The signature is fluid and cursive, with a long horizontal stroke at the end.

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



The two years since the 2003-2005 Biennial Report represent a period of growth for CIHR's Institute of Aging (CIHR-IA) – one that included many milestones of which I am particularly proud. Foremost has been the creation of important new initiatives,

developed in response to analyses of need and directions from our community of stakeholders.

In 2005, we launched the Institute's second strategic priority, Mobility in Aging (MiA). The long-term goal of the Mobility in Aging Initiative is to address research and knowledge translation needs within the range of intrinsic and extrinsic challenges (from biological to environmental) associated with mobility of older Canadians. Such investments are designed to optimize the well-being of a large number of current and future older Canadians. On the advice of our Institute Advisory Board (IAB), we have focused our resources in this early period on consultations, syntheses and research development programs in order to move a wide range of research disciplines to a stage of readiness for projects and funding opportunities that will have a greater impact.

To enhance the research skills of young scholars in aging and to strengthen the national network of colleagues in this field, we offered in 2006, for the first time, the CIHR-IA Summer Program on Aging (SPA). We are delighted by the early success of this program and will endeavour to gauge its impact by following our participants through the next stages of their careers in aging research.

The Institute has also advanced many of its early initiatives that have marked it both nationally and internationally as an innovative leader in its field. These include the Canadian Longitudinal Study on Aging, the Regional Seniors' Workshops on Research and the Cognitive Impairment in Aging Partnership.

Within this two-year time-frame, we have also enhanced communications with our constituents and stakeholders to include a newsletter, *Grey Matters*, published electronically three times a year, as well as research forums in association with IAB meetings across the country.

Finally, after 18 months of assessment and consultation under the able direction of the IAB, CIHR-IA's second strategic plan, *The Future is AGING 2007-2012*, is ready to serve as the foundation for the next exciting stage of the Institute's growth.

I would like to thank all IAB members and, in particular, the executive committee, Howard Bergman (Chair), Jane Rylett (Vice Chair), and Dorothy Pringle (Past Chair), for their energy and sound judgement in guiding the Institute over the past two years. Without a talented staff, few of the programs described in this report could have been possible. And above all, I must recognize the dedication and spirit of inquiry of our remarkable investigators. It is these individuals who are making a difference – who are changing the way Canadians age – for the better.

A handwritten signature in cursive script that reads "Anne Martin-Matthews".

Dr. Anne Martin-Matthews
Scientific Director,
CIHR Institute of Aging

Early investments in a range of programs for the advancement of Canadian research on aging continue to demonstrate their impact. CIHR-IA has devoted significant funding to the Interdisciplinary Health Research Teams (IHRTs), which enabled clinical researchers from different disciplines to work together to solve important problems in health care. The Institute also supported six mid-career scientists, allowing them to turn their attention towards a variety of aging research themes.



A model for the care of frail elderly

For François Béland, a Professor in the Health Administration Department of the Université de Montréal Faculty of Medicine and an

Associate Professor in the McGill University Medicine Faculty, Division of Geriatric Medicine, the question is no longer whether integrated care is important – he and his team have already established that through their research. Now, they are looking more closely at which seniors would benefit most from such care and the best mechanisms to provide it.

Dr. Béland, together with his colleague Dr. Howard Bergman, is the co-founder and co-director of SOLIDAGE, a CIHR-funded Interdisciplinary Health Research Team (IHRT) grappling with the challenge of understanding and meeting the needs of frail older people in the Canadian health care system.

Through SOLIDAGE, Dr. Béland has been able to test and evaluate a model of integrated care for the frail elderly, the System of Integrated Services for the Frail Elderly, or SIPA (in French, *Système intégré de services aux personnes âgées*), with extremely good results. The care model was able to reduce “bed blockers”, seniors in acute care hospitals awaiting transfer to longer-term care or back home with the needed supports, by 50%. SIPA was also

able to reduce acute-care hospitalizations, emergency room use and nursing home use in the most disabled elderly. The program also reduced costs associated with acute care for this population.

“We found that integrated care is feasible, that the quality is high and that the care is appropriate,” says Dr. Béland.

Now, Dr. Béland and his team want to know how people get from not being frail to the point of being frail enough to need integrated care. They hope that, by identifying patterns in the progression toward frailty, and the associated patterns of use of social and health care, they can develop interventions that will help slow the process down. The team is working with eight Health and Social Services Centers (CSSS, *Centres de santé et de services sociaux*) in Quebec to track how the continuum of health and social services they are delivering can be best transformed into a full integrated model targeted to respond to the needs of an elderly frail population.





Aging hearts

Susan Howlett's Mid-career Award couldn't have come at a better time. Dr. Howlett, a Professor in the Department of Pharmacology at Dalhousie

University, was in the process of shifting the focus of her research program to concentrate on how heart cells change as people age. The award gave her time, she says, to immerse herself in the literature in this relatively new area of focus and to publish several papers that shed light on some of the changes that occur in heart cells as they age and how this affects the heart's functioning.

Dr. Howlett examines how the release of calcium is triggered in heart cells. The calcium, in turn, causes the heart cells to contract. More calcium means a stronger – and healthier – contraction.

