



Canadian Institutes
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Instituts de recherche
en santé du Canada



Institute of Aging

Biennial Report • 2003-2005



CIHR IRSC

Canadian Institutes of
Health Research

Instituts de recherche
en santé du Canada



IA
Institute
of Aging

IV
Institut du
vieillessement



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Table of Contents

Message from the President, Canadian Institutes of Health Research _____	1
Message from the Scientific Director of the Institute of Aging _____	3
Outstanding Research _____	5
Outstanding Researchers in Innovative Environments _____	8
Translating Health Research into Practice _____	13
Effective Partnerships and Public Engagement _____	15
Organizational Excellence _____	18
Appendix A Investments in Strategic Initiatives _____	20
Appendix B Institute Support Grant _____	21

Message from the President, Canadian Institutes of Health Research

When the Governing Council of the Canadian Institutes of Health Research (CIHR) created the Institute of Aging (IA) in 2001, it reflected the government of Canada's commitment to research that enables our aging population to live healthy, independent lives and to maintain quality of life in all states of health. Those over 65 years of age are the fastest growing age group in Canada. By the year 2026, seniors will constitute more than one out of every five Canadians. This represents a dramatic demographic shift in the population of Canada and will have significant consequences for all aspects of individual, community and national life. It also reflects the importance of placing research into aging at the forefront of health research in Canada today.

Since its inception, IA has launched a national consultative process in developing its first Strategic Plan, developed a suite of innovative research programs and established partnerships with the voluntary sector, the private sector, governments and international organizations. IA has harnessed the energy and creativity of Canada's health research community to enhance research excellence, build research capacity in aging and promote and facilitate knowledge translation.

The Institute has successfully engaged researchers, NGOs, service providers, policy makers and older adults themselves in critical dialogue on pressing health research needs, through its unique National Seniors' Research Forum and Regional Seniors' Workshops on Research (RSWR). Through these strategic



Dr. Alan Bernstein

consultations, IA has brought a new understanding and appreciation of health research to older adults across the country.

IA has recognized the importance of inspiring a new and growing generation of Canadian health researchers across disciplinary perspectives to develop a focus on aging. The Institute's development of the New

Emerging Teams (NET) program has not only enhanced training opportunities for young researchers interested in aging, but has also contributed an important tool to CIHR's capacity-development objectives. Other IA initiatives have included research training awards for PhD students, post-doctoral fellows, New Investigators and Mid-Career Scholars, as well as recognition prizes for scholarly publications, research posters and high-ranking research proposals in aging. The Institute is currently forging alliances with the U.S. National Institute of Aging aimed at enhancing opportunities for Canadian research centres and laboratories to benefit from international expertise in aging.

IA is recognized as the birthplace of the Canadian Longitudinal Study on Aging (CLSA). To extend the analogy, this ambitious project has been nurtured and matured under IA's leadership. With three co-principal investigators and more than 200 researchers across Canada linked to this initiative, the CLSA promises to transform aging research in Canada and to make innovative international contributions.

IA has ably met the challenge of being among the first of the 13 Institutes to transition its leadership. With the resignation of its founding Scientific Director, Réjean Hébert, and subsequent appointment of Anne Martin-Matthews as IA's new Scientific Director, the Institute has maintained its focus on the scientific needs of its community while charting a path for the next phase of growth and setting out its future direction. I extend my appreciation to Réjean Hébert, Anne Martin-Matthews, Dorothy Pringle, all the Institute Advisory Board members and Institute staff and the talented researchers who, together, have brought a cohesive synergy to the Institute of Aging. ■



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

Message from the Scientific Director of the Institute of Aging

The fiscal period 2003 to 2005 witnessed many changes for the Institute of Aging, beginning with the resignation of our founding Scientific Director, Réjean Hébert, to assume the position of Dean of Medicine at the Université de Sherbrooke in January 2004. My appointment as Scientific Director in March 2004, following a two-month period as the Interim SD, initiated a move of the Institute's operations to the University of British Columbia in Vancouver. This transition also involved the turnover of all but one of the Institute's staff and the change from a Scientific Director with research expertise in geriatrics and epidemiology, to a social scientist and population health researcher. Given this, it is indeed gratifying to hear members of the research community describe their perception of the transition as 'seamless'. The Institute not only successfully maintained the many innovative and vital programs for which it had become known through its early years, but also launched several new initiatives during this period.

During 2003-05, IA progressed in implementing its Strategic and Action Plan by developing opportunities to build, grow and connect the research-on-aging community and its stakeholders in Canada, as well as internationally. Such activity among the community of researchers working in aging in Canada was very limited before the creation of CIHR and its Institute of Aging.

IA strengthened its commitment to fostering the development of research capacity in aging, through the funding of New Emerging Teams and Strategic Training programs.




Dr. Anne Martin-Matthews

Recognition prizes to doctoral students and post doctoral fellows in aging, a student poster competition as part of the Canadian Research Forum on Aging and the presentation of a monthly Age Plus award also contribute to enhancing capacity. In the coming year IA will extend this strategic orientation further through its launch of an interdisciplinary Summer Program in Aging.

Based on the feedback from my numerous visits this past year to university campuses and research institutes, one of IA's successful initiatives has been its Pilot Project Grants Program. This program has functioned to bring new investigators to research on aging and to CIHR for the first time. Similarly, the 'priority announcements' strategy has supported additional research projects in aging submitted to the open grants competition. Strategic funding leveraged by important partnerships has supported the Cognitive Impairment in Aging research agenda and is now also being targeted at an initiative on Mobility in Aging.

