Institute of Nutrition, Metabolism and Diabetes

Annual Report









Institute of Nutrition, Metabolism and Diabetes Canadian Institutes of Health Research Simon Fraser University TC 2805, 8888 University Drive Burnaby, BC V5A 1S6 Canada www.cihr-irsc.gc.ca

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Institute of Nutrition, Metabolism and Diabetes

Annual Report

First Year of Institute-based Research Funding









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Message From the Scientific Director

These are truly revolutionary times for health research in Canada! These past 15 months of operation for the newly established Canadian Institutes of Health Research have seen the development of important new tools and partnerships for the delivery of health research funding programs across a wide range of strategic and thematic areas.

In CIHR's Institute of Nutrition, Metabolism and Diabetes we focused on the development and delivery of two major programs (New Emerging Teams and Training Grants) with a particular emphasis on building capacity for excellent research in all areas relevant to the INMD's mandate. Within the context of these and other programs we were able to build a unique partnership with three major Canadian health charities focused on different but related chronic diseases, we continued a longstanding collaborative relationship with an international health charity and we developed a number of new relationships with other government partners including Health Canada and many of the other CIHR Institutes.

Another major task during this inaugural year for INMD was to determine our strategic research priorities for the coming years. We undertook an environmental scan of partners and stakeholders. This process provided considerable data on which INMD's Institute Advisory Board was able to base our decision to focus on the growing problem of obesity and the maintenance of healthy body weight. Clearly the epidemic of obesity in this country is a serious public and personal health care

issue that cuts across all areas of the INMD's mandate and all of the research themes embraced by CIHR from basic science to health services research.

The other major challenge for our first year was the establishment of the Institute offices and staff. This was a greater challenge than anticipated, but the limitations of space on our University campuses, the limited number of highly qualified personnel available for complex and demanding jobs in health research administration, and the transformation of CIHR from a single site operation to one with fourteen different locations all conspired to make the establishment of the Institutes a unique challenge. I am pleased to say that we now have an outstanding staff with a place to work and connections established that will allow us to serve and respond to the needs of our partners and stakeholders.

For those of you who have had the opportunity to interact with INMD during its infancy we hope that it has been a positive and helpful experience. During our adolescence, we will improve upon our delivery of programs and services that will make Canada an outstanding environment for the conduct of health research.

Dyan (Tinggord

Sincerely,

Diane T. Finegood

Outstanding Research

New Emerging Team Grants

As health research funding in Canada turns a corner, we must first rebuild our capacity to undertake excellent, collaborative health research within and across CIHR's 4 research themes (basic, clinical, health services and policy, and social, cultural and environmental determinants of health).

To enable the building of capacity, the INMD collaborated in driving the creation of a novel program tool, the New Emerging Team (NET) grants program. The NET grants program was designed to support the creation and development of new collaborative research teams undertaking multidisciplinary and cross-theme research. Through the provision of both infrastructure support and operating funds, including funds for training and establishment of new investigators we hoped to help build capacity and initiate the undertaking of novel and outstanding multidisciplinary health research.

New Emerging Team - "Cardiovascular health in chronic renal failure", Université Laval. Research Team (names from left to right)

First row: Geneviève Robitaille, Sonia Lacasse-Marcoux, Marie-Ève Rodrique, Philippe Lavoie, Elizabeth Pagé and Darren Richard.

Second row: Martin D'Amour, Sébastien Savard, Caroline Bloin, Valérie Montmigny, Édith Gagnon, Guilène Soucy, Danielle Paré-Lizotte and Richard Larivier.

> Third row: Marcel Lebel, Charles Simard, Paul Isenring and Micheal Baril.



Chronic diseases, including cardiovascular disease, diabetes, and kidney disease result in a staggering number of deaths and disabilities to Canadians each year. Within this constellation of chronic diseases, there are commonalities in the underlying mechanisms, predisposing risk factors, treatment and prevention strategies, and impact on health services and systems.

In recognition of the potential benefit of research programs which focus on common aspects of these chronic diseases, the Canadian Diabetes Association, The Kidney Foundation of Canada and the Heart and Stroke Foundation of Canada formed a partnership with INMD and the CIHR Institutes of Circulatory and Respiratory Health and Gender and Health to fund six highly rated NET applications for interdisciplinary research focused on common and related aspects of kidney disease, cardiovascular disease and diabetes.













