



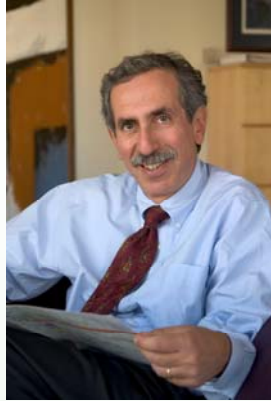
Canadian Institutes
of Health Research

Instituts de recherche
en santé du Canada



CANADIAN INSTITUTES OF HEALTH RESEARCH
Institute of Nutrition, Metabolism and Diabetes
Annual Report 2004-05

Canada



Dr. Alan Bernstein

Message from the President

The Institute of Nutrition, Metabolism and Diabetes (INMD) has a broad mandate to support 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. However, soon after the inception of INMD, the Scientific Director and Institute Advisory Board identified the Institute's sole strategic priority to be the alarming rate at which obesity is growing in Canada, at great cost to our medical system and to our quality of life. This focus

over the past four years has revitalized the community of researchers dealing with this complex issue on every level, from basic science to population health.

At the same time, INMD has forged ahead in other research areas by forming productive partnerships with a wide range of governmental and non-governmental organizations, to further the broader INMD research agenda.

Under the energetic leadership of Scientific Director, Diane T. Finegood, guided by a hard-working Institute Advisory Board and supported by a small group of

talented staff, INMD has made itself known within the scientific community and abroad. The consistency of media attention to INMD and its work is a testament, not only to the wisdom of its decision to focus its resources on the complex issue of obesity, but also to the commitment of all those involved with the Institute.

A handwritten signature in black ink, appearing to read "Alan Bernstein". The signature is stylized and written in cursive.

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

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Dr. Diane Finegood

Message from the Scientific Director

Since our last annual report, 2004-05 has been a year of continuing to build on our vision. In 2001, working with our Institute Advisory Board, we chose to make the study of Obesity and Healthy Body Weight our focus for strategic research funding. In 2003, the Advisory Board helped us assess and renew that decision.

This year, INMD moved beyond the initial growing pains of implementing this plan, creating new opportunities as well as continuing to support established programs. Based on recommendations from an evidence report generated by the Canadian Association of Pediatric Health Centres in 2003, INMD offered two new initiatives to deal with an identified research gap within the area of Obesity and Healthy Body Weight. Six operating grants and six pilot projects were funded in 2004-05

to address the issue of childhood obesity. INMD also worked with several partners for the launch of the New Frontiers Program, which will link the research agendas of most CIHR Institutes and the Heart and Stroke Foundation of Canada. Again this year, INMD funded researchers in CIHR's open competitions, that fell within INMD's strategic initiative. Two new New Emerging Team grants were funded in the area of obesity research.

In addition, INMD supported new and ongoing programs that cut across our research mandate. Two Research Development and Translation Initiative grants were funded, as well as a variety of Research Development and Knowledge Translation Workshops. We continue to actively engage other groups in partnerships, and this year we are happy to highlight our involvement in the

development of the Kidney Research Scientist Core Education and National Training (KRESCENT) program.

With a full complement of dedicated staff, we will continue to strive to engage in forward-looking dialogue with our research community and the public, with a comprehensive and transparent accounting of our activities. Welcome to our 2004-05 Annual Report.

A handwritten signature in black ink that reads "Diane T. Finegood".

Diane T. Finegood, Ph.D
Scientific Director
Institute of Nutrition, Metabolism and
Diabetes

Outstanding Research

In 2004, 18% per cent of Canadian children were overweight and 8% were obese. Recent evidence suggests that there is a trend toward growth in both these categories, leaving more than one-quarter of our children at risk of earlier onset of cardiovascular problems, diabetes, liver and gall bladder disease, some forms of cancer and a shorter lifespan than their parents. One approach INMD took to tackling this problem was development of two new funding opportunities within the area of childhood obesity. As well, researchers who applied in the CIHR open competition, whose proposals fell within the strategic initiative of Obesity and Healthy Body Weight, were also funded.