During the period of this Report, the Institute celebrated the successful International Peer Review of the draft protocol for the Canadian Longitudinal Study on Aging. The Governing Council of CIHR affirmed its commitment to the CLSA through the provision of further developmental funding to the team of three co-principal investigators and more than 200 researchers across Canada. Much work remains to be done toward the goal of a 2008 launch of the CLSA; the commitment and drive of the Canadian research community in aging is vital to these efforts.



Over the past two years, IA has actively engaged seniors and their advocates and representatives as key informants in national and regional consultations on research issues of relevance to them. A National Seniors' Research Forum in May 2003 led to subsequent Regional Seniors' Workshops on Research in the Prairies, Atlantic Canada and British Columbia. Regional Workshops are planned in Ontario and Québec, and a consultative process in Canada's north will complete this phase of our community engagement process in the coming year.

Many individuals have volunteered their time and energy to enable these various initiatives and to advance IA's strategic agenda. These include the members of the Cognitive Impairment in Aging Partnership, the National Organizing Committee and Regional Implementation Committees for the Regional Seniors' Workshops on Research and the CLSA Steering Committee. I thank them sincerely for their contributions.

IA has been blessed since its inception with a dynamic, insightful and dedicated Advisory Board. As a member of the Institute's founding Advisory Board I have had the good fortune and distinct pleasure of working with these talented individuals. Dorothy Pringle, who has served as Chair of the Board from 2001-2005, has been unstinting in her commitment, wise counsel and expert guiding of this strong and diverse group. Her invaluable contributions were an essential ingredient of the Institute's (and the Board's) ability to adapt to the speed and magnitude of the transitions in 2003-2004.

The Institute's staff at Sherbrooke, in Ottawa and in Vancouver worked tirelessly to implement the Institute's Strategic and Action Plan throughout the transition period covered in this Report. They have risen ably to the challenges of being a virtual team in a changing world.

Together the Institute of Aging community is working to increase our knowledge about aging, in order to help address the challenges facing Canada's growing seniors' population and to promote the elements of healthy and successful aging. ■



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

Outstanding Research

In guiding aging research directions for Canada, the Institute of Aging (IA) strives to develop and nurture research initiatives, programs and projects that are in line with its mission and the following five priority areas of research:

1. Healthy and successful aging;
2. Biological mechanisms of aging;
3. Cognitive impairment in aging;
4. Aging and maintenance of autonomy;
5. Health services and policies relating to older people

Appendix A demonstrates IA's commitment to investing in a broad range of independent and collaborative research development and dissemination initiatives. This report showcases just a few of the many exciting activities carried out by the Institute and its community with the goal of enhancing the health of older Canadians.

Cognitive Impairment in Aging (CIA)

Cognitive impairment in aging affects one in four Canadians over the age of 65, and rises dramatically to two out of every three Canadians over the age of 85. With our aging population, the number of people affected is expected to double in Canada over the next 30 years.

The CIA Partnership is a consortium of private, non-governmental, voluntary and government organizations established to work together to develop a National Research Strategy for Canada to further research in Alzheimer's disease and other dementias. IA led the establishment of this partnership, formalized in 2003. The formal partners from the voluntary/charitable/non-profit sectors are the Alzheimer Society of Canada, the Consortium of Canadian Centres for Clinical Cognitive Research, the Canadian Nurses Foundation, NeuroScience Canada and the Heart and Stroke Foundation of Canada; from the public sector, CIHR Institute of Aging, CIHR Institute of Neurosciences, Mental Health and Addiction (INMHA), Fonds de la recherche en santé du Québec, Health Canada, Nova Scotia Health Research and Veterans' Affairs; and, from the private sector, Janssen-Ortho Inc. and Pfizer Canada Inc.

Initiatives implemented in 2003-2005 include:

- Vascular Health and Dementia Operating Grants (involving Heart and Stroke Foundation, CIHR/Rx&D and CIHR IA and Institute for Neurosciences and Mental Health and Addiction, Pfizer Canada and Alzheimer Society of Canada), which led to an investment of more than \$2.5M in eight research projects.
- Caregiving and Alzheimer Disease Research Grants Program (involving Alzheimer Society of Canada, Canadian Nurses Foundation, CIHR IA and Institute of Gender and Health), resulting in \$1.2M towards eight research projects.
- Biological Mechanism and Treatment of Alzheimer Disease Grants Program (involving Alzheimer Society of Canada, AstraZeneca Canada, AstraZeneca AB (Sweden), CIHR IA and CIHR/Rx&D). Over the two-year period investments totalled \$1.6M. This built on earlier relationships where investments totalled to \$1.6M as well. Among other projects, this initiative funded the work of Dr. Judes Poirier, who is investigating the relationship between cholesterol and Alzheimer's disease.

The CIA Partnership also provided the networking infrastructure to coordinate and optimize resources and stretch these beyond the current CIA parties. For example, commitments were successfully sought to support a New Emerging Team in the area of Strategies to Improve the Care of Persons with Dementia in Rural and Remote Areas from the Saskatchewan Health Research Foundation, the University of Saskatchewan, the Alzheimer Society of Saskatchewan as well as from the CIHR Institute of Health Services and Policy Research and the CIHR Rural and Remote Health Research Initiative. ■



Dr. Judes Poirier

**Dr. Judes Poirier,
CIHR IA
Senior Investigator**

Dr. Judes Poirier is studying the mechanisms at play in the loss of specific brain cells in Alzheimer's disease (AD). Two important proteins have been the subject of his

research: apolipoprotein E (ApoE) and HMG CoA reductase (HMG). ApoE, which transports cholesterol between different cells, is directly involved in the rebuilding (or regeneration) process in the brain and strongly linked to AD. Dr. Poirier and other US scientists found several years ago that a genetic anomaly in the ApoE gene is closely linked to both familial and sporadic AD. More importantly, the anomaly markedly interferes with the response of AD patients treated with memory-enhancing drugs.