Dr. G. Nichol (University of Ottawa) chairs the first annual Cardiovascular Outcomes Related to Economics (CORE) New Emerging Team (NET) meeting held August 2002 in Ottawa, Canada. Members of CORE NET include Dr. G. Wells, Dr. A. Tang (University of Ottawa), Ms. E. Huszti and Ms. D. Laplante (Ottawa Health Research Institute), Dr. P. Armstrong, Dr. W-C Chang, Dr. P. Kaul (University of Alberta), Dr. R. Sheldon, Dr. G. Wyse, Dr. G. Currie (University of Calgary), Dr. B. O'Brien, Dr. D. Marshall, Dr. S. Connolly (McMaster University) and Dr. C. Donaldson (University of Newcastle Upon Tyne).



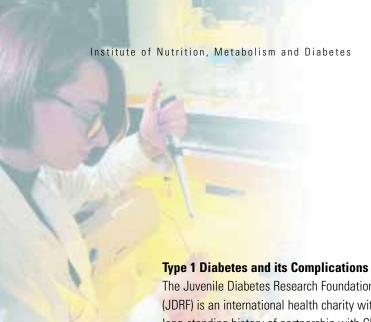
These six New Emerging Team grants will provide \$7.0 M over 5 years and engage dozens of researchers in a range of studies on common aspects of chronic disease.

Table 1: New Emerging Team Grants: Chronic Disease

Partners:

Canadian Diabetes Association
Heart and Stroke Foundation of Canada
The Kidney Foundation of Canada
CIHR Institute of Nutrition, Metabolism and Diabetes (INMD)
CIHR Institute of Circulatory and Respiratory Health (ICRH)
CIHR Institute of Gender and Health (IGH)

Principal Investigator	Research Institute	Title	Average Annual Operating Amount
JOHNSON, Jeffery A	University of Alberta	Establishment of the alliance for Canadian health outcomes research in diabetes (ACHORD) group	181,720
SCHOLEY, James W	University of Toronto	Gender / genes and glomerular-based diseases research group	239,690
LEBEL, Marcel	Université Laval	Cardiovascular health in chronic renal failure	250,000
NICHOL, Graham	University of Ottawa	Cardiovascular outcomes related to economics (CORE) group	228,322
PARFREY, Patrick S	Memorial University of Newfoundland	Canadian collaborative group for the prevention of illness in kidney disease. The Canadian Prevention of Renal and Cardiovascular Endpoints Trial (CANPREVENT)	250,000
ROCHON, Paula A	Institute for Clinical Evaluative Sciences- Toronto	Pharmacological management of chronic disease in older adults	247,015



The Juvenile Diabetes Research Foundation (JDRF) is an international health charity with a long-standing history of partnership with CIHR and its predecessor the Medical Research Council of Canada. The JDRF's goal to find a cure for type 1 diabetes is realized through funding of research focused on the prevention of type 1 diabetes and its recurrence, restoration of normal metabolism, and avoidance and reversal of complications.



Continuing the tradition of productive partnership through the funding of research teams, in 2001 the JDRF partnered with CIHR's Institutes of Nutrition, Metabolism and Diabetes, Infection and Immunity, and Human Development, Child and Youth Health to fund two New Emerging Teams in the area of type 1 diabetes and its complications.

New Emerging Team
Meeting. From left to right:
Kathy Sykora
(Senior Biostatistician),
Dr. Paula Rochon
(Principal Investigator),
Dr. Walter Wodchis
(NET Collaborator),
Dr. Muhammad Mamdani
(New Investigator),
Dr. Geoff Anderson
(Principal Investigator)

Table 2: New Emerging Teams Grants: Type 1 Diabetes and its Complications

Partners:

Juvenile Diabetes Research Foundation CIHR Institutes of Nutrition, Metabolism and Diabetes (INMD) Human Development, Child and Youth Health (IHDCYH) and Infection and Immunity (III)

