

Canadian Institutes of Health Research

2005-2006

Performance Report



Tony Clement
Minister of Health

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SECTION I – OVERVIEW

President's Message

When CIHR was created in 2000, it was given a wide-ranging and ambitious mandate. When I was appointed CIHR's inaugural President, I was excited by this bold vision but also somewhat daunted by the long road ahead.

As this Report makes clear, I believe we are well along that road. We have moved carefully and deliberately from our origins as a largely reactive biomedical granting council to an outcomes-driven, excellence-based strategic health research agency. We are meeting our mandate and, in the process, have developed new approaches and innovative programs to help Canada's health research community reach its full potential. Since CIHR was created by Parliament, there has been a profound transformation in the way health research is conducted in Canada.

We know, however, that we can improve how we operate and that we can still do more – and we are conducting our own investigation on how to accomplish this.

After five years, as required by our legislation and by our commitment to accountability to Canadians, CIHR embarked on a significant and comprehensive evaluation by a prestigious International Review Panel made up of 27 members. Collectively, the Panel included outstanding research leaders from five countries. The Panel met with more than 125 new and well-established investigators, university and government leaders, partners in industry, the health charities and provincial agencies and CIHR management and staff. Panel members also had access to detailed and extensive surveys of researchers from across Canada and a formative evaluation of each of CIHR's 13 Institutes.

The purpose of this landmark review was to assist CIHR in learning from its first five years as it moves forward. In the spirit of accountability, CIHR published the Panel's final report on its website, once it was presented to CIHR.

I know CIHR will benefit from the observations of the International Review Panel. We have gone through tremendous changes and growth in the past six years, all part of the transition to a broadened mandate, a new structure and a far bigger constituency of researchers. Some challenges we have met well; others, no doubt, could have been met better. And there are, inevitably, areas where we can improve how we do business to better serve both the research community and the users of research.

Our primary mandate remains to help Canadian health researchers to create new knowledge and translate that knowledge to improve health, build an innovative health care system and contribute to a knowledge-based economy for the 21st century. I take tremendous pleasure in seeing how CIHR's programs are supporting talented and committed Canadian health researchers in all areas of health and how their research is leading to important new findings that will benefit all of us.



I invite you to read further to learn more about how CIHR is meeting the expectations of the Government of Canada and Canadian taxpayers and how, with your support, Canadian health researchers are making the discoveries that make a difference to Canadians.

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

Management Representation Statement

I submit for tabling in Parliament, the 2005-2006 Performance Report for the Canadian Institutes of Health Research.

This document has been prepared based on the reporting principles contained in the *Guide for the Preparation of Part III of the 2005-2006 Estimates: Reports on Plans and Priorities and Departmental Performance Reports*. The document

- adheres to the specific reporting requirements outlined in the TBS guidance;
- is based on CIHR's approved Program Activity Architecture structure as reflected in its Management, Resources, Results Structure (MRRS);
- presents consistent, comprehensive, balanced and reliable information;
- provides a basis of accountability for the results achieved with the resources and authorities entrusted to it; and
- reports finances based on approved numbers from the Estimates and the Public Accounts of Canada in the DPR.

Signed: Dr. Alan Bernstein, O.C., FRSC

Title: President, Canadian Institutes of Health Research

How This Report Is Structured

The *Departmental Performance Report* of the Canadian Institutes of Health Research (CIHR) is structured as follows:

Section One, **Overview**, begins with the President's Message and the Management Representation Statement, followed by a summary of the core information that is reported in detail in subsequent sections of the report.

The section begins with a description of the CIHR mandate. It then offers a 'report card' that visually represents the current status of progress against plans and priorities in each Outcome area as set out through the Management, Resources, Results Structure (MRRS) in the 2005-2006 *Report on Plans and Priorities* (RPP).

Section One concludes with an overview of CIHR's overall performance. This includes a summary of the organization's operating environment, structure, priorities and key activities. The strategic context, i.e., key factors that may have an impact on the way CIHR's programs are delivered, is presented next. It also includes a representation of "why health research matters to Canadians."

Section Two, **Analysis by Strategic Outcome Area** is based on the CIHR MRRS. It provides detailed information on results achieved measured against expected results at the strategic outcome level as well as the program activity level. Results are reported using indicators from the CIHR MRRS as approved by Treasury Board.