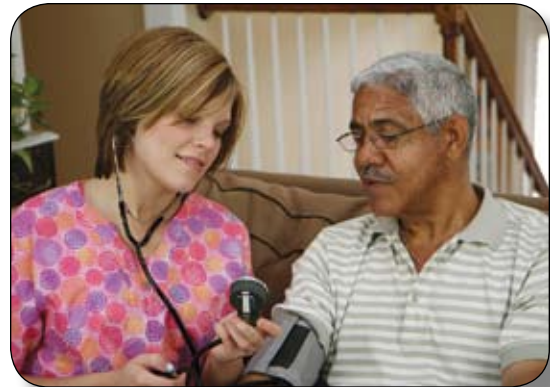
“It's important that the calcium is there when you need it – and gone when you don't,” says Dr. Howlett.

Her research has led to some surprising findings. For instance, the greatest changes in calcium release are in cells from male older mice. We already know, Dr. Howlett says, that female mice can have higher levels of hormones such as estrogen later in life than do their human counterparts. Dr. Howlett suspects that the protective effects of estrogen may have something to do with why the female mice show fewer changes in their calcium release than their male counterparts.

Dr. Howlett's publication on this work (*Am J Physiol*, 290: H1566-75, 2006) has generated a great deal of interest, she says, including several invitations to speak. “It wasn't what I started out to do, but once you find something, you have to follow it.”

Dr. Howlett has also found, again to her surprise, that some of the changes in the aging heart may actually be beneficial. With aging, she finds, the ability of cells to respond to surges of adrenalin – for instance, from exercise – goes down, making it less likely that older hearts will develop abnormal rhythms.

“Is it protective? Is it beneficial?” Dr. Howlett asks. “It goes against the whole idea of frailty and that everything makes us less likely to survive.”



Mobility in Aging (MiA)



Self-care, independence and social participation are determinants of the health of older people. And fundamental to these determinants is personal mobility. In 2005, the Institute launched its second major strategic initiative, Mobility in Aging (MiA). Early consultations with leading researchers and those who would need the outputs of mobility research (including older persons, health practitioners, NGOs, industry and policy makers), identified the following key themes to guide the MiA initiative over the next five years:

- Understanding and defining mobility in aging: trajectory of mobility status in health and disease and from function to impairment
- Maintaining and restoring mobility in aging: impact of behaviour, prevention, intervention and health system models
- Measures, tools and technologies in research, assessment and mobility aids
- Supportive designs for mobility in aging: housing, communities and transportation

These consultations additionally highlighted challenges for the uptake and application of research, including recommendations for standardization of terminology, protocols, methods and measures for mobility status. Integrated and multidisciplinary team research was suggested as the most appropriate mechanism for advancing knowledge creation and translation in mobility in aging.

The first funding programs within the MiA strategic initiative offered support for research syntheses and for planning and development work in preparation for larger studies and grant applications. MOBILE is an example of one of these projects.



Keeping older Canadians on the road

If life is a highway, does this mean that losing your driver's license due to age-related health issues is the end of the road? Many older Canadians certainly feel this way.

"I had one older man tell me that if they took his license away, he'd stop taking his medications, because what's the point?" says Dr. Michelle Porter, a professor at the University of Manitoba.

As the principal investigator for the project MOBILE – Mobility Outdoors and Beyond in the Independently Living Elderly – Dr. Porter is at the forefront of looking for ways to keep older Canadians safely at the wheel.

"Mobility is a key issue for quality of life," says Dr. Porter. "We've designed our cities around automobiles, so being able to drive is crucial for everything from getting groceries to accessing health services." Her research is analyzing new driving aid technologies and combinations of exercise and education to extend seniors' wheeling years.

In a recent two-week long study in Winnipeg, Dr. Porter tested the effectiveness of a new auditory device designed to alert elderly drivers when they're speeding.

"It's a big question whether new technologies are going to be more of a hindrance than a benefit to older drivers," she says. In this case, most of the 12 drivers – aged 69 to 91 years of age – found that the "Otto" device's spoken warning enabled them to focus on the road, rather than glancing at the speedometer. And the researchers found that it did moderately reduce speeding.



Dr. Porter is also examining new Global Positioning System (GPS) methods to more accurately track drivers' speed, location and route choices in order to study seniors' driving habits.

A kinesiologist, Dr. Porter is convinced that good driving starts with a strong body and positive attitude. In collaboration with colleagues in psychology, gerontology and public health at three other Canadian universities, she's planning to explore whether targeted exercises and education can help give older men and women the freedom of the road.

Says Dr. Porter: "By influencing their physical issues and confidence in their mobility, we think we'll improve not just seniors' walking, but also their driving."

New Emerging Teams (NETs)

CIHR-IA's commitment to enhancing capacity for interdisciplinary research on aging in Canada is reflected in its support for 14 New Emerging Teams (NETs). The purpose of the NET Program has been to build capacity in new and emerging areas of research, and create new solutions to problems affecting health, that could only emerge from multidisciplinary perspectives. Since their formation in early 2003, the IA-funded teams have successfully recruited trainees, secured additional research funds, and created knowledge that has inspired products, services and policies, now poised to improve the lives of older Canadians. The TIPPS project is one example of the capacity of this type of research program to make a difference.



Helping seniors stay on their meds – safely

In 2006, Canadians spent more than \$25 billion on medications, making this the second-largest share of health expenditures. Seniors in Canada between the ages of 60-79 years had an average of 35 prescriptions dispensed in a year, mostly for chronic conditions, and that doesn't count over-the-counter or herbal medications. This number increased to 74 prescriptions per year for those aged 80 years and over.