Open Competition

INMD funded seven researchers from the CIHR open competitions whose research proposals fell within the Obesity and Healthy Body Weight initiative. They were awarded one- or two-year operating grants.

Brownsey, Roger W <i>University of British Columbia</i>	Structure, function and regulation of mammalian acetyl-coA carboxylase isoforms
Cianflone, Katherine M <i>McGill University</i>	Regulation of triglyceride storage: Mechanism of action of ASP and insulin homeostasis in ASP deficient and overexpressing mice models
Randall-Simpson, Janis A <i>University of Guelph</i>	Nutritional risk in Canadian preschoolers: Prevalence and models
Wagner, Graham F <i>University of Western Ontario</i>	The big STC variants and their role in lipid metabolism
Julien, Pierre <i>Laval University</i>	Inuit health in transition study: Omega-3 fatty acids and oxidative stress in obese and diabetic Inuit subjects
Sharma, Arya M <i>McMaster University</i>	Biological determinants of the differences in metabolic risk factors between South Asians and European Caucasians
Sweeney, Gary <i>York University</i>	Effect of adiponectin on glucose and fatty acid uptake and metabolism in skeletal muscle

Outstanding Research

INMD collaborated with the CIHR Institutes of Population and Public Health (IPPH), Gender and Health (IGH) and Human Development, Child and Youth Health (IHDCYH), as well as with the Heart and Stroke Foundation of Canada (HSFC) to provide two new opportunities under the initiative Excellence, Innovation and Advancement in the Study of Obesity and Healthy Body Weight. Twelve projects were funded from 52 applications, contributing almost \$2.5 M towards research in the area of childhood obesity.

Operating Grants

Childhood obesity operating grants provide up to three years of support for a project conducted by an individual or a small group of investigators.

He, Meizi <i>University of Western Ontario</i>	Childhood overweight and obesity management: Physicians' views, practices, perceived barriers and needs
Gilliland, Jason A <i>University of Western Ontario</i>	Assessing the influence of environmental factors on obesity-related behaviours in youth
Hamilton, Jill K <i>Hospital for Sick Children (Toronto)</i>	Insulin resistance and beta cell dysfunction in early childhood: The role of maternal and infant metabolic risk factors
Naylor, Patti-Jean <i>University of Victoria</i>	Evaluating the effectiveness of the dissemination of Action Schools! BC: A socio-ecological intervention to increase physical activity and healthy eating in school children
Stewart, Jennifer M <i>Carleton University</i>	Maternal employment and childhood obesity
Morrison, Katherine Mary <i>McMaster University</i>	Cardiovascular risk factors, glucose metabolism and intramyocellular lipid in children with obesity at baseline and after a pediatric obesity treatment program

Pilot Project Grants

Childhood obesity pilot project grants provide one year of funding for innovative, high risk, pilot and/or feasibility research. Pilot project grants allow investigators with novel ideas and observations to conduct initial studies and/or gather evidence necessary to determine the viability of new research directions.

Elliott, Charlene D <i>Carleton University</i>	Marketing 'fun foods': A content analysis of food messages targeted at children
Klip, Amira <i>Hospital for Sick Children, Toronto</i>	Measurement of insulin resistance in childhood obesity through Akt phosphorylation in blood cells
Kline, Stephen C <i>Simon Fraser University</i>	A school-based approach to studying the potential health benefits of reduced media consumption
Legault, Laurent <i>Montreal Children's Hospital</i>	Mentors-in-motion: A physical activity intervention for obese adolescents (pilot study)
Spence, John C <i>University of Alberta</i>	Growth assessment study of preschool children: Establishing a longitudinal cohort
Tremblay, Mark S <i>University of Saskatchewan</i>	Feasibility study of the Canadian Learning to be Active School Study (CLASS)



Outstanding Researchers in Innovative Environments

Among INMD's goals are: to develop and sustain Canada's health researchers in vibrant, innovative and stable research environments; to build capacity in the research community; and to further identify and develop new strategic programs. A range of research projects were funded to further these goals. In order to develop and sustain Canada's health researchers, INMD contributed funds to 9 awards in the Heart and Stroke Foundation of Canada (HSFC) initiative called Target Obesity Awards. The Target Obesity RFA, which brought together HSFC, the Canadian Diabetes Association and five CIHR Institutes, including INMD, generated \$1.4 million to encourage students, graduates and health professionals to train in obesity research. The emphasis is on risks for chronic diseases and strategies to reduce these risks, with a focus on biological, societal and behavioural factors that influence obesity.