Section Three, **Supplementary Information**, consists of financial and other information as required by Treasury Board.

Section Four contains the audited financial statements.

Throughout the report are Universal Resource Locator (URLs) and hyperlinks both to CIHR's website and to websites of external partners and other organizations, to steer readers to more information.

How performance information is gathered and used at CIHR

The performance information used in this report is primarily gathered from multiple internal sources including the Vice Presidents and senior managers responsible for carrying out the commitments set out in the 2005-2006 RPP. Managers report back on the actions taken and the results they have achieved.

The Evaluation and Analysis Unit uses this information to write this report and also provides quantitative data held on a corporate-wide basis in central CIHR administrative databases. CIHR also uses national and international data from external sources including, for example, Statistics Canada and the Organization for Economic Cooperation and Development (OECD). Where such information is used, bibliographical references are provided.

Financial information is generated from the Finance branch using the CIHR financial management system. These numbers are verified internally and the financial statements are audited by the Auditor General of Canada.

CIHR is a health research funding agency and this poses some unique challenges by way of reporting on outcomes; research may take years to produce results. In addition, the research is conducted through grant funding to researchers in universities and hospitals and thus outcome data must be gathered from the researchers themselves. While CIHR is making progress towards reporting on results, much of the information presented in this report deals with inputs, activities and outputs of CIHR and with the early outcomes achieved. We will continue to move towards outcome reporting over time as we increase our collection of outcome information.

Financial performance information is carefully monitored to ensure financial commitments are met and expenditures accounted for. Through the departmental performance reporting process, senior managers are held accountable to report back on the commitments they have made for the previous year. Performance information is used to support management decisions and for communication with stakeholders. Performance information is also used to create or amend policies and/or procedures and renew, eliminate or change programs.

Summary Information

Department's Reason for Existence

Mandate

The mandate of CIHR is to excel, according to internationally accepted standards of scientific excellence, in the creation of new knowledge and its translation into improved health for Canadians, more effective health services and products and a strengthened Canadian health care system (*Bill C-13*, April 13, 2000).

To accomplish this, CIHR provides a range of programs and activities that are designed to achieve results in three strategic outcome areas in accordance with CIHR's mandate and strategic directions:¹ 1) Outstanding research 2) Outstanding researchers in innovative environments, and 3) Transforming health research into action. CIHR supports more than 10,000 health researchers and trainees in over 250 universities, teaching hospitals, research centres and government laboratories across the country who conduct health research in the following areas: biomedical; clinical; health systems and services and the societal and cultural dimensions of health and environmental influences on health. Together, these activities will help to position Canada as a world leader in the creation and use of health knowledge for the betterment of the health of Canadians and people around the world.

To meet its mandate, CIHR's financial and human resource commitments are outlined in the tables below.²

The following is a "report card" that represents the progress achieved against the commitments CIHR made in its 2005-2006 RPP. It includes planned and actual financial resources spent in each Strategic Outcome area. Progress is reported for each Program Activity element within each Strategic Outcome area. The Performance Status assessments are validated by CIHR management. The rating of "Exceeded Expectations" below is based on evaluation evidence that identified this area as a CIHR strength.

Financial Resources

Planned Spending	Total Authorities	Actual Spending
\$776.8M	\$813.1M	\$800.9M

Human Resources

Planned	Actual	Difference
357	324	33

¹ These outcome areas and the programs that contribute to them are more fully presented in the conceptual model on p.15 of this document.

² Numbers in the future reflect projections and not actual commitments.

CIHR maintains a small operational budget, approximately \$47.4 million for 2005–2006, while ensuring that approximately 94% of its parliamentary appropriations go directly to support health research in Canada.

Summary of Performance in Relation to Strategic Outcomes, Priorities and Commitments

In its 2005-2006 RPP, CIHR committed to the priorities and related investments described below. This table also provides a summary report card on how CIHR performed relative to expected results. Finally, it provides a comparison of planned and actual spending in each outcome area.