Cholesterol is very important to brain cells that regenerate, since it is part of the basic elements required to build new connections

(or synapses) between brain cells. Recently, Dr. Poirier discovered that, in addition to a defective cholesterol transport, the AD brain is also compromised in terms of cholesterol production, due to the presence of a newly discovered genetic anomaly in HMG (normally responsible for cholesterol production in the brain). These results, combined with previous ApoE findings, suggested to him that brain cholesterol (transport and/or production) plays a central role in AD.

Accordingly, his laboratory has been systematically characterizing the sequence of steps that regulates cholesterol production and transport during degeneration and regeneration in the AD brain and exploring how to enhance the regenerative capacities of the AD brain with cholesterol-lowering drugs or cholesterol-modifying factors, which were shown to partially protect against AD. Also, every portion of the HMG gene is being examined for additional genetic anomalies that would explain why certain persons are genetically at higher risk to develop AD. Finally, his laboratory is also attempting to transfer the abnormal form of the HMG gene to healthy cells in order to determine its effects on otherwise healthy cells.

Dr. Poirier's research program is providing unique and important information on the proteins responsible for the production of cholesterol in the brain and whether we should use medications designed to interfere with these proteins to treat, and maybe prevent, sporadic Alzheimer's disease.

Dr. Poirier is not only receiving salary support from IA, but also operational research funds from CIHR and other partnered initiatives

continued...

such as the Biological Mechanism and Treatment of Alzheimer Disease Grants Program, co-funded by Alzheimer Society of Canada, AstraZeneca Canada and Sweden, CIHR IA and CIHR/Rx&D Program. ■

Seniors and Resilience Pilot Project

Seniors and Resilience: Sites and Sources was the topic of an innovative IA-funded Pilot Project, led by Dr. Penny Jennett and colleagues at the University of Calgary Faculty of Medicine. The project explored research formats that enable seniors to become more prominent in the design and implementation of research on healthy and successful aging. The project was unique in that seniors conducted the research from a senior's point of view, commonly absent in the trajectory of 'research to policy' and other decisions that affect older adults.

The seniors involved in this project chose resilience as the focus of their study on healthy and successful aging. Guided by Participatory Action Research principles, the study engaged older adults as leaders and participants in the research 'for seniors by seniors'.

Two research formats, field observation and survey questionnaires, trained the senior researchers in the use of elemental research tools and prepared them for the subsequent experiences with two further formats: focus groups and narrative interviewing. Six working groups explored the theme through the lenses of health, ethno-cultural dimensions, gender, physical activity and leisure, rural experience and learning.

Analysis of the process and the data collected demonstrated that seniors researching seniors' issues is both a valid and appropriate method for capturing the voices of older adults. In addition, the study brought a new level of insight to understanding the complex and diversified nature of the topic of resilience. The most significant finding was that resilience is not a quantifiable entity, but a series of processes in response to the many challenges faced by older Canadians. Study results have opened important doors for further research. ■



Kerby Centre CEO, Patricia Allen, and senior researchers Sheila Power, Grant Allen, and Noreen Mahoney meeting with Dorothy Dooley to review project progress

Outstanding Researchers in Innovative Environments

IA's strategic commitment to enhancing capacity for interdisciplinary research on aging in Canada is reflected in its support for 14 **New Emerging Teams (NETs)**. Granted early in 2003, this funding has, to date, enabled a refinement of research goals and methods, consolidation and expansion of teams and recruitment of trainees. Early research findings are being reported by many of the IA-funded teams.

A second strategy for advancing Canadian research capacity in aging has been IA's support of four **Strategic Training Initiatives in Health Research (STIHR)**. Linking research centres across the nation, the STIHRs have attracted trainees to aging research from an array of disciplines, with many talented graduates now on a pathway to leadership in their respective fields.

In addition to these large programs, IA is providing five-year salary awards to 12 elite Canadian scientists examining critical research questions within IA's priority topics. The Institute also formally recognizes, on an ongoing basis, trainees and new investigators who have achieved a high level of success in grant applications and academic publication.

New Emerging Teams (NETs)

The purpose of the NET Program is to build capacity in new and developing areas of research, develop new research teams and give researchers the building blocks required to successfully apply for future funding. It provides, over a period of five years, support for the growth of small existing teams or the formation of new teams of independent researchers undertaking multidisciplinary research in Canadian research institutions. The objectives of the NET Program are to:

- a. Create or develop new competitive research teams that show potential for successfully applying for other infrastructure team funding in the future;
- b. Foster multidisciplinary and cross-theme research in areas of focus, such as aging;
- c. Train and establish new investigators in these areas;
- d. Create a team environment that favours the development of new fundable research projects.

Projects receiving ongoing support from IA through the NET program were:

- Optimising End-of-Life Care for Seniors
- Helping Seniors and Primary Care Professionals Optimise the Use of Drugs to Improve Health
- Transitions and Dementia: Bridging Gaps in Service Provision
- Implementation and Evaluation of a Comprehensive Pain Assessment and Treatment Program for Seniors
- Development of Biological Implants for Joint Repair
- Health Impacts of Violence Across the Lifespan: A Multidisciplinary Approach
- Innovative Approaches to Optimising Balance and Mobility in Older Adults
- The Canadian Driving Research Initiative for Vehicular Safety in the Elderly (CanDRIVE)
- Genomics, Genetics and Gerontology (G3): A Multidisciplinary Team for the Study of Healthy Aging
- Development and Evaluation of Strategies to Improve the Care of Persons with Dementia in Rural and Remote Areas

continued...

Outstanding Researchers in Innovative Environments continued...