Netticadan, Thomas J <i>University of Manitoba</i>	Mechanisms underlying cardiac contractile dysfunction in type 2 diabetes
Tomlinson, Julianna J <i>Ottawa Health Research Institute</i>	The identification of transcriptional intermediary factor 1 beta in the regulation of steroid induced adipocyte differentiation
Jia, Xuming <i>University of Saskatchewan</i>	Methylglyoxal induced insulin resistance
Yoshioka, Mayumi <i>University of Laval</i>	Identification and cloning of appetite and satiety controlling genes
Kestens, Yan <i>University of Montreal</i>	Links between environment and population health: Contributions of GIS and spatial analysis
Steiberg, Gregory R <i>St. Vincent's Hospital (Australia)</i>	Intracellular mechanisms contributing to skeletal muscle leptin resistance in obesity
McGavock, Jonathan <i>University of Texas Southwestern Medical Center</i>	The impact of myocardial lipid accumulation on cardiac function in obese insulin resistant humans
Purdham, Daniel <i>University of Western Ontario</i>	The role of the cardiac leptin system in myocardial ischemia and reperfusion
Fry, Mark W <i>Queen's University</i>	Electrophysiological characterization of orexinergic neurons in the lateral hypothalamus

Outstanding Researchers in Innovative Environments

Funding Across the Mandate, Including the New Frontiers Program

Support was granted to two New Emerging Teams this year, and one grant was awarded under the New Frontiers Program. The New Frontiers Program is a new funding opportunity, led by CIHR's Institute of Cardiovascular and Respiratory Health (ICRH), in collaboration with the HSFC. It was launched to help build the national research agenda for circulatory and respiratory health and to enhance the effectiveness and activity of research supported under the mandates of participating organizations. Of 38 applications received, 20 were funded, one directly by INMD.

	<i>New Emerging Team Grants (Five Years)</i>
Katzmarzyk, Peter T <i>Queen's University</i>	Understanding the individual and socio-environmental health risks of obesity: The Canadian Heart Health Surveys follow-up study
Lambert, Marie <i>Hôpital Sainte-Justine (Montréal)</i>	Familial study on the prevention of cardiovascular disease and type 2 diabetes in children and adolescents

	<i>New Frontiers Program – Development Grant (One Year)</i>
Liu, Peter P <i>University of Toronto</i>	Focused Canadian workshop on cardiovascular complications of diabetes – state of art and future challenges



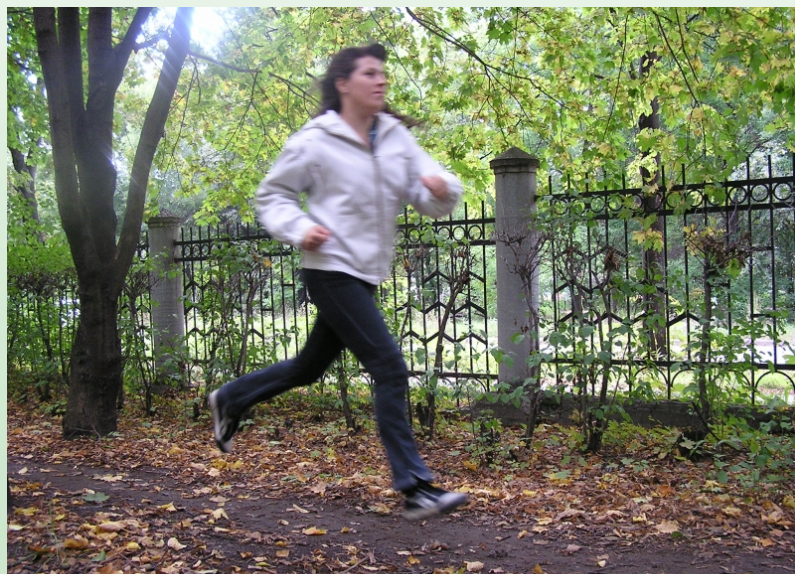
Translating Health Research Into Action

To strengthen health promotion and the health system, INMD funds researchers who evaluate current and proposed health strategies and who develop projects that can bridge gaps between research, practice, programs and policy.