Status on Performance			2005-06	
			Planned Spending	Actual Spending
Strategic Outcome: Outstanding Research - World-class health research, responding to research opportunities (investigator-framed) and priorities (Institute-framed), funded to create health knowledge.				
Alignment to Government of Canada Outcomes: Economic: An innovative and knowledge based economy. Social: Healthy Canadians with Access to Quality Health Care				
Priority No. 1 (Ongoing)	Program Activity - Expected Result	Performance Status	Planned Spending	Actual Spending
Advance health knowledge, through excellent and ethical research, across disciplines, sectors.	Fund Health Research – Effective and efficient funding programs that enable ethical health research, responding to research opportunities and priorities.	Successfully Met	\$420.3M	\$466.5M

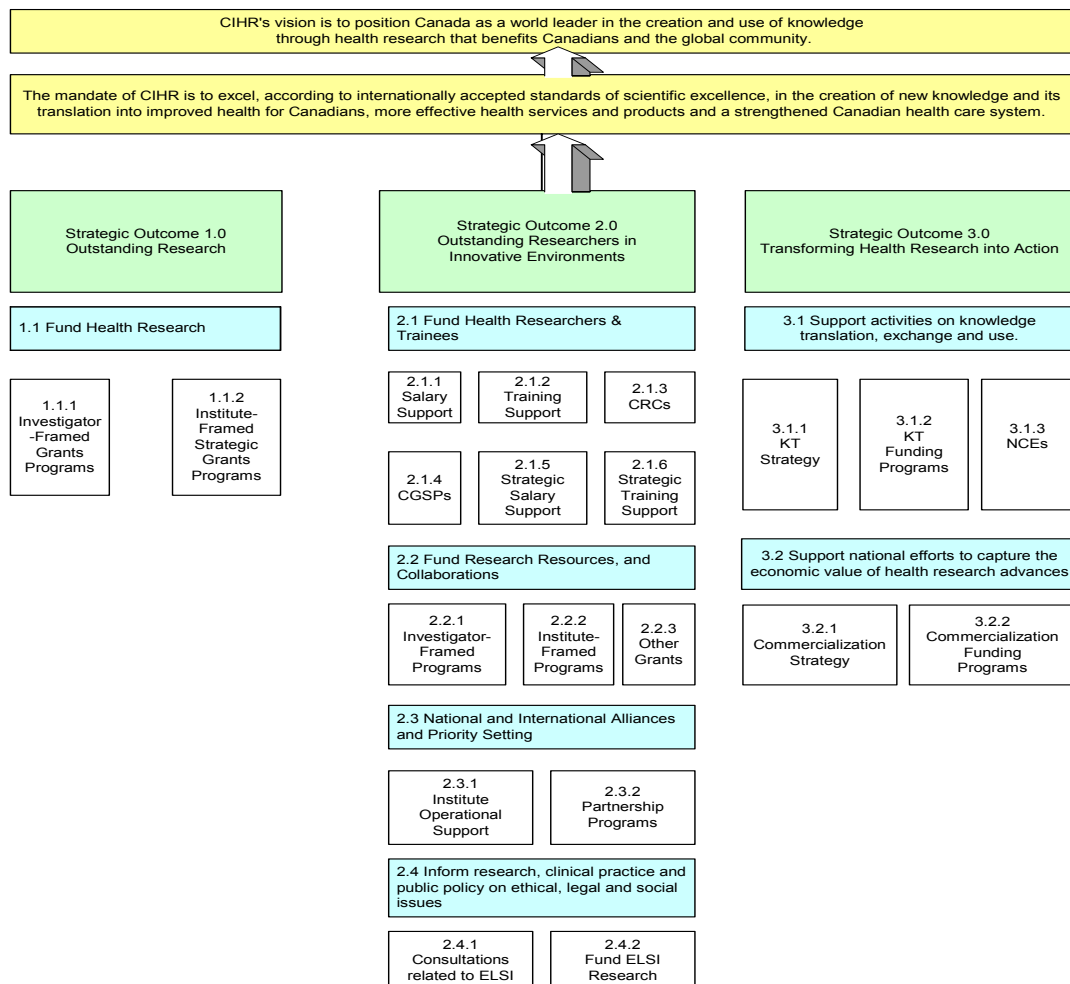
Strategic Outcome: Outstanding Researchers in Innovative Environments - Strong health research community able to undertake outstanding research.				
Alignment to Government of Canada Outcomes: Economic: An innovative and knowledge based economy. Social: Healthy Canadians with Access to Quality Health Care				
Priority No. 2 (Ongoing)	Program Activity - Expected Result	Performance Status	Planned Spending	Actual Spending
Develop and sustain Canada's health researchers in vibrant, innovative and stable research environments.	2.1 Fund Health Researchers and Trainees - Effective and efficient funding programs that ensure a supply of highly qualified health researchers and trainees are available to conduct outstanding research.	Exceeded Expectations	\$195.4M	\$178.3M
	2.2. Fund research resources, collaboration and other grants to strengthen the health research community - Effective and efficient partnerships and funding programs that lead to a dynamic research environment and enable outstanding research.	Successfully Met	\$64.9M	\$70.0M
	2.3 National and international alliances and priority setting - National and international health research agendas as well as strong alliances and partnerships are formulated and implemented.	Successfully Met	\$27.7M	\$23.4M
	2.4 Inform research, clinical practice and public policy on ethical, legal and social issues (ESLI) - Uptake and application of ethics knowledge as an integral part of decision-making in health practice, research and policy.	Successfully Met	\$6.2M	\$1.9M