Avoiding side effects and drug interactions, developing ways to help seniors remember to take their different medications in the right dosage at the right time and adjusting medications to the realities of aging bodies are complex challenges that need solutions. The Team for Individualizing Pharmacotherapy in Primary Care for Seniors (TIPPS), under the leadership of Principal Investigator, Dr. Lisa Dolovich of McMaster University, is finding those solutions.

For instance, TIPPS research on physician-pharmacist collaboration demonstrated that having pharmacists in family physicians' offices helps to optimize medication regimes and

improves monitoring of medications, leading to better management of chronic problems such as high blood pressure and cholesterol. The results of this project led the Ontario Ministry of Health to fund full-time pharmacist positions for family health primary care teams.

"It's been very exciting to see the transfer of research into practice," says Dr. Dolovich.

Yet another study developed a prompt for physicians to remind them that seniors do not clear drugs through their kidneys as efficiently as younger people. Because the drugs stay in their bodies longer, seniors may need lower dosages of some medications. The prompt has helped change prescription writing in long-term care facilities and the team is now working to implement similar strategies in family physicians' offices.

A central feature of TIPPS is the involvement of a network of physicians, patients and pharmacists who give input on research directions and help disseminate research results. This network has helped ensure that TIPPS research meets real needs.

"We're in the community, on the front lines with patients and care providers," says Dr. Dolovich.

Strategic Training Initiative in Health Research (STIHR)

As our population ages the availability of researchers to generate new knowledge associated with health and aging becomes increasingly critical. In recognition of this fact, CIHR-IA has an explicit objective to increase Canadian research capacity in the field. Through our support of Strategic Training Initiatives in Health Research (STIHRs), we have helped link research centres across the country, enabling trainees from a variety of disciplines to develop as scholars and, ultimately, to address important health issues in aging. Communications in old age is one such challenge that is being tackled by the trainees and mentors in the STIHR in Communication and Social Interaction in Healthy Aging.



The ability to communicate is basic to our ability to function, as individuals and as a society. Yet, as we age, communication can become more difficult. It's not as easy to see the faces of those we talk to or to read a computer screen; we can't hear as well as when we were younger; our sense of touch is not as acute as it used to be.

Dealing with these changes and maintaining the ability to communicate is a complex task that can't be approached in isolation.

Bruce Schneider, the Director of the Centre for Research on Biological Communication Systems at the University of Toronto (Mississauga), is making sure that tomorrow's health researchers are equipped to investigate the complexities of communication in aging. As Director of the CIHR Strategic Training Program in Communication and Social Interaction in Healthy Aging, he is bringing together graduate students and post-doctoral fellows in disciplines as far-ranging as gerontology, psychology, engineering, audiology, optometry and human

factors (designing systems that minimize the potential for human error) to encourage them to learn from experts in disciplines other than their own.



All of the graduate student participants receive some training in each of these disciplines, including 3-4 months "hands-on" experience working in a lab in a different discipline than their own. There, they work on projects such as one to help optimize Web design for older adults – the subject of work being undertaken in Dr. Charles Scialfa's human factors lab at the University of Calgary. Web sites designed by younger people can be difficult to navigate and hard to read, with their small print, crowded pages, inappropriate colours and confusing organization. The lab has found that increasing print size and limiting the number of hyperlinks on a page can make the Web easier to use for older adults, facilitating their ability to gather information and stay in touch with family, friends and care-givers.

“Modern information technologies are changing the nature of communication in our society,” says Dr. Schneider. “We want to ensure that seniors can participate in the revolution, can share their experience and knowledge with others and can retain their rightful place as an integral part of the social fabric of our society.”

In 2005, Dr. Schneider’s program won the American Psychological Association Award for Innovative Practices in Graduate Education. The APA review committee was particularly impressed by the extent of interdisciplinary training and experience that the trainees receive, the extent to which the training program is developing an interdisciplinary cadre of young researchers interested in all aspects of communication and aging, and the emphasis given in the program to issues concerning knowledge translation.

New Investigators

CIHR-IA provides salary support for new investigators – promising scientists in aging who have completed their training within the past five years. This funding allows these individuals to pursue their research unencumbered by many of the additional demands that accompany university positions. Dr. Russell Hepple at the University of Calgary is one such scholar.



Eighty candles strong

There’s no doubt about it: when it comes to living longer with strong muscles, calorie-restricted diets produce impressive results. The problem is the diet.

Calorie-restricted diets, the focus of recent media attention, involve reducing normal food energy intake by about 40 per cent. The tricky part is getting all essential vitamins and other nutrients in such a small amount of food.

“For the vast majority of people it’s not a very practical approach. It requires the attention to eating of an Olympic athlete,” says Dr. Russell Hepple, a CIHR-IA-funded researcher.



The scientific challenge, he says, is to achieve the muscle benefits of a calorie-restricted diet without severe food restrictions. To accomplish this, he’s taking a cellular approach, gradually teasing apart the chemical soup involved in muscle cell function, decline and regeneration as we age.

Starting in our early 40s, we start to lose muscle cells – and, as with brain cells, they generally can’t be replaced.

"It's a gradual process that most people don't even notice until it has occurred," says Dr. Hepple.

Yet the rats on calorie-restricted diets in Dr. Hepple's University of Calgary lab lose only a fraction of their muscle mass by the time they're the equivalent of 80-years old.