Research Development & Translation Initiative Grants

Funding was made available this year for two one-year grants under this INMD initiative.

Dubois, Lise <i>University of Ottawa</i>	Birth cohort study of genetic and environmental determinants of childhood obesity
Young, Kue <i>University of Toronto</i>	Measuring obesity in the circumpolar Inuit: Planning workshop and project development



Short-term Research and Development Translation Initiatives

Institute of Health Services and Policy Research - Summer Institute 2004	June, Vancouver, BC
Institute of Cancer Research - Northern Lights Summer Conference	June, Vancouver, BC
The North American Society for the Study of Hypertension in Pregnancy Conference	June, Vancouver, BC
Institute of Health Economics - ACHORD Research Forum	September, Edmonton, AB
Department of Epidemiology and Community Medicine, Institute of Population Health: Research into fetal	September, Ottawa, ON
Canadian Diabetes Association - CDA Research Strategy Workshop, Diabetes Research Program in 2010	October, Quebec City, QC
Canadian Association of Gastroenterology - Research Topics in GI Disease IV	October, King City, ON
Chronic Disease Prevention Alliance of Canada - Integrated Chronic Disease Prevention: Getting it Together	November, Ottawa, ON
Endocrinology Canada International Symposium - The Science of Diabetes Complications: Implications for Novel Therapy	November, Toronto, ON
Active Healthy Kids in Canada - Canadian Physical Activity Symposium	December, Toronto, ON
Institute of Infection and Immunity - Inflammation Workshop	February, Banff, AB

Effective Partnerships and Public Engagement

INMD directors continued to initiate discussions with partners and potential partners, and to engage in dialogue with the public through presentations and public appearances. INMD was a major presence in the print, radio and television media.

Partnerships with Non-governmental Organizations

INMD joined the Kidney Foundation of Canada and the Canadian Society of Nephrology on the governing council for a new research initiative: the Kidney Research Scientist Core Education and National Training (KRESCENT) program. This training program will recruit trainees from multiple disciplines and aid them in career development to support collaborative research and knowledge translation in the area of kidney disease.

INMD is continuing to build a relationship with the Chagnon Foundation, an organization that focuses on reducing poverty and preventing disease. The Chagnon Foundation has agreed to fund research projects on childhood obesity.

INMD directors also engaged a number of other organizations in significant discussion regarding potential partnerships. These included the Canada Fitness and Lifestyle Research Institute, the Canadian Associations of Gastroenterology and Pediatric Health Centres, the Canadian Society for Clinical Nutrition, the Canadian Digestive Health Foundation, the Canadian Institute for Health Information, the Canadian Liver Foundation, the Canadian Restaurant and Foodservices Association, the Society for Clinical Nutrition, the Coalition for Active Living, Concerned Children's Advertisers, the International Life Sciences Institute, Obesity Canada, ParticipAction and the Stem Cell Network.

Partnerships with Government Organizations

INMD worked in partnership with Statistics Canada and Health Canada to develop an RFA that will allow expert analysis of the Canadian Community Health Survey data released this year. The data were collected in the first national survey on nutrition in more than 30 years. The cross-sectional survey will provide information, at the national and provincial levels, on food intake, food groups, nutritional supplements, nutrients, eating patterns, physical activity, body mass index and household food security. Expert analysis of the data will allow informed decision-making at many levels.