Strategic Outcome: Transforming Health Research into actions - Health research adopted into practice, programs and policies for improved health of Canadians and a productive health system; stimulation of economic development through discovery and innovation.				
Alignment to Government of Canada Outcomes: Economic: An innovative and knowledge based economy. Social: Healthy Canadians with Access to Quality Health Care				
Priority No. 3 (Ongoing)	Program Activity - Expected Result	Performance Status	Planned Spending	Actual Spending
Knowledge Translation Catalyze health innovation in order to strengthen the health system and contribute to the growth of Canada's economy.	3.1 Support activities on knowledge translation, exchange and use - Effective dissemination, exchange, synthesis and application of research results take place to create new knowledge, strengthen Canadian capacity and networks and together with our partners, enable effective research and knowledge translation of health research.	Successfully met	37.0	35.4
	3.2. Support national efforts to capture the economic value for Canada of health research advances - Mobilizing research to improve health services, products, a strengthened healthcare system and economy.	Successfully Met	25.3	25.4

CIHR's Management, Resources, Results Structure (MRRS)

CIHR is a results-focused organization. To better enable the telling of CIHR's overall performance story, a Management, Resources, Results Structure (MRRS) has been developed that shows the outcomes to be achieved through CIHR's key program activities and the resources that are allocated into each of these areas.

Conceptual Model of CIHR Management Resources and Results Structure (MRRS)



Legend :

CRCs (Canada Research Chairs)
 CGSP (Canadian Graduate Scholarships Program)
 ELSI (Ethical, Legal and Social Issues)
 KT (Knowledge Translation)
 NCEs (Networks of Centres of Excellence)

PERFORMANCE

OPERATING ENVIRONMENT

CIHR's vision is to position Canada as a world leader in the creation and use of new knowledge through health research that benefits the health of Canadians and the global community. Through a carefully designed suite of programs and activities, CIHR supports outstanding research and researchers and facilitates knowledge translation. CIHR does this through the provision of grants in response to high quality applications as judged by a peer review process designed to ensure that excellent research is supported and translated into results for Canadians.

STRUCTURE

CIHR's structure plays a major role in how it operates. With a central office based in Ottawa, CIHR is structured around 13 virtual, geographically distributed Institutes that support research in four related areas: 1) *biomedical*, 2) *clinical*, 3) *health systems and services*, and 4) *the societal and cultural dimensions of health and environmental influences on health*. Each Institute forms a health research network that links researchers, health professionals and policy makers from voluntary health organizations provincial government agencies, international research organizations, and industry and consumer groups. Detailed organizational structure and governance information is provided in *Section III – Supplementary Information* of this report.

Each Institute addresses a health research theme that is of importance to Canadians. Institute web sites provide detailed information about their mandates, strategic plans and funding programs.