"And what's most dramatic of all is that there's an almost complete preservation of muscle function in these calorie-restricted rats – their muscles work like they're in their prime of life," Dr. Hepple says.

Part of the key, he says, is the realization that, when starved, a muscle cell's mitochondria, its energy source, become more efficient. It's as if a car motor became more efficient as the gas gauge hits "empty".

The result, says Dr. Hepple, is the production of fewer free chemical radicals – a key cause of cellular breakdown.

"We're years from being able to give specific advice," says Dr. Hepple, himself 41 and on the edge of muscular decline. "But we're getting a detailed understanding of what it takes to keep muscle healthy. We're building a cell-level instruction book on how to do that which could lead to new pharmaceuticals or eating and exercise guidelines."

Emerging Scholars

Recognition Prize in Research in Aging

Honouring our brightest rising stars, these prizes are awarded to the highest-ranking applicant in the field of aging in each of the regular CIHR Research Personnel Awards competitions for *Doctoral Fellowship* and *New Investigator Awards*. The prize consists of a supplement to the research allowance component of the award and is intended to be used for travel to national or international conferences, workshops or meetings related to research on aging. Four prizes are awarded at the IA-Canadian Research Forum on Aging held in conjunction with the Canadian Association on Gerontology Annual Meeting each year.

September 2005

New Investigator Prize

Carsten Wrosch

Concordia University

*Self-regulation of health threats and life regrets in old age: Effects on diurnal cortisol rhythms and physical health**

Fellowship Prize

Ratan D. Bhardwaj

University of Toronto

*Understanding adult human cellular turnover within the brain, heart, and pancreas under normal and pathological conditions**

Doctoral Research Prize

Loren J. Martin

University of Toronto

*The role of GABA-ARs containing the alpha5 subunit in learning, memory and hippocampal synaptic plasticity**

February 2006

Fellowship Prize

Brent Richards

King's College London (UK)

*The Role of Inflammatory Cytokines and Telomere Length in Musculoskeletal Aging**

* Research project titles are listed in the language in which they were provided.

September 2006

New Investigator Prize

Alexander M. Clark

University of Alberta - Nursing

*A study to examine the facilitators and barriers to optimum outcomes in older adults with heart failure from rural areas in Alberta**

Doctoral Research Prize

Francis Clément

Institut universitaire de gériatrie de Montréal

*Substrats neuronaux de la mémoire épisodique et de la mémoire de travail dans le vieillissement normal et pathologique**

Fellowship Prize

Jeremy Van Raamsdonk

McGill University

*The role of aging genes in neurodegenerative disease**

Summer Program in Aging (SPA)

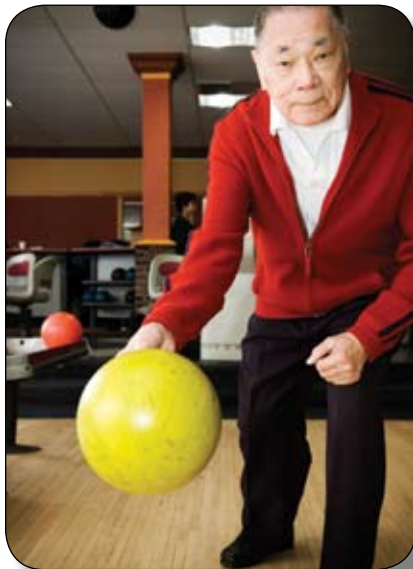
The inaugural CIHR Institute of Aging Summer Program in Aging (SPA) was held in June 2006, in collaboration with the Quebec-based STIHR program, Réseau de Formation interdisciplinaire en recherche Santé et Vieillesse (FormSaV). Fifty graduate students and post-doctoral trainees from many different fields of study and from universities across Canada met for four days in the bucolic setting of Jouvence in the Quebec Eastern Townships. Mentors led plenary lectures and interactive workshops in English and French on the topics of interdisciplinarity, peer review, writing successful grant proposals and knowledge transfer, all within the theme of health and aging. The positive feedback from students identified several factors in the success of the SPA. Beyond the content of the program, participants appreciated the opportunity to work closely with skilled mentors, meet others studying aging and share experiences and knowledge.

In some fields of scholarly work, a Canadian perspective is vital to appropriately inform practitioners and policy makers, as well as other researchers. Acting on its commitment to enhance transfer of knowledge, CIHR-IA provided financial support to two journals that directly address one or more of its Priority Topics:

- Canadian Journal on Aging/La Revue canadienne du vieillissement
- *Healthcare Policy Journal*

Canadian Research Forum on Aging (CRFA)

The Canadian Association on Gerontology (CAG), one of the Institute's closest partners, annually hosts CIHR-IA's Canadian Research Forum on Aging (CRFA), a major feature of the CAG Annual Scientific and Educational Meeting. The events that constitute the CRFA collectively highlight key research supported by CIHR-IA, along with outstanding achievements by trainees and new investigators in aging research. The Forum also offers CAG conference delegates an opportunity to meet the Institute's Scientific Director in an open session and participate in a CIHR grants-craft workshop.



- The 2005 meeting in Halifax featured two symposia: *NET Chronicles: A New Emerging Team Focuses on Dementia Care in Rural and Remote Areas*, chaired by Debra Morgan of the University of Saskatchewan; and *Aging in Manitoba: A Symposium in Honour of Betty Havens*, chaired by Barbara J. Payne of the University of Manitoba.
- The two symposia at the 2006 meeting in Quebec City, highlighted *Innovative Approaches to Optimize Balance and Mobility in Older Adults*, chaired by Brian Maki of the University of Toronto; and *Studying Adult Development and Aging: Planning for the Canadian Longitudinal Study on Aging (CLSA)*, chaired by Parminder Raina of McMaster University.