Principal Investigator	Research Institute	Title	Average Annual Operating Amount
FANTUS, Ivan G	Samuel Lunenfeld Research Institute (Toronto)	Glucose toxicity: Prevention of diabetes complications and preservation of pancreatic beta-cell function	232,750
HILL, David J	Lawson Research Institute (London, Ontario)	Pancreatic islet generation from human stem cells	246,526



Nutrition, Metabolism and Diabetes

INMD has a broad mandate including research to enhance health in relation to diet, digestion, excretion, and metabolism; and to address causes, prevention, screening, diagnosis, treatment, support systems, and palliation for a wide range of conditions and problems associated with hormone, digestive system, kidney, and liver function. During the Fall 2001 NET competition, INMD invited applications for NET programs in any area

within its mandate. One NET application in this category was identified to be of sufficient merit to warrant funding.

Table 3: New Emerging Team Grant: Nutrition, Metabolism and Diabetes

Principal Investigator	Research Institute	Title	Average Annual Operating Amoun
LAFOND, Julie	Université du Québec à Montréal	Grossess, profil lipidique et influence des échanges materno-foetaux sur le développement néonatal	249,225



Excellent Researchers and a Robust Research Environment

CIHR Strategic Training Initiative in Health Research

In recognition of the rapidly growing need for new health researchers and scientists, the 13 CIHR Institutes together with numerous partners launched the Strategic Training Initiative in Health Research "Health Researchers for the 21st Century" in July 2001.

There is a revolution in health research underway, characterized by the convergence of mathematics, the physical sciences, social sciences and humanities, together with biological, behavioural and clinical approaches to answer important questions in health and disease. Accordingly, there is a growing demand for highly skilled and adaptable individuals who can embrace a diversity of

approaches in solving complex problems and in applying solutions. To address this important need, CIHR developed the training program grant to support groups of excellent mentors/educators, accomplished in health research, who work collaboratively to offer a research training program of defined format and content to a group of trainees.

Together with numerous partners, the INMD is pleased to provide full or partial support to 9 training programs relevant to the INMD's mandate. Together with our partners, these 9 programs will provide more than \$15 M for the support of training programs and their trainees.

CIHR Strategic Training Program Grant, Université Laval - Génomique fonctionnelle et maladies endocriniennes















Table 4: CIHR Strategic Training Program Grant

Principal Investigator	Research Institute	Title	Partners	Average Annual Operating Amount
CHUNG, Stephen W	University of British Columbia	CIHR health research training program in transplantation	Heart and Stroke Foundation of Canada Michael Smith Foundation for Health Research Institute of Circulatory and Respiratory Health Institute of Health Services and Policy Research Institute of Infection and Immunity	300,000
ELLEN, Richard P	University of Toronto	Health applications of cell signaling in mucosal inflammation and pain	Michael Smith Foundation for Health Research The Arthritis Society Institute of Circulatory and Respiratory Health Institute of Health Services and Policy Research Institute of Infection and Immunity Institute of Musculoskeletal Health and Arthritis	297,376
KUBES, Paul	University of Calgary	CIHR strategic training initiative in health research: A transdisciplinary training program in diseases of immunopathogenesis and inflammation	Alberta Heritage Foundation for Medical Research Institute of Circulatory and Respiratory Health Institute of Infection and Immunity Institute of Musculoskeletal Health and Arthritis	260,417
LABRIE, Fernand	Université Laval	Génomique fonctionnelle et maladies endocriniennes	Fonds de la recherche en santé du Québec Institut du cancer Institut de développement de la santé des enfants et des adolescents Institut de génétiques	295,833

Together with numerous partners, the INMD is pleased to provide full or partial support to 9 training programs relevant to the INMD's mandate.

Training Program in clinical nutrition at the Hospital for Sick Children in Toronto, Ontario.