The thirteen Institutes are:

IA - Aging	http://www.cihr-irsc.gc.ca/e/8671.html
IAPH - Aboriginal Peoples' Health	http://www.cihr-irsc.gc.ca/e/8668.html
ICR - Cancer Research	http://www.cihr-irsc.gc.ca/e/12506.html
ICRH - Circulatory and Respiratory Health	http://www.cihr-irsc.gc.ca/e/8663.html
IGH - Gender and Health	http://www.cihr-irsc.gc.ca/e/8673.html
IG - Genetics	http://www.cihr-irsc.gc.ca/e/13147.html
IHSPR - Health Services and Policy Research	http://www.cihr-irsc.gc.ca/e/13733.html
IHDCYH - Human Development, Child and Youth Health	http://www.cihr-irsc.gc.ca/e/8688.html
III - Infection & Immunity	http://www.cihr-irsc.gc.ca/e/13533.html
IMHA - Musculoskeletal Health and Arthritis	http://www.cihr-irsc.gc.ca/e/13217.html
INMHA - Neurosciences, Mental Health and Addiction	http://www.cihr-irsc.gc.ca/e/8602.html
INMD - Nutrition, Metabolism and Diabetes	http://www.cihr-irsc.gc.ca/e/13521.html
IPPH - Population and Public Health	http://www.cihr-irsc.gc.ca/e/13777.html

PRIORITIES

CIHR is guided by a five-year Strategic Plan, *Investing in Canada's Future: CIHR's Blueprint for Health Research and Innovation* (<http://www.cihr-irsc.gc.ca/e/20266.html>) which was developed in wide-ranging consultation with stakeholders including researchers, health practitioners, Government, industry, voluntary sector and the general public. Based on its Strategic Plan, CIHR focuses its efforts around five key strategic directions:

1. strengthening Canada's health research communities;
2. addressing emerging health challenges and developing national research platforms and initiatives;
3. developing and support a balanced research agenda that includes research on disease mechanisms, disease prevention and cure, and health promotion;
4. harnessing research to improve the health status of vulnerable populations; and
5. supporting health innovations that contribute to a more productive health system and prosperous economy.

KEY ACTIVITIES

CIHR activities include the funding, coordination and promotion of health research through open competitions and strategic initiatives across its three strategic outcome areas. CIHR also participates with the Social Sciences and Humanities Research Council (SSHRC) and the Natural Sciences and Engineering Research Council (NSERC) in a number of programs, including the Networks of Centres of Excellence program, Canada Research Chairs, Indirect Costs and Canada Graduate Scholarships.

As part of the funding process, CIHR manages an independent peer review process for funding health research applications. To help ensure that CIHR is able to benchmark its Peer Review System with that of other countries, increasing use is being made of scientists from other countries on peer review panels. Peer review is the key mechanism by which CIHR ensures that it is funding the best applications received. Applications from health researchers undergo rigorous peer review on a competitive basis by experts in the field. These experts examine proposals with respect to their significance in advancing knowledge and promoting the health of Canadians. Proposals are assessed on the basis of excellence, technical approach and degree of innovation. The qualifications and track record of the researcher(s) and the availability of resources and expertise necessary for the proposed study are also examined.

There are now more than 140 CIHR Peer Review Committees. The peer review process involves approximately 2,400 volunteer expert reviewers each year, from Canada and abroad. The Peer Review Committees make recommendations on the merits of applications received to CIHR's Governing Council, which then reviews and makes recommendations within the available budget. CIHR has faced a significant continual increase in the volume and breadth of grant applications, thus straining the peer review process – the method used to determine the most promising researchers and research proposals to fund.

In 2005-2006, CIHR will continue its multi-year project to address this issue by implementing ways to improve the effectiveness and efficiency in this area. In particular, CIHR will move towards the use of electronic submission and processing of applications throughout the peer review process, using ResearchNet. CIHR will also continue working on improving current rating policies and practices, and exploring best practices with other health research agencies.

EVALUATING OUR PERFORMANCE

The year 2005-06 marked a period of assessment for CIHR. After five years, as required by the CIHR Act and by CIHR's own commitment to accountability to Canadians, CIHR embarked on a significant and comprehensive evaluation by a prestigious International Review Panel formed of 27 distinguished experts.

The panel met with more than 100 stakeholders – both senior and junior, university and government leaders, partners in industry, the health charities and the provinces, and CIHR management and staff. Panel members also had access to detailed and extensive surveys of researchers from across Canada and an evaluation of each of CIHR's 13 Institutes.

This review could not have taken place without the full commitment of CIHR, in particular the support of the Governing Council, the President and his senior management team, the Scientific Directors and the staff of CIHR. The International Review Panel (IRP) had available to it very significant amounts of supporting information for the review, and deliberations in Ottawa were greatly facilitated by face-to-face contact with many of CIHR's key stakeholders.