Research on Aging Advancement Program (RAAP)

Over the course of 2005-07, CIHR-IA contributed \$160,000 to support 23 meetings of scientists and other stakeholders to discuss emerging issues in research on aging and to address transfer of research knowledge through its Research on Aging Advancement Program (RAAP). These discussions crossed the spectrum of research foci, from the scientific bases of aging to practice, programming and policy. Some examples:

- *Vision Quest 2005: Road to a Treatment*, held by The Foundation for Fighting Blindness in Toronto in November 2005, was a forum for “science to meet the public”, where researchers had the opportunity to update those affected by age-related macular degeneration on the current state of bringing research from the laboratory bench to the patient’s bedside. Knowledge translation sessions focused on eye health awareness, prevention of further sight deterioration and pre-symptom risk modification to promote healthy and successful aging.
- Linda Kristal, Director of Communications for the Public Policy Forum, received funding for a roundtable discussion in February 2007 on the future of homecare in Canada. One hundred and fifty leaders in the homecare field from across Canada convened to debate the critical issues facing their sector, resulting in the publication of a report that spells out a concrete vision and action plan to help Canadians and their governments become more aware of the need for a strong home and community care system in Canada. An important component of the action plan is the need for knowledge translation among researchers, service providers and government as the foundation for evidence-informed policies and services.



Réjean Hébert Prize

Launched in 2006, the CIHR-IA Réjean Hébert Prize in Geriatric Research is a \$1,000 award for the best research presentation at the Canadian Geriatrics Society Annual Scientific Meeting by a medical resident in a core residency training program. The inaugural winner was Melissa K. Andrew, from Dalhousie University, for her research presentation “*Does social vulnerability predict mortality in older adults?*”. The selection committee included three national society Presidents: Howard Bergman for CGS, John Campbell for the New Zealand Geriatrics Society, and Jane Potter for the American Geriatrics Society.

Driving research a sound road map for policy

When ministries of transport across Canada want to set policies for older drivers, they turn to CanDRIVE, a CIHR-funded interdisciplinary research program aimed at improving the safety of older drivers. The program is led by co-principal investigators (PIs) Dr. Malcolm Man-Son-Hing of the Ottawa Health Research Institute and Dr. Shawn Marshall of the Élisabeth Bruyère Research Institute.

Three Canadian bodies have policies on driving and dementia, Dr. Man-Son-Hing notes – the Canadian Council of Motor Transport Administrators (CCMTA), an umbrella organization that comprises all provincial and territorial ministries of transport as well as the federal Transport Canada, the Canadian Medical Association (CMA) and the Canadian Consensus Conference on Dementia. All three policies are aligned, almost word for word. Not coincidentally, all three were written by CanDRIVE, which has become the accepted expert in Canada.



“Anytime an older driver issue comes forward, the CCMTA most often contacts CanDRIVE members to gain their input,” says Dr. Man-Son-Hing.

CanDRIVE also participated in developing the 7th edition of *Determining medical fitness to operate motor vehicles*, a publication of the Canadian Medical Association that is the primary tool physicians use to decide when their patients should no longer be driving.

“Our ultimate goal,” says Dr. Marshall, “is to take research and translate it into policy that will keep older drivers on the road for longer and driving more safely.”



Age Plus Award

The Age Plus Award recognizes excellence in research on aging by Canadian graduate and postdoctoral students and medical residents from all professional disciplines. Twelve awards are offered annually to the authors of high-quality scientific articles based on their own research published in peer-reviewed journals.

Age Plus Award Winners, April 2005 - March 2007

Winner	Institution	Title of published paper
Marie Savundranayagam	University of Western Ontario	<i>Investigating the effects of communication problems on caregiver burden</i>
Jessica Massicotte-Marquez	University of Montreal	<i>Slow-wave Sleep and Delta Power in Rapid Eye Movement Sleep Behaviour Disorder</i>
Xiulian Sun	University of British Columbia	<i>Distinct transcriptional regulation and function of the human BACE2 and BACE1 genes</i>
Danielle St-Arnaud-McKenzie	University of Montreal	<i>Hunger and aversion: Drives that influence food intake of hospitalized geriatric patients</i>
Christina Siwak	University of Toronto	<i>Chronic antioxidant and mitochondrial cofactor administration improves discrimination learning in aged but not young dogs</i>
Darren DeLorey	University of Western Ontario	<i>Effects of prior heavy-intensity exercise on pulmonary O₂ uptake and muscle deoxygenation kinetics in young and older humans</i>
Jie Zheng	Queen's University	<i>Differential patterns of apoptosis in response to aging in <i>Drosophila</i></i>
Brad Unryn	University of Calgary	<i>Paternal age is positively linked to telomere length of children</i>
Chris McNeil	University of Western Ontario	<i>Motor unit number estimates in the tibialis anterior muscle of young, old, and very old men</i>
Walter Wittich	Concordia University	<i>Visual function assessment and metamorphopsia after macular hole surgery</i>
Manuel Montero-Odasso	McGill University	<i>Gait velocity as a single predictor of adverse events in healthy seniors aged 75 years and older</i>

News from an Age Plus winner

Since receiving the Age Plus Award in 2006, Walter Wittich has completed the first year of his PhD at McGill University in the Department of Neurology & Neurosurgery. "The program has been an inspiring challenge," says Walter, "leading me to a new thought framework within which I continue to develop my research project on the assessment of visual function and perceptual changes in seniors with age-related

vision loss." Parts of Wittich's Master's thesis have been published in *Vision Research* and *Investigative Ophthalmology & Visual Science*. Mr. Wittich has also received a CIHR Doctoral Research Award and a CIHR-IA Travel Grant.