- Understanding, Treating and Preventing Tinnitus
- Health and Aging in Rural Environments
- End-of-Life Care and Vulnerable Populations
- Family Caregiving in Palliative and End-of-Life Care. ■

CanDRIVE NET

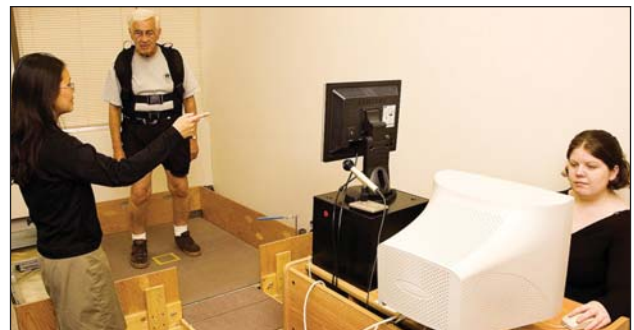
The aim of the IA-funded CanDRIVE NET is to improve the health, safety and quality-of-life of Canada's older drivers. Through 2003-05, this team broadened its scope with the recognition that health-related research initiatives for the older driver must address the inter-dependent triad of the driver, the automobile and road design. As such, its work in this period included forging strong collaborative links to automotive and road engineering groups such as AUTO21 (a Network of Centres of Excellence or NCE whose primary goal is to improve the safety of automobiles). Recognizing the critical importance of stakeholders in the processes and translation of its research, this NET also formed partnerships with seniors' organizations, law and policy groups and clinical practitioners. An indication of the unprecedented collaboration between CanDRIVE and policy makers is that Transport Canada donated a computerized driving simulator to the project. ■



CanDRIVE Team Meeting

Innovative Approaches to Optimizing Balance and Mobility in Older Adults NET

Falling and immobility are increasing concerns with the greying of baby boomers. Falling is the leading cause of accidental death and injury admission to acute care hospitals and often brings about social withdrawal, inactivity and immobility. Hip fractures, often the result of falling, are expected to quadruple over the next 40 years, placing considerable demands on our health care system. Appropriate and cost-effective approaches to optimise balance and encourage safe mobility and independence are essential for current and future generations of older Canadians. Over the past two years, Dr. Brian Maki and his colleagues have moved forward on projects that include the development and evaluation of balance training systems that improve compensatory stepping and grasping balancing reactions; a new design of walker with enhanced lateral stability; and a closed-loop neuro-orthosis that compensates for balance deficits in seniors. Early findings are suggesting an adverse effect of some mobility aids in risk of falling, with some walker designs creating problems in lateral balance and some elderly more likely to fall when using a cane to regain their balance rather than a more stable hand railing. ■



Balance training study at the Satellite Balance Laboratory at Sunnybrook (Photo: Doug Nicholson, Mediasource)

Outstanding Researchers in Innovative Environments continued...

Strategic Training Initiative in Health Research (STIHR)

There is a growing demand for highly skilled and adaptable individuals from the fields of mathematics, physical sciences, social sciences and humanities, together with biological, behavioural and clinical approaches who can embrace a diversity of approaches in solving complex problems and applying solutions. Also known as the Strategic Training Program, this initiative encourages transdisciplinary, integrative investigations to address important questions in all areas of health research.

Projects funded by IA through the STIHR program include:

- Interdisciplinary Training Network in Health and Aging Research
- Strategic Research Training Program in Communications and Social Interactions in Health Aging
- Transdisciplinary Understanding and training on Research – Primary Health Care
- Training Program in Neurobiology and Behaviour. ■

Interdisciplinary Training Initiative

Faced with the challenge of building a capacity for interdisciplinary research in aging, the Université de Montréal, the Université Laval and the Université de Sherbrooke joined forces to create the *Formation interdisciplinaire en recherche sur la santé et le vieillissement* (FORMSAV) training network. The program is also open to all the students of the *Réseau québécois de recherche sur le vieillissement* (FRSQ), a major partner of this strategic initiative.

Favouring a holistic approach, the FORMSAV program offers a curriculum that encourages transdisciplinary training that complements graduate or post-doctoral study in single disciplines. FORMSAV also offers financial support according to a number of priorities (e.g., attraction of new candidates, support at the end of a PhD). The complementary training program is implemented through a series of workshops. All FORMSAV trainees have to complete at least five of these workshops which address topics such as ethics in research on aging, peer review role, optimisation of research outcomes, research translation, information dissemination and grant writing. During the summer of 2005, a number of these workshops were offered during a week-long retreat, the FORMSAV Summer School, held in Mount Orford Provincial Park. The Summer School also contributed to the creation of a community of young researchers on aging in Québec, which is more than promising for the future.

Over the 2003-2005 period, this dynamic training network of 103 mentors and more than 120 students, including 47 financial-supported trainees, enrolled in different programs related to research on aging. The direct contribution of the FORMSAV trainees has yielded 11 book chapters, 23 articles and abstracts (published or in press) and 37 presentations in national and international scientific meetings. The FORMSAV strategic training program has already had an important impact on the capacity building for research on aging in Québec and will contribute significantly to Canadian research in aging. ■

Outstanding Researchers in Innovative Environments continued...

Emerging Researchers

Age Plus Award

This award recognizes excellence in Canadian research on aging. Aimed at graduate and postdoctoral students, and residents from all disciplines, it is awarded monthly to the author of a scientific article on aging, published in a peer-reviewed journal. Articles may cover any of the Institute's priority research topics.