The purpose of this review was to determine how well CIHR is fulfilling its mandate and to assist CIHR in learning from its first five years as it moves forward. The final report of the panel is available at <http://www.cihr-irsc.gc.ca/e/31680.html>

ADVANCING MODERN MANAGEMENT PRACTICES

As a federal agency, CIHR has an ongoing responsibility to demonstrate to Canadians that tax dollars are being spent wisely. As part of an ongoing exercise started in 2003, CIHR is implementing a number of multi-year priority initiatives to improve its internal management practices. These range from implementing an integrated planning and reporting framework to enhancing project management tools and skills and improving internal communications.

CONTEXT

Changing International Context for Health Research

Governments and health research agencies around the world are examining the levels of investment available and needed for health research.

US – The National Institutes of Health (NIH)

The NIH was originally slated to have its budget frozen for 2006-07: the House of Representatives, however, passed a Budget Resolution in May that included an amendment that ensures that all programs within the Labor, Health and Human Services and Education Appropriations bill will be funded at FY2006 levels, including a 2% increase for inflation. As a result, the NIH budget will receive a \$600 million increase.

Australia

The Australian Government's 2006-2007 Budget contained substantial increases to funding levels of the National Health and Medical Research Council (NHMRC), the Government's health research funding agency. Over the next four years, the NHMRC will receive an additional \$570.7M in funding.

In 2005-06, the NHMRC budget stood at \$447M. This budget increase will bring the NHMRC base funding to approximately \$700M per annum by 2009-10. This is a five-fold increase over the 1995-96 levels of spending on health and medical research; annual grants to the NHMRC were approximately \$127M per annum in 1995-96.

United Kingdom (UK)

The March 2006 UK Budget speech announced the merger of the Medical Research Council and the NHS R&D Programme, jointly held by the Secretaries of State for Health and Trade and Industry and worth at least £1 billion per annum. The new single research council will ultimately have a much broader mandate and bigger budget.

Global trends have also been toward more collaborative, group-based research as well as increased international collaboration. As noted by the International Review Panel that conducted a review of CIHR, the novelty of the CIHR "inclusive model of health research has lead CIHR to be an international leader in bringing different components of health research together".

CIHR's Health Research Partnerships: The Key to Success

Partnerships are an integral component of CIHR's ability to implement its mandate and achieve its vision. In 2005-2006, CIHR had more than 250 established partnership agreements with over 210 partners, with many more being negotiated. These partnerships represented a realized financial contribution of approximately \$107 million. The value of partnerships extends beyond that of financial transactions. Non-financial contributions can include access to professional networks, areas of expertise, shared tools and documentation, and in-kind resources. Whatever the contribution, CIHR partnerships are true collaborations – driven by shared goals and a desire to improve the health of Canadians and the global community.

CIHR engages partners throughout the health research process, from defining research questions and setting health research priorities to funding health research and eventually translating new knowledge into practice. Partnerships are developed primarily around the individual Institutes' strategic initiatives, but can also involve CIHR-wide programs, such as those involving industry. Through strategic partnerships, CIHR is leveraging support for government priority areas.

A representative list of CIHR's partners is presented in the following Table:

<i>Federal Departments/ Agencies</i>	<i>Provincial Departments/ Agencies</i>
<ul style="list-style-type: none"> • Agriculture and Agri-Food Canada • Canada Foundation for Innovation • Canadian Blood Services • Canadian Food Inspection Agency • Canadian Health Services Research Foundation • Canadian Institute for Health Information • Canadian International Development Agency • Department of National Defence • Environment Canada • Genome Canada • Health Canada • International Development Research Centre • National Research Council • National Secretariat on Homelessness • Natural Sciences and Engineering Council • Public Health Agency of Canada • Social Sciences and Humanities Research Council • Statistics Canada 	<ul style="list-style-type: none"> • Alberta Heritage Foundation for Medical Research • Fonds de la recherche en santé du Québec • Government of Saskatchewan (Innovation and Science Fund) • Manitoba Health • Medical Research Fund of New Brunswick • Michael Smith Foundation for Health Research (BC) • Ministère de la santé et des services sociaux du Québec • Newfoundland and Labrador Centre for Applied Health Research • Nova Scotia Health Research Foundation • Ontario Innovation Trust • Ontario Ministry of Health and Long-Term Care • Ontario Research and Development Challenge Fund • PEI, through the Regional Partnerships Program
<i>Voluntary Organizations</i>	<i>Industry</i>
<ul style="list-style-type: none"> • ALS Society of Canada • Alzheimer Society of Canada • The Arthritis Society • Canadian Allergy, Asthma & Immunology Foundation • Canadian Association of Gastroenterology • Canadian Association of Medical Oncologists • Canadian Breast Cancer Research Alliance • Canadian Cancer Society • Canadian Chiropractic Research Foundation • Canadian Diabetes Association • Canadian Digestive Health Foundation • Canadian Fanconi Anemia Research Fund 	<ul style="list-style-type: none"> • Canada's research-based pharmaceutical companies (Rx&D) • Canadian biotechnology companies • National agri-food organizations