"After completing my PhD", says Wittich, "I am looking forward to continuing my work with our elderly ophthalmology patients, whose needs and experiences remain the driving force behind my academic career."

Partnerships and public engagement ensure that research that solves important problems not only gets done, but is also put to use towards optimizing the health of all Canadians. The 2005-to-2007 period saw existing CIHR-IA partnerships flourish and the initiation of many vital new relationships.

RAPID (Research to Action Program in Dementia)

Our successful multi-stakeholder partnership on *Cognitive Impairment in Aging (CIA)* has continued to offer research support through fellowships and operating grants, targeting topics such as vascular health and caregiving. In 2006, however, the CIA Partnership took a bold step in response to the need for greater uptake of knowledge from Alzheimer's disease research. The *RAPID (Research to Action Program In Dementia): a Network for Translation of Research in Alzheimer Disease and Dementia (AD&D)* initiative promotes a two-pronged approach to advancing research into action. First, by building capacity among emerging scholars to better translate AD&D knowledge to the stakeholder community; and second, by building capacity in the stakeholder community to better use research knowledge. A Call for proposals to implement RAPID was launched in December 2006. Scientific review is underway.

CIHR Institute of Aging and Veterans Affairs Canada (VAC)

CIHR-IA and Veterans Affairs Canada (VAC) formally established linkages in 2006 to coordinate and optimize resources in responding to knowledge needs identified by CIHR-IA, VAC, veterans' care programs, and veterans and older clients. As an initial joint effort focusing on research into practice, a fellowship opportunity on veterans and dementia was developed and launched in December 2006 with the aim of building research capacity to advance clinical knowledge and practice in gerontology, dementia and mental health. With application deadlines in early 2007 and Fall 2007, the level of interest and areas of research will inform future CIHR-IA-VAC initiatives.

Japan-Canada Joint Health Research Program

On the international front, the partnership with the Japan-Canada Joint Health Research Program, CIHR-IA, together with other CIHR Institutes and the Japan Society for the Promotion of Science, continues. Among the projects supported is a Canada (McGill University)-Japan (Kitasato University) collaboration on the "Health of work after retirement age and impact on worker health management in industries". With this support three Canadian and three Japanese researchers will work together on a pilot study to establish the research design and collect foundational data to be used in a future larger, multi-year research project.

The Regional Seniors' Workshops on Research

During 2005 and 2006, CIHR-IA completed its series of five Regional Seniors' Workshops on Research, hosting events in Ontario and Quebec. These workshops were designed to formally initiate discussion on the topic of health research on aging and networking among seniors, seniors' organizations, service providers and CIHR-IA.

The leading health issues identified as priorities for research on aging by participants across the country were: health care and health services, the housing-care continuum, health promotion and the determinants of health and isolation and mental health.

To continue this process of public engagement and involve Canada's seniors in the health research enterprise, participants recommended that CIHR-IA work through existing seniors' networks and infrastructures to communicate and encourage the hosting of local meetings on research.

The next steps will include designing a strategy for ongoing engagement with older Canadians and those who work and advocate on their behalf. The Institute will also seek the guidance of experts in each of the priority research themes to assess whether the need is for more targeted research or for the appropriate transfer and use of existing research evidence.

"We talked about everything!"

"Overall," says Jean-Guy Saint-Gelais, who both chaired and participated as a senior representative in the Quebec workshop, "I was impressed by the profundity of the ideas that came up. Instead of sticking with the medical cures and physical problems, we took a holistic approach. We talked about spirituality, suicide, education, participation in society and research - all aspects in fact!"

The workshop allowed him to share some important ideas with the researchers – that seniors feel excluded from the process of research, the very process that affects them so profoundly.

"Often," he said, "we are included only at the clinical research stage. In fact, we'd like to participate at all stages, especially at the beginning when we could have an opportunity to influence the research to make it more relevant to the maximum number of people."



As to what he considered to be priority topics that would contribute to improving the health of older Canadians, Mr. Saint-Gelais was clear.

"There needs to be research on participation by seniors in society. This would help us to put a stop to prejudice towards seniors – who are often seen as people who are sick and cost a lot but offer little. In having our contributions recognized, aging can become a more positive and healthier experience."

Mr. Saint-Gelais continues to volunteer on research projects relating to seniors.

The Canadian Longitudinal Study on Aging (CLSA)

CIHR-IA has been a champion of the Canadian Longitudinal Study on Aging (CLSA) since its inception in 2001. The CLSA is an expansive national study designed to examine health trends and to identify ways of optimizing quality of life among aging Canadians. Over the past two years the CLSA has been successful in securing funds from the CIHR Governing Council to cover two essential early phases of this ambitious project.

The CLSA Phase I Results

The results are in, and the news is good – a longitudinal cohort study of how people in Canada are aging is both logistically feasible and acceptable to Canadians.

The Canadian Longitudinal Study on Aging (CLSA), under the leadership of Drs. Parminder Raina (McMaster University), Susan Kirkland (Dalhousie University) and Christina Wolfson (McGill University), has just completed its first phase, a series of eight studies that looked at the logistics of designing and implementing the CLSA, which will be one of the most complete studies of its kind undertaken in Canada and around the world. The study will collect information on the changing biological, medical, psychological, social and economic aspects of people's lives. These factors will be studied in order to understand how, individually and in combination, they have an impact in both maintaining health and in the development of disease and disability as people age.

“Overall,” says Dr. Raina, “the studies found that there is public support for and understanding of the need for the CLSA in all its magnitude and complexity, including the collection and long-term storage of biological samples.”

“However, the people who participated in the public focus groups and consultations had concerns about collecting and storing DNA,” says Dr. Raina, noting that they see it as important, but want assurances about the DNA's future use and about privacy and confidentiality.

“The public is also very interested in getting something back as the study is going on,” says Dr. Raina. “So we are looking at how best to send them their individual test results on a yearly basis, and whether the results should go directly to them or to their physicians.”

In other findings, the studies also determined that it would be viable to link CLSA data to existing databases at the federal and provincial/territorial levels, but that collecting and processing large volumes of blood samples would be challenging because of laboratory limitations.

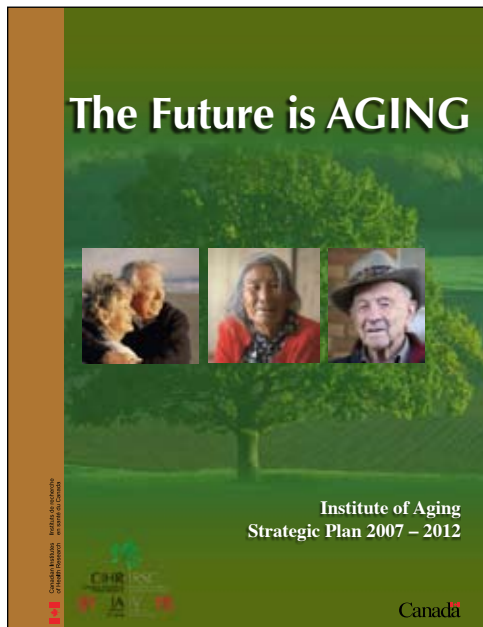
Now, says Dr. Raina, the investigators will revise the study protocol taking into consideration the findings of the Phase I studies, in preparation for the Statistics Canada launch of the first stage of CLSA in 2008. They will start with a trial run of the entire protocol, including home visits, clinical testing and biological sample collections, with some 500 people, before expanding the study to the full complement of 50,000 people over the age of 45.

International Review Panel

In addition to developing the Institute and its initiatives over the past two years, the 2005-06 fiscal year involved a comprehensive evaluation of the CIHR enterprise and Institutes' activities since their creation in 2000. CIHR is unique in its structure and delivery of programs and has generated significant international attention over the last five years. It was therefore appropriate to establish a Review Panel of international experts with a mandate to evaluate our organization and efforts to date.

The report of the international review panel praised the Institute of Aging for having contributed substantially to the mandate of CIHR. We also heard that the Institute was well regarded by its scientific community and was seen as having significantly influenced the Canadian research agenda on aging. Recommendations for future development included an enhancement of CIHR-IA's focus on knowledge translation in alliance with the CIHR Knowledge Translation Branch. The Institute was also encouraged to build on its strategic portfolio of international partnerships to help advance Canadian research in aging. In all, the international reviewers deemed the Institute to be "soundly based and fit for the future".

Strategic Plan 2007-2012



The Future is AGING: 2007-2012 is the Institute's second strategic plan. To develop this plan, the Institute's Advisory Board (IAB) engaged in a process that involved: reviewing the Institute's progress over its first five years; assessing how aging research in Canada had advanced; identifying emerging opportunities; appraising the nation's capacity to conduct research on aging; examining the current environment and issues facing older Canadians; and reviewing feedback from the research community received through CIHR's mid-term and five-year reviews, along with input from the Institute's regional workshops held with seniors across Canada. Based on these analyses, the IAB developed a plan that sets the course for the Institute over the next five years. *The Future is AGING: 2007-2012* is available on CIHR-IA website at <http://www.cihr-irsc.gc.ca/e/8645.html>.

IA Staff

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Marian Chong-Kit
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Terri Bolton (2003-2006)
Administrator

Lynda Callard
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Ottawa

Dr. Linda Mealing
*Assistant Director,
Partnerships*

Sharon Nadeau
Project Officer

Jennifer Eades (2005)
*CIHR Project Officer
– Canadian Lifelong Health
Initiative*

Institute Advisory Board

A multidisciplinary Institute Advisory Board (IAB), meeting three times a year, provides essential community input and guidance into everything the Institute does. The IAB plays an active and vital role in the success of the Institute.

Dr. Howard Bergman
(Chair)
McGill University

Dr. Philip Clark
University of Rhode Island

Dr. Max Cynader
*University of British
Columbia*

Dr. Louise Demers
Université de Montréal

Dr. Carole Estabrooks
University of Alberta

Dr. Janice Keefe
*Mount Saint Vincent
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Dr. Daniel Lai
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McGill University

Dr. Verena Menec
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Mrs. Gael Page
*Canadian Hospice Palliative
Care Association*

Ms. Mary Ellen Parker
(2003-2006)
*Alzheimer Society of
London and Middlesex*

Dr. Christopher Patterson
McMaster University

Dr. Hélène Payette
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Dr. Louise Plouffe
*Division of Aging and
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Dr. Dorothy Pringle
(Past Chair)
University of Toronto

Mr. Douglas Rapelje
Consultant

Dr. Kenneth Rockwood
(2001-2006)
Dalhousie University

Dr. R. Jane Rylett
(Vice-Chair)
*University of Western
Ontario*

Dr. Huber Warner
*National Institute on Aging
/University of Minnesota*

Appendix A: Investments in Strategic Initiatives

For the year ended March 31, 2007 (and comparative 2005-2006)

Strategic Initiatives	Number (as of March 31, 2007)	Contributions through Grants and Awards					Total
		2005-06	2006-07	2007-08	2008-09	2009 and beyond	
Unallocated	3	-	12,250	-	-	-	\$12,250
Alzheimer Society of Canada	1	200,000	100,000	-	-	-	300,000
Advancing Theories, Frameworks, Methods	1	50,000	31,518	-	-	-	81,518
Sage-Ke Grants	0	17,085	-	-	-	-	17,085
Reduce Health Disparities	1	-	50,000	80,000	80,000	160,000	370,000
Pilot Projects	12	745,548	569,048	99,982	-	-	1,414,578
Healthy Successful Aging	2	151,941	411,530	411,529	-	-	975,000
Biological Mechanisms of Aging	1	221,358	211,913	158,475	-	-	591,746
Cognitive Impairment in Aging	2	75,000	213,280	290,948	-	-	579,228
Operating Grants	24	1,248,423	1,412,492	1,099,518	206,662	-	3,967,095
Knowledge Translations Applications	1	-	33,333	27,777	-	-	61,110
New Emerging Team Grant Program (NET)	7	1,136,314	1,597,184	-	-	-	2,733,498
Training Awards	37	1,660,433	1,579,218	1,355,667	817,166	847,166	6,259,651
Cadre	1	50,000	22,500	-	-	-	72,500
Strategic Training Initiatives in Health Research (STIHR)	4	360,331	557,060	808,770	390,840	-	2,117,001
Palliative End of Life Care	2	150,000	150,000	150,000	150,000	45,000	645,000
Regenerative Medicine and Nanomedicine	0	-	-	100,000	50,000	100,000	250,000
Compelling Values - Privacy, Access to Data	0	9,383	-	-	-	-	9,383
JSPS-CIHR Joint Health Research Program	1	10,000	10,000	-	-	-	20,000
Midcareer Awards in Aging	3	228,333	64,167	-	-	-	292,500
Vascular Dementia	4	17,686	17,903	-	-	-	35,589
NSERC CIHR Initiatives	3	85,346	127,339	134,587	105,995	52,745	506,012
Caregiving Alzheimer	7	145,704	133,161	63,951	-	-	342,816
Pilot Project Grants in Strategic Health Services and Policy Research Theme Areas	0	24,850	-	-	-	-	24,850
Workshops & Symposia	1	-	5,000	-	-	-	5,000
Partnerships Health Systems Improvement (PHSI)	2	46,243	58,038	21,398	16,308	8,011	149,998
Research Syntheses	0	-	-	83,176	-	-	83,176
Research Action Program in Dementia	0	-	-	10,000	-	-	10,000
Mobility in Aging	3	153,110	200,000	-	-	-	353,110
Gender and Health Pilot Project	0	67,000	-	-	-	-	67,000
CIHR Team Grants	1	-	100,000	-	-	-	100,000
Totals	124	\$6,854,088	\$7,666,935	\$4,895,778	\$1,816,971	\$1,212,922	\$22,446,693

* Note : Grants and awards in respect to these programs are approved for 1 to 6 years. Figures displayed represent CIHR financial commitments for these programs in 2006-07 and subsequent years. Availability of these funds in future years are subject to funding appropriations by Parliament. For some initiatives, partners also contributed to the funding of the grants and awards.

Appendix B: Institute Support Grant

For the year ended March 31, 2006

For the year ended March 31, 2007

Available Funds	\$1,934,211	\$1,846,681
Unspent Balance	934,211	836,681
Current Year Funding	1,000,000	1,000,000
Institute Transfer		10,000
Expenses*		
Institute Development		
Conferences, symposia, workshops	366,921	146,510
Institute Advisory Board	63,514	64,611
Professional Services	0	6,367
Travel Expenditures	57,570	130,198
Other Expenditures	33,356	0
	\$521,361	\$347,686.67
Institute Operations		
Salaries and Benefits	399,677	378,959
Office Rentals	31,500	31,500
Telephone and Communication Services	9,321	9,709
Supplies, materials and other services	37,489	28,129
Office Furniture and Fixtures	34,927	3,924
Computer Equipment and IT Support	17,216	19,018
Professional Services	2,711	8,347
Travel Expenditures	43,231	101,966
Translation Costs	0	3,450
Other Expenditures	96	0
	\$576,169	\$585,001
Total Expenses	\$1,097,529	\$932,688
Unspent Balance**	\$836,681	\$913,994

* Note: 2006-2007 expenses have been allocated to different categories than the 2005-2006 expenses (per CIHR ISG Expenses – Guiding Principles)

** Note : The unspent balance as at March 31, 2007 is carried forward to the subsequent fiscal year