Presentations, Public Appearances and Media Coverage

Scientific Director Dr. Diane Finegood was invited to a Parliament Hill viewing of the film "Supersize Me" by the Honourable Carolyn Bennett, Minister of State for Public Health. Dr. Finegood spoke to the group about the obesity epidemic and INMD's "Canada on the Move" project.

Dr. Finegood was also invited to present national lectures across Canada on obesity, physical activity and bridging the science to policy gap, and spoke locally about obesity and metabolism. She was interviewed on a wide variety of subjects by Global National TV News, Macleans Magazine, the Ottawa Citizen, the Ottawa Sun, Le Soleil, the Toronto Sun, and CFX Radio in Victoria.

Institute of Nutrition, Metabolism and Diabetes

Financial Statements

Available Funds		\$ 1,419,625
Expenses		
Institute Development		
Conference, symposia and workshops	\$ 175,553	
Institute Advisory Board	63,167	
Professional Services	61,488	
Travel Expenditures	48,608	
Other Costs	1,086	
		\$ 349,903
Institute Operations		
Salaries and benefits	\$ 438,643	
Telephone and communication services	9,744	
Supplies, material and other services	13,653	
Office furniture and fixtures	39	
Computer equipment and IT support	51,706	
Professional services	60	
Travel expenditures	31,621	
Other expenditures	4,497	
		\$ 549,963
Total Expenses		\$ 899,866
Unspent Balance*		\$ 519,759

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

Financial Statements

	Contributions through Grants and Awards					Total
	Number	2004-05	2005-06	2006-07	2007 on	
STRATEGIC INITIATIVES						
Advancing Theories, Framework	1	57,529	70,885	54,297	-	182,711
New Frontiers Program	1	25,000	-	-	-	25,000
Excellence, Innovation and Advancement in the Study of Obesity and Healthy Body Weight	30	3,672,214	3,058,692	2,625,222	3,229,666	12,585,794
Diabetes Surveillance System Grants	2	48,725	-	-	-	48,725
Knowledge Translations Applications	6	45,833	-	-	-	45,833
New Emerging Team	8	956,009	1,556,764	1,521,079	57,345	4,091,197
Institute of Aboriginal Peoples' Health Strategic Initiative	1	18,448	-	-	-	18,448
Training Awards to Open Competition	6	61,500	70,500	-	-	132,000
CIHR Training Program Grants	6	377,347	995,122	805,400	688,916	2,866,785
Healthy Development Trajectories of Infants, Children and Youth	1	125,000	150,000	150,000	325,000	750,000
Target Obesity	9	59,947	127,793	95,791	29,789	313,320
Childhood Obesity and Healthy Body Weights	6	54,713	617,995	545,885	419,728	1,638,321
Research Development and Translation	6	66,000	-	-	-	66,000
	83	\$ 5,568,265	\$ 6,647,751	\$ 5,797,674	\$ 4,750,444	\$ 22,764,134

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 2004-05 and subsequent years. Availability of these funds in future years is subject to funding appropriations by Parliament. For some initiatives, partners also contributed to the funding of the grants and awards.

Organizational Excellence

Scientific Director

Diane T. Finegood has been the Scientific Director of INMD since its inception, and was this year invited to extend her six-year term for an additional year. As in the past, she chaired three two-day Institute Advisory Board meetings this year, and managed staff turnover and expansion to enrich the working environment at INMD.

New INMD Staff

Two new Assistant Directors were hired this year, one based in Vancouver and one in Ottawa. In addition, INMD has a new Project Manager, a new Project Officer, and a new Executive Assistant. A new Communications Manager was hired this year and the Institute is now producing a thrice-yearly newsletter to communicate with researchers, stakeholders and partners.

Researcher Receptions

As part of INMD's commitment to engage the research community, researcher receptions were held in conjunction with two Institute Advisory Board meetings. In May, a reception was held for 22 researchers in Saskatoon, to discuss strategies to allow INMD to support relevant research communities in Saskatchewan, as well as the rest of Canada. In November, 20 researchers attended a reception in Halifax to discuss the type of research needed to develop effective solutions to the epidemic of obesity.

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Lise Dubois, DtP, PhD

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John Harnett, MD

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