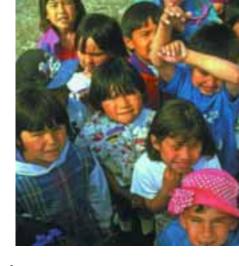






	Table 4: CIHR Stra	tegic Training P	rogram Grant (Contin	ued)	
	Principal Investigator	Research Institute	Title	Partners	Average Annual Operating Amount
1	LEVY, Gary A	Toronto General Hospital	Training program in regenerative medicine	Institute of Circulatory and Respiratory Health Institute of Infection and Immunity	297,200
	PATERSON, William G	Queen's University	Multidisciplinary research training program in digestive sciences		300,000
S.C.	PENCHARZ, Paul B	Hospital for Sick Children	Training program in clinical nutrition	Institute of Human Development, Child and Youth Health	265,000
	REITHMEIER, Reinhart A	University of Toronto	Training program in structural biology of membrane proteins linked to disease	Institute of Circulatory and Respiratory Health Institute of Genetics Institute of Infection and Immunity Institute of Neurosciences, Mental Health and Addiction	300,000
The way in a	STEWART, Moira A	University of Western Ontario	Interdisciplinary research training in primary health care research	Institute of Aging Institute of Aboriginal Peoples' Health Institute of Gender and Health Institute of Health Services and Policy Research Institute of Population and Public Health	290,957

There is a growing demand for highly skilled and adaptable individuals who can embrace a diversity of approaches in solving complex problems and in applying solutions.



Partnerships and Public Engagement

Diabetes Surveillance

In a unique partnership developed to build research on the backbone of diabetes surveillance undertaken by Health Canada and its partners including all of the Provinces and Territories, non-governmental and national aboriginal organizations, the INMD and the National Diabetes Surveillance System (NDSS) have offered a program to fund health services and population health research on diabetes, utilizing data collected through the NDSS.

The objectives of this collaboration are to:

- encourage linkage of the NDSS data with clinical, administrative or other survey data.
- enhance understanding of the impact of diabetes mellitus on the health care system and on the health of Canadians.

The request for applications for the Diabetes Surveillance System (DSS) grant was launched in March 2002, with applications due July 1, 2002. A total of \$500,000 is available for funding applications to this program.

Diabetes in the Aboriginal Population

Type 2 Diabetes Mellitus affects the Aboriginal population at a rate 3-5 times higher than the general Canadian population, and it has been demonstrated that Aboriginal Canadians are experiencing prevalence rates of this condition that are among the highest in the world.

In an effort to address this serious health problem, the Institute of Aboriginal Peoples' Health (IAPH) and the INMD have partnered to promote original and innovative research approaches to primary prevention, that explores novel correlations and causations between the social climate and the prevalence of diabetes among the Aboriginal population, or that investigates the relationship between atherosclerosis and diabetes. It is expected that Aboriginal communities and organizations will participate in the development of the research projects and that successful proposals will lead to the rapid uptake of research results through appropriate communication, dissemination and transfer of knowledge strategies.

This request for applications was launched in March 2002, with applications due July 1, 2002. The INMD and IAPH anticipate funding at least two projects for up to three years each.

It is expected that Aboriginal communities and organizations will participate in the development of the research projects.





A National Dialogue on Healthy Body Weights

In December of 2001 the INMD, in partnership with Obesity Canada, Health Canada, and most of CIHR's Institutes, hosted a National Dialogue on Healthy Body Weight. The objectives of this conference were to develop among the attending scientists, health professionals and other interested individuals, a common understanding of the current knowledge and to identify research gaps. A second objective was to establish partnerships through which long-term national strategies for research and interventions to achieve healthy body weights could be developed. The Summary of Proceedings from this conference can be found at: http://www.cihr-irsc.gc.ca/institutes/inmd/ publications/healthy_body_weight_e.pdf

Strategic Planning and Research Development Workshops

While CIHR may be leading the revolution of the health research environment in Canada, our capacity to undertake collaborative, multidisciplinary and strategic research needs to be encouraged and developed. In an effort to engage the grass roots involved in health research, INMD in collaboration with other Institutes and partners supported a number of strategic planning and research development workshops in a variety of areas relevant to INMD's mandate. Also during this first year, INMD developed application guidelines, a standardized application form and an application review process with significant input from the Institute Advisory Board.

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Table 5: Workshop/Conference	Date
ImmuNet Graduate Student Retreat	June 2001
Establishment of a Canadian Wound Healing Research Group	July 2001
Proteomics in Health Disease	August 2001
8 th International Workshop of Developmental Nephrology	August 2001
Nutrition Support in the Adult Critical Care Setting	October 2001
Healthy Aging: From Cell to Society	November 2001
A National Dialogue on Healthy Body Weights	December 2001
Complementary/Alternative Health Care (CAHC) and Natural Health Products	February 2002

The INMD Avisory Board worked together to establish the Institute's strategic research priorities and to develop INMD's Strategic Plan.