<ul style="list-style-type: none">• Canadian Hypertension Society• Canadian Institute for Relief of Pain and Disability• Canadian Lung Association• Canadian Medical Association• CNIB E.A. Baker Foundation• Epilepsy Canada• Health Charities Coalition of Canada• Fragile X Research Foundation of Canada• Heart and Stroke Foundation of Canada• Juvenile Diabetes Research Foundation• The Kidney Foundation of Canada• Muscular Dystrophy Canada• NeuroScience Canada• Ontario Neurotrauma Foundation	<table><tr><th><i>International</i></th></tr><tr><td><ul style="list-style-type: none">• Australia Research Council• Bill and Melinda Gates Foundation (USA)• Centre National de la Recherche Scientifique (France)• CNPq (Brazil)• CONICET (Argentina)• Human Frontier Science Program (France)• Indian Council for Medical Research• Institut National de la Santé et de la Recherche Médicale (France)• International Agency for Research on Cancer (France)• Japan Society for the Promotion of Science• Max Planck Institute (Germany)• Medical Research Council (U.K.)• National Institute of Health of Mexico• National Institutes of Health (US)• National Natural Science Foundation of China• The National Research Council (Italy)• New Zealand Health Research Council• Veterans Administration (US)• Wellcome Trust (U.K.)</td></tr></table>	<i>International</i>	<ul style="list-style-type: none">• Australia Research Council• Bill and Melinda Gates Foundation (USA)• Centre National de la Recherche Scientifique (France)• CNPq (Brazil)• CONICET (Argentina)• Human Frontier Science Program (France)• Indian Council for Medical Research• Institut National de la Santé et de la Recherche Médicale (France)• International Agency for Research on Cancer (France)• Japan Society for the Promotion of Science• Max Planck Institute (Germany)• Medical Research Council (U.K.)• National Institute of Health of Mexico• National Institutes of Health (US)• National Natural Science Foundation of China• The National Research Council (Italy)• New Zealand Health Research Council• Veterans Administration (US)• Wellcome Trust (U.K.)
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The Health System and the Canadian Economy

In 2005 total health expenditures in Canada were estimated to be more than \$142 billion, approximately \$4,411 per person. This represents more than 10% of Canada's Gross Domestic Product (GDP). Across the country, over 1.5 million people are working in health and social services, about 1 in 10 employed³Canadians.