Award Winners, November 2003 – March, 2005:

Philip Berardi

PhD candidate, University of Calgary,
Biochemistry and molecular biology
*A Novel Transcriptional Inhibitory Element
Differentially Regulated the Cyclin D1 Gene in
Senescent Cells.*

Mahyar Etminan

Clinical Fellow, McGill University,
Clinical Epidemiology
*Effects of non-steroidal anti-inflammatory drugs on
risk of Alzheimer's disease: systematic review and
meta-analysis of observational studies*

Kathy McGilton

Fellow, Health Services, University of Toronto,
Nursing
*The effects of a relationship-enhancing program of
care on outcomes.*

Craig Brown

PhD candidate, University of Calgary, Psychology
*Experience-dependent regulation of synaptic
zinc is impaired in the cortex of aged mice.*

Wendy Dahl

PhD candidate, University of Saskatchewan,
Pharmacy and Nutrition
*Increased stool frequency and fecal output occurs
when finely processed pea hull fiber is added to usual
foods consumed by elderly long term care residents.*

Alan Castel

PhD candidate, University of Toronto, Psychology
*The effects of aging and divided attention on memory
for item and associative information.*

Anis Larbi

PhD candidate, Université Sherbrooke, Immunologie
*Age-associated alterations in the recruitment of
signal-transduction proteins to lipid rafts in human
T lymphocytes.*

Mun Tran

PhD candidate, Lakehead University,
Clinical Psychology
*Associations between psychotic symptoms and
dependence in activities of daily living among older
adults with Alzheimer's disease.*

Cecile Marczynski

PhD candidate, McMaster University, Psychology
*Aging and Repetition Effects: Separate Specific and
Nonspecific Influences.*

Hong Qing and Weihui Zhou

Postdoctoral Fellows, University of British
Columbia, Dept. of Psychiatry
*Transcriptional Regulation of BACE1, the Beta-
Amyloid Precursor Protein Beta-Secretase, by Sp1.*

Geneviève Morrow

PhD candidate, Université Laval, Laboratoire
de Génétique Cellulaire et Développementale
*Overexpression of the small mitochondrial Hsp22
extends Drosophila life span and increases resistance
to oxidative stress.*

J.A. Chris Delaney

PhD candidate, McGill University,
Clinical Epidemiology
*Use of Lithium and the risk of injurious motor
vehicle crash in elderly adults: case-control study
nested within a cohort.*

Liza Stathokostas

PhD candidate, University of Western Ontario,
Kinesiology
*Longitudinal changes in aerobic power in older men
and women.*

Dwight Tapp

Postdoctoral Fellow,
University of California Irvine, Psychology
*Frontal Lobe Volume, Function, and B-Amyloid
Pathology in a Canine Model of Aging.*

Outstanding Researchers in Innovative Environments continued...

Keith Wheaton

Postdoctoral Fellow, University of Toronto, Biochemistry and Molecular Biology
Protein Kinase CS Blocks Immediate-Early Gene Expression in Senescent Cells by Inactivating Serum Response Factor.

Sudeep Gill

MSc candidate, University of Toronto, Clinical Epidemiology
Atypical antipsychotic drugs and risk of ischaemic stroke: population based retrospective cohort study.

Melissa K. Andrew

Resident, Dalhousie University, Division of Geriatric Medicine
Incomplete functional recovery after delirium in elderly people: a prospective cohort study. ■

Recognition Prize in Research in Aging

Honouring our brightest rising stars, this prize consists of a supplement to the research allowance component of the *Doctoral, Fellowship and New Investigator Awards*. It 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 Canadian Association on Gerontology Annual Meeting each year.

September 2003

New Investigator Prize

Padmaja R. Kaul

University of Alberta, Department of Medicine
Incomplete functional recovery after delirium in elderly people: a prospective cohort study.

Fellowship Prize

Hélène Girouard

Cornell University
Hypertension, oxidative stress and neurovascular coupling.

Doctoral Research Prize

Dawn C. Mackey

Simon Fraser University, School of Kinesiology
Biomechanics of balance improvement in elderly fallers.

February 2004

Fellowship Prize

Cindy de Frias

Stockholm University, Department of Psychology
Cognitive Impairment in Older Adults: Progression of Change, Genetic Markers, and Vascular Health.

September 2004

New Investigator Prize

Norm O'Rourke

Simon Fraser University, Department of Gerontology
Cognitive adaptation and the mental and physical well-being of older adults.

Doctoral Research Prize

Kelly McClellan

University of Ottawa, Department of Cellular and Molecular Medicine
The mechanism of rb mediated neurogenesis.

October 2004

Fellowship Prize

Teresa Liu-Ambrose

Simon Fraser University, School of Kinesiology, and University of British Columbia, Department of Psychology
Role of cognitive and physical function on movement planning and execution in older adults.

February 2005

Fellowship Prize

Nikita Avvakumov

Centre de recherche de l'Hôtel-Dieu du Québec
Analysis of chromatin dynamics during the repair of DNA double strand breaks in human cells. ■



Dr. Anne Martin-Matthews presenting the Doctoral Research Prize to Dawn Mackey

Translating Health Research into Practice

Throughout 2003-05 IA has devoted wide-ranging resources to the dissemination, transfer and translation of knowledge from research to the research community, health care professionals, private and public decision makers and industry.

Canadian Journal on Aging/La Revue canadienne du vieillissement

The Institute's strategic contribution to the journal enabled expansion of this multi-disciplinary peer-reviewed bilingual publication, leading to its acceptance in 2004 into the MEDLINE/Index Medicus® life sciences and biomedical bibliographic citations databases. As a result, Canadian health research on aging, from a wide range of disciplines, has experienced a significant growth in national and international visibility and accessibility.

SAGE-KE

Similarly, contribution of Canadian research to the unique SAGE-KE (The Science of Aging-Knowledge Environment) website, www.sageke.sciencemag.org, has ensured that Canadian researchers and trainees are part of a global community devoted to progress in the study of basic mechanisms of aging and aging-related conditions and diseases. This was made possible through a multi-year collaboration among the American Association for the Advancement of Science, CIHR's Knowledge Translation Branch and IA.

Canadian Research Forum on Aging (CRFA)

The Canadian Association on Gerontology (CAG), one of the Institute's closest partners, annually hosts IA's CRFA, a major feature of the CAG Annual Scientific and Educational Meeting. The events that constitute the CRFA collectively highlight key research supported by 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 IA Scientific Director in an open session and participate in a CIHR grants-craft workshop.

- The 2003 CRFA in Toronto featured two health service symposia: *Respiratory Infections in Older Adults: A Challenge to Health Care Providers*, chaired by Mark Loeb of McMaster University; and *The Challenge of Understanding and Meeting the Needs of Frail Elderly Persons in the Canadian Health Care System*, co-chaired by Howard Bergman of McGill University and François Béland of the Université de Montréal.
- The 2004 CRFA symposia, held in Victoria, highlighted *Issues Related to the Older Driver: Assessing Competency to Drive by Health Professionals the Psychosocial and Functional Impact of Driving Cessation on Older Persons and Their Families*, convened by Malcolm Man-Son-Hing, of the University of Ottawa and Bonnie Dobbs of the University of Alberta; and *Stress, Self-Esteem, and Life Regrets: Impact on the Aging*, lead by Sonia Lupien, of McGill University.



Canadian Research Forum on Aging, October 2004: Judging the Student Poster Competition.

Translating Health Research into Practice continued...

IA Support for Meetings

Over the course of 2003-05, IA contributed more than \$200,000 to support 45 meetings of scientists and other stakeholders to discuss emerging issues in research on aging and to address transfer of research knowledge. These discussions crossed the spectrum of research foci, from the scientific bases of aging, to practice, programming and policy. Some examples:

- Dr. Chantal Autexier of the Lady Davis Institute for Medical Research received funding to share cutting-edge knowledge among researchers through a Canadian symposium on telomeres and telomerase, held in Montreal in May, 2004.
- Spanning a number of disciplines, Dr. Penny MacCourt and her colleagues received support for their October 2003 meeting in Winnipeg during which strategies were developed to increase support for seniors' mental health through psychosocial practice, policy and research.
- A 2004 Ottawa consultation, convened by Dr. Janice Keefe of Mount Saint Vincent University, examined financial compensation for family caregivers of dependent adults, and resulted in recommendations to those responsible for policy at different levels of government. It also established the foundations for caregiving research for the coming year.

National Seniors' Forum on Research

In May 2003, IA held a *National Seniors' Forum on Research* to provide a voice to seniors and seniors' organizations on the receiving end of health care and social programs. This was attended by approximately 85 seniors; representatives from seniors' organizations; and health, social and community services providers from across Canada. The program consisted of expert presentations on research under each of the Institute's priority themes. In addition, participants were engaged in discussions on the role of older people on

peer-review panels; informed consent of older participants in health research; ethics review boards; and bridging the gap between research and policy. Alan Bernstein, President of CIHR, spoke on health research for the 21st century, while Sharon Carstairs, Senator for Manitoba and the former Leader of the Government in the Senate and Minister with Special Responsibility for Palliative Care, officially launched the research protocol for the Canadian Longitudinal Study on Aging. At the Forum's end, there was general agreement on the need to hold similar regional workshops across the country. This recommendation has resulted in a series of Regional Seniors' Workshops on Research (RSWR) hosted by the Institute.

Clinical Practice Guidelines (CPG) in Long-term Care Facilities

IA, in collaboration with the CIHR *Knowledge Translation Strategies for Health Research Program*, has provided three-year support for Whitney Berta at the University of Toronto, who is undertaking a study of factors that affect the adoption, transfer, adaptation and retention of clinical practice guidelines (CPGs) in long-term care facilities. There is evidence that clinical practice guidelines that are evidence based, clinically relevant and implemented appropriately lead to improved patient outcomes and reduced costs to the health system. At a minimum, CPGs in long-term care are a source of standardized care routines that improve the consistency and quality of care and reduce variation in the provision of care that could be emotionally and physically deleterious. Building on theory and research in the organizational and management sciences, this work is leading to the better development and uptake of CPGs and, ultimately, improved care for the most vulnerable members of Canada's older population. ■

Effective Partnerships and Public Engagement

Partnerships and engagement activities are key to the advancement of knowledge in the field of aging to improve the quality of life and the health of older Canadians — IA's fundamental goal. The 2003-to-2005 period saw the flourishing of existing partnerships and the initiation of new relationships.

Partnerships

Research on aging is, by nature, a multi-disciplinary field, because health and successful aging is multidimensional and older adults often face multiple health conditions. The cooperative relations under the *Cognitive Impairment in Aging Partnership* demonstrate the convergence of efforts on an important issue: Alzheimer's disease and related dementia. More than \$10M was invested by the consortium on dementia research on topics such as vascular health, caregiving and rural community challenges.

IA is guided by the knowledge that the utility of research on aging is optimized through meaningful involvement of stakeholders such as the public, policy-makers and practitioners. *The Canadian Longitudinal Study on Aging* is just one of the Institute's major projects for which a multi-sectoral steering committee, with broad representation of key stakeholders, has informed IA's leadership.

Partnerships also provide for the exchange of expertise. International partnerships are crucial, as aging is a global issue. Today's worldwide count of around 600 million persons aged 60 years and over will double by 2025 and reach close to two billion by 2050. Between 2003 and 2005, IA initiated and formalized relationships with international organizations in order to link to experts in other countries for research or for training. Efforts concentrated on the *National Institute of Aging (NIH-US)*, the *Japan Society for the Promotion of Science* and various international conferences. ■

Public Engagement

The Regional Seniors' Workshops on Research

This reporting period saw the IA formally initiate research-focused knowledge exchange and networking among seniors, seniors' organizations and service providers and policy makers. The Regional Seniors' Workshops on Research are the Institute's strategic response to the directive from the National Seniors' Forum on Research for regional consultation. Through the Prairies Region workshop in June 2004, the Atlantic workshop in November 2004 and the British Columbia workshop in March 2005, IA has hosted more than 200 older adults and their advocates with the objectives of providing an opportunity to:

- express which health or social issues should be priorities in aging research;
- become familiar with various aging research projects in their region;
- find out why taking part in research projects is important;
- be informed of their rights as participants in research and researchers' responsibility; and
- help plan for a strategy to connect IA with seniors, seniors' organizations and service providers

Effective Partnerships and Public Engagement continued...

The workshop elements that were designed to achieve these objectives included:

- an overview of IA and CIHR;
- breakout sessions identifying a) priority research topics; and b) ongoing engagement strategies;
- a panel of seniors describing their involvement in research;
- research presentations by regional investigators; and
- presentation on the Canadian Longitudinal Study on Aging by one of the three Principal Investigators.

A number of areas identified as high priorities for health research were common across these three geographically distant regions, specifically: understanding the housing-care continuum; health services designed to meet the needs and life circumstances of older adults; and promotion of healthy aging. Unique regional responses were voiced on the topics of poverty, isolation and cultural differences.

Evaluation of these events has been positive, with most participants eager to continue to be involved in knowledge exchange with the Institute. Full reports of these three meetings can be found on the IA website.

In the coming year, the Institute will host, in Ontario and Quebec, the last two of its regional workshops and will launch a unique consultation with northern Canadians. ■



Atlantic Regional Seniors' Workshop on Research, November 2004: breakout session

The Canadian Longitudinal Study on Aging (CLSA)

CLSA is a large, national, long-term study designed to examine health patterns and trends and to identify ways to reduce disability and suffering among aging Canadians. IA has been instrumental in guiding the development and maturation of this, the founding study of the CIHR Canadian Lifelong Health Initiative, throughout the 2003-2005 period.

Three Principal Investigators of the CLSA along with a team of eight theme leaders and more than 200 collaborating scientists from 26 Canadian universities, are contributing their expertise in biomedical and clinical research, social sciences, psychology, health services and population health to develop this innovative, transdisciplinary study.

CLSA Principal Investigators

Dr. Susan Kirkland, *Dalhousie University*
Dr. Parminder Raina, *McMaster University*
Dr. Christina Wolfson, *McGill University*

continued...

Effective Partnerships and Public Engagement continued...

CLSA Theme Leaders (Co-Investigators)

Biological	Dr. Karl Riabowol <i>University of Calgary</i>
Clinical	Dr. David Hogan <i>University of Calgary</i>
Health outcomes	Dr. Christopher Patterson and Dr. Jacqueline Bosch <i>McMaster University</i>
Health services	Dr. Kevin Brazil <i>McMaster University</i>
Lifestyle	Dr. H�el�ene Payette <i>Universit�e de Sherbrooke</i>
Methodology	Dr. Robert Platt <i>McGill University</i>
Psychology	Dr. Holly Tuokko <i>University of Victoria</i>
Social	Dr. Margaret Penning <i>University of Victoria</i>

In December, 2004, the CLSA was granted \$1.7 Million by the CIHR Governing Council in support of its methodological feasibility phase, through to March 2006.

The past two years have seen the development and assessment of the CLSA protocol and research design. Its orientation and comprehensiveness methodology are, as assessed by international peer reviews, innovative and destined to contribute to significant understanding of aging. Specific strengths in advancing longitudinal research on aging were recognized in the CLSA's focus on: co-morbidity states (and multi-morbidity) and their consequences; adaptive/

compensatory strategies to discern how individuals use compensation and other coping strategies to handle normal aging decline and disease; and how and why use of formal and informal care and services vary within individuals and across individuals over time.

In the course of its developmental work, the CLSA team is breaking new ground in Canadian research on informed consent, capacity to provide consent, data flow in multi-centre longitudinal initiatives and the impact of privacy legislation. Developmental studies initiated in 2004-05 were aimed at better understanding the factors that influence the decision to participate in a long-term study, the types of information Canadians are willing to provide, and under what circumstances they would be most likely to cooperate. Six focus groups conducted across Canada found considerable enthusiasm for this type of research. Most participants saw potential benefits for themselves, but almost all felt that their participation in a study like the CLSA could benefit others, especially future generations. This belief underlies and reinforces their willingness to participate in the study and provide biological samples. Participants have some concerns about the protection of their privacy but generally view university-based researchers as credible and trustworthy.

More years of developmental work will have been carried out before the CLSA gets fully underway, in 2008. The CLSA will be one of the most comprehensive studies of its kind undertaken to date, in Canada and around the world. ■

Organizational Excellence

IA Staff

Sherbrooke (to 2003)

Dr. Réjean Hébert

Scientific Director

Dr. Anne-Cécile Desfaits

Assistant Director, Partnerships

Sylvie de Lafontaine

Administrative Assistant

Vancouver (2004-2005)

Dr. Anne Martin-Matthews

Scientific Director

Dr. Susan Crawford

Assistant Director

Terri Bolton

Administrator

Ottawa

Dr. Linda Mealing

Assistant Director, Partnerships

Tasleen Adatia

Project Officer (2003-2005)

Sophie Rosa

Project Officer (2003-2005)

Jennifer Bethell

CIHR Project Officer – Canadian Lifelong Health Initiative (2003-2005)

Jennifer Eades

CIHR Project Officer – Canadian Lifelong Health Initiative



Dr. Réjean Hébert, IA Scientific Director (2001-2003) with Dr. Dorothy Pringle, IAB Chair.

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 was most supportive during the transition period and continues to play an active and vital role in the success of the Institute.

Dr. Dorothy Pringle (Chair)

University of Toronto

Dr. Howard Bergman

McGill University

Dr. Philip Clark

University of Rhode Island

Dr. Max Cynader

University of British Columbia

Dr. Geoffrey Fernie (2001-2005)

Toronto Rehabilitation Institute

Dr. Betty Havens (2001-2004)

University of Manitoba

Dr. Yves Joannette (2001-2005)

Université de Montréal

Dr. Janice Keefe

Mount Saint Vincent University

Dr. Daniel Lai

University of Calgary

Ms. Sheila Laidlaw (2001-2004)

Retired, former Head of University of New Brunswick Libraries

Dr. Sonia Lupien

McGill University

Dr. Graydon Meneilly (2001-2004)

University of British Columbia

Ms. Mary Ellen Parker

Alzheimer Society of London and Middlesex

continued...

Organizational Excellence *continued...*

Dr. Louise Plouffe

*Division of Aging and Seniors,
Health Canada*

Mr. Douglas Rapelje

Consultant

Dr. Karl Riabowol (2001-2005)

University of Calgary

Dr. Kenneth Rockwood

Dalhousie University

Dr. Rebecca Jane Rylett

University of Western Ontario

Dr. Huber Warner

National Institute on Aging

Appendix A – Investments in Strategic Initiatives

For the year ended March 31, 2005 (and comparative 2003-2004)

Contributions through Grants and Awards

STRATEGIC INITIATIVES	Number (as of Mar. 31, 2005)	2003-04	2004-05	2005-06	2006-07	2007 and beyond	Total
Unallocated	1	-	\$77,500	\$90,000	\$12,500	-	\$180,000
Alzheimer Society of Canada	1	200,000	219,000	200,000	100,000	-	\$719,000
Advancing Theories, Frameworks, Methods	1	18,482	50,000	50,000	31,518	-	\$150,000
Sage-Ke Grants	6	15,834	20,000	17,085	-	-	\$52,919
Facing our Future, Human Genetics	6	31,190	-	-	-	-	\$31,190
Reduce Health Disparities	1	50,000	-	-	-	-	\$50,000
Pilot Projects	18	761,022	870,116	48,667	-	-	\$1,679,805
Healthy Successful Aging	2	342,000	325,000	325,000	325,000	325,000	\$1,642,000
Biological Mechanisms of Aging	1	225,954	217,144	221,358	211,913	158,475	\$1,034,844
Cognitive Impairment in Aging	2	202,628	193,076	193,076	193,076	193,076	\$974,932
Operating Grants	14	399,547	930,041	1,108,454	672,429	405,936	\$3,516,407
Knowledge Translation	3	30,641	71,780	-	33,333	27,777	\$163,531
New Emerging Team Grant Program (NET Program)	7	1,187,685	1,293,009	1,430,479	1,303,019	-	\$5,214,192
Training Awards	36	1,180,217	1,476,883	1,329,167	1,117,167	882,332	\$5,985,766
Cadre	1	-	27,500	50,000	22,500	-	\$100,000
Strategic Training Initiative in Health Research	4	515,848	410,744	619,635	609,768	830,498	\$2,986,493
Palliative End of Life Care	2	90,000	105,000	150,000	150,000	345,000	\$840,000
SARS - Evaluation and Lessons Learned	2	-	75,000	-	-	-	\$75,000
Compelling Values - Privacy, Access to Data	2	-	50,000	9,383	-	-	\$59,383
JSPS-CIHR Joint Health Research Program	1	-	5,000	-	-	-	\$5,000
Midcareer Awards in Aging	4	-	209,167	224,166	46,667	-	\$480,000
Vascular Dementia	4	-	17,100	17,686	17,903	-	\$52,689
NSERC-CIHR Initiatives	1	-	66,305	62,955	50,155	-	\$179,415
Caregiving Alzheimer	4	-	93,888	76,494	-	-	\$170,382
Pilot Project Grants in Strategic Health Services and Policy Research Theme Areas	3	-	59,727	24,850	-	-	\$84,577
	127	\$ 5,251,048	\$ 6,862,980	\$ 6,248,455	\$ 4,896,948	\$ 3,168,094	\$ 26,427,525

* 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 as of March 31, 2005 (and included comparatives as of March 31, 2004). 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, 2004

For the year ended March 31, 2005

Available Funds	\$ 1,575,964	\$ 1,686,749
Expenses		
Institute Development		
Conference Fees	112,414	220,490
Institute Advisory Board	51,235	38,881
Professional Services	39,666	10,237
Travel Expenditures	5,197	37,204
Other Expenditures	211,758	14,360
	420,270	321,173
Institute Operations		
Salaries and Benefits	344,742	285,000
Office Rentals	37,200	24,844
Telephone and Communication Services	4,457	8,116
Supplies, Material and Other Services	4,209	18,875
Office Furniture and Fixtures	-	29,354
Computer Equipment and IT Support	1,027	24,352
Professional Services	27,110	3,591
Travel Expenditures	50,202	32,690
Other Expenditures	-	451
	468,946	427,274
Total Expenses	\$ 889,216	\$ 748,447
Unspent Balance*	\$ 686,748	\$ 938,302

* Note : The unspent balance as at March 31, 2005 is carried forward to the subsequent fiscal year