Organizational Excellence

Environmental Scan - "Charting Our Course"

Given the broad mandate of the INMD, which encompasses, not only nutrition, metabolism and diabetes, but also research to address causes, prevention, screening, diagnosis, treatment, support systems, and palliation for a wide range conditions and problems associated with hormone, digestive system, kidney, and liver function, it was necessary to undertake a detailed environmental scan of our partners and stakeholders in order to set research strategic priorities.

The environmental scan undertaken in the Fall of 2001, included telephone interviews with researchers and policy makers, a letter accompanied by a survey to nongovernmental, academic and clinical organizations, and a widely disseminated email linked to a web-based survey asking for input from the research community. A summary report of this process is available at:

http://www.cihr.ca/institutes/inmd/whatsnew/charting_our_course_e.pdf.

Information brought forward from this scan was used to establish the Institute's strategic research priorities for the following year and to develop the INMD's Strategic Plan.

The Strategic Plan and Research Priority

With input from our environmental scan, INMD's Institute Advisory Board identified *Obesity Research: Towards Healthy Body Weight for Canadians* as the strategic priority for the INMD. We identified three strategic goals each with a series of strategies, actions and outcomes. The full Strategic Plan for the INMD was published in the Spring of 2002 and is available at: http://www.cihr-irsc.gc.ca/institutes/inmd/about_inmd/strategic_plan_e.pdf

We identified three strategic goals each with a series of strategies, actions and outcomes.



Goals of the INMD Strategic Plan

- **Goal 1:** Increase understanding of the measures, causes, prevention, treatment, and consequences of obesity and the maintenance of healthy body weights, through the application of innovative approaches.
- **Goal 2:** Increase the understanding of obesity/healthy body weights in Canada through surveillance of:
 Prevalence risk factors (including environment and policy), etc., co-morbidities program/service utilization and efficacy, and direct and indirect costs.
- **Goal 3:** Identify and promote utilization of health service and environment policies for preventing obesity and promoting healthy eating, active living and other factors affecting healthy body weights.



The Institute Advisory Board

The inaugural Institute Advisory Board for INMD brings to the table a diverse range of experience including research across INMD's mandate, work in government and non-governmental organizations, and both national and international experience.

The IAB has also brought to the table an incredible enthusiasm for building a strong

and vibrant INMD. The IAB envisions the Institute serving investigators, practitioners, policy makers and the Canadian public through strategies that build capacity and foster excellence in health research. Our goal is to increase inter- and multi-disciplinary research in keeping with our vision and mandate to improve strategies for health promotion, disease prevention and care.



Heather Beanlands



John T. Brosnan (Chair)