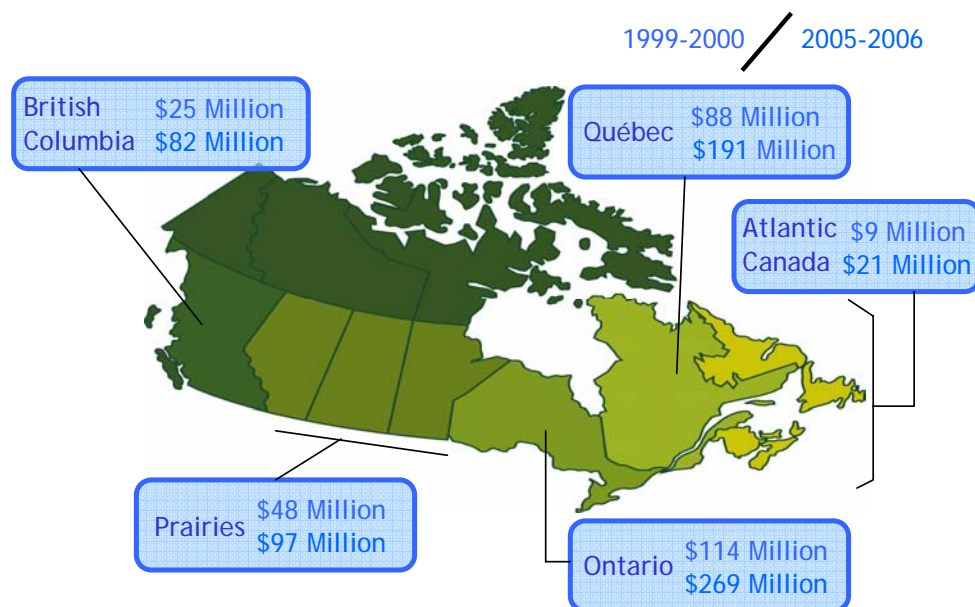
CIHR plays a role in contributing to the overall Canadian health sector labour force. For example:

- in 2005-2006, CIHR's combined salary support grants totaled \$36 million and provided income to over 700 world-class health researchers working in areas of identified importance and concern to Canadians;

³ Information taken from CIHI, Health Care in Canada 2006, available at http://secure.cihi.ca/cihiweb/products/hcic2006_e.pdf

- training programs totaled \$46 million, contributing to the career development of over 1,900 young health researchers and scientists. This is a significant contribution to the development of a skilled, highly trained scientific workforce, an integral component of Canada's future economic growth and competitiveness; and
- CIHR's national mandate and structure helps to ensure that health researchers and research are supported across the country. CIHR funds flow to health researchers administered through over 90 different institutions across Canada.

CIHR Funding by Region



Source: CIHR funding database

Direct payments are not included in the figures above.

Alignment to Government of Canada Strategic Outcomes

Through its extensive suite of programs, and through its national and international partnerships and collaborations, CIHR supports world-class health research and researchers in the following government priority areas:

- Wait Times (Access to Quality Care)
- Pandemic Preparedness
- Cancer Control Strategy
- Expensive Drugs
- Mental Health
- Environmental Determinants of Health
- Physical Activity
- Post-secondary Education

The following Table illustrates how CIHR's Strategic Outcomes and Program Activities align to and support Government of Canada Outcomes:

CIHR Strategic Outcome	CIHR Program Activity	Alignment to Government of Canada Strategic Outcomes
1. Outstanding Research	1.1 Fund health research	Economic: An innovative and knowledge based economy Social: Healthy Canadians with Access to Quality Health Care
2. Outstanding Researchers in Innovative Environments	2.1 Fund health researchers and trainees 2.2 Fund research resources, collaboration and other grants to strengthen the health research community 2.3 Develop and support strong health research community through national and international alliances and priority setting 2.4 Inform research, clinical practice and public policy on ethical, social and legal issues related to health and health research	Economic: An innovative and knowledge based economy Social: Healthy Canadians with Access to Quality Health Care

3. Transforming Health Research into Action	<p>3.1 Support activities on knowledge translation, exchange, use and strategies to strengthen the health system</p> <p>3.2 Support national efforts to capture the economic value for Canada of health research advances made at Canadian institutions</p>	<p>Economic: An innovative and knowledge based economy</p> <p>Social: Healthy Canadians with Access to Quality Health Care</p>
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Value for Canadians

CIHR is creating new opportunities for Canadian researchers to be internationally competitive. Today, more health researchers are receiving higher levels of funding in more disciplines and in all provinces. The result is health research discoveries that are making a difference to the health of Canadians, in terms of disease prevention and improved diagnosis and treatment. Health research is also helping to strengthen our health care system to better meet the needs of Canadians wherever they live and whatever their situations. More innovative products and services are being offered by Canadian companies, thanks to the support that CIHR offers to enable the transition from the laboratory to the marketplace.

For example, since its inception in 2000, CIHR has been able to:

- increase the number of CIHR-funded health researchers from approximately 5,600 to more than 10,000, an increase of over 80%;
- increase average annual open competition operating grants for individual researchers from \$92,000 to \$111,000, an increase of over 20%;
- fund a large number of health researchers in strategic