Patricia Brubaker



Nancy Cook



William Dietz



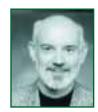
Karen Dodds



Paul R. Goodyer



Glenville Jones



Michael I. McBurney



Douglas Philp



Kim Raine



Ray V. Rajotte



Robert J. Reid



Denis Richard



Bernard Zinman



Table 7: Institute Advisory Board Members

Member	Title	Affiliation
Heather Beanlands, RN, PhD	Assistant Professor, School of Nursing	Ryerson Polytechnic University
John T. Brosnan, DPhil, (Chair)	University Research Professor and Head, Department of Biochemistry	Memorial University of Newfoundland
Patricia Brubaker, PhD	Professor and Canada Research Chair, Departments of Physiology and Medicine	University of Toronto
Nancy Cook, BA, BEd	Lay Representative	St. John's, Newfoundland
William Dietz, MD, PhD	Director, Division of Nutrition and Physical Activity, National Center for Chronic Disease Prevention and Health Promotion	U.S. Centers for Disease Control and Prevention
Karen Dodds, PhD	Director General, Food Directorate, Health Products and Food Branch	Health Canada
Paul R. Goodyer, MD	Professor of Paediatrics and Human Genetics Director, Division of Pediatric Nephrology	McGill University Health Center Montreal Children's Hospital
Glenville Jones, PhD	Craine Professor of Biochemistry and Head Professor of Medicine	Queen's University
Anne Kennedy, MHSc, RD	President, NIN	National Institute of Nutrition
Michael I. McBurney, PhD, FACN	Director of Nutrition Science	Kellogg Company
Jonathan Meddings, MD	Head, Division of Gastroenterology, Professor of Medicine	University of Calgary
Douglas Philp	Lay Representative	Calgary, Alberta
Kim Raine, PhD, RD	Director and Associate Professor, Centre for Health Promotion Studies	University of Alberta
Raymond V. Rajotte, PhD, PEng, RT	Professor of Surgery and Medicine, Director, Surgical-Medical Research Institute	University of Alberta
Robert J. Reid, MD, MPH, PhD	Research Associate, Centre for Health Services and Policy	University of British Columbia
Denis Richard, PhD	Chaire de recherche sur l'obesité D.B. Brown, Directeur, Centre de recherche sur le metabolisme energetique	Université Laval
Bernard Zinman, MD, OM FRCPC	Head, Division of Endocrinology and Metabolism	Mount Sinai Hospital

Institute Staff

Over the course of the past 15 months, significant energies were dedicated to building an effective complement of staff for the Institute. This process was completed in the Spring of 2002. The resulting team includes committed professionals with a wide range of backgrounds, talents and developmental goals. This team includes:



The Scientific Director Diane Finegood will lead a new INMD team into its second year of strategic research funding. Front row from left to right: Ximena Ramos Salas, Judith Andrews, Shelley Holdenried, and Diana Primavesi. Rear row from left to right: Diane Finegood and Susan Crawford.

Table 8: INMD Staff		
Susan Crawford, PhD	Assistant Director	Partnerships, planning, knowledge translation, scientific liaison.
Diana Primavesi	Project Manager	IAB coordination and events management.
Judith Andrews	Research Assistant	Communications.
Ximena Ramos Salas (Ottawa)	Project Manager, Planning and Policy	Project development and management, evaluation, and policy assurance.

Building and Strengthening Relationships

The Scientific Director, members of the Institute Advisory Board, and other CIHR personnel associated with the INMD were involved in a wide range of activities aimed at building and strengthening relationships

between the Institute and its constituency. These included meetings, workshops and forums with investigators and partners; presentations at academic and research institutions across the country; discussions with Members of Parliament; and interviews with the media.

Financial Statements

Institute of Nutrition, Metabolism, and Diabetes Institute Support Grant

For the year ended March 31, 2002

Available Funds		\$ 1,382,959
Expenses		
Institute Development		
Conference, symposia and workshops	\$ 52,201	
Institute Advisory Board	74,857	
Professional services	205,418	
Travel Expenditures	28,888	\$ 361,364
Institute Operations		
Salaries and benefits	\$ 207,619	
Office accomodations	6,729	
Telephone and communication services	6,570	
Supplies, material and other services	13,706	
Office furniture and fixtures	27,410	
Computer equipment and IT support	4,663	
Professional services	43,393	
Travel expenditures	40,013	
Translation costs	3,848	
Other expenditures	3,598	\$ 357,549
Total Expenses		\$ 718,913
Unspent Balance*		\$ 664,046

^{*} Note: Delays in placement of staff have led to surplus in this year's support grant budget.

Institute of Nutrition, Metabolism, and Diabetes Investments in Strategic Initiatives

For the year ended March 31, 2002

	Contributions through Grants and Awards					
Strategic Initiatives	Number	2001-02	2002-03	2003-04	2004 and Beyond	Total
New Emerging Team Grant Program (NET Program)	8	\$ 63,207	\$ 1,056,180	\$ 1,054,232	\$ 3,900,875	\$ 6,073,494
Strategic Training Initiative in Health Research	6	71,208	771,083	777,500	2,706,668	4,326,459
	14	\$ 134,415	\$ 1,826,263	\$ 1,831,732	\$ 6,607,543	\$ 10,399,653

Note: Grants and awards in respect to these programs are approved for 1 to 6 years. Figures displayed represent CIHR financial commitments for those programs in 2001-02 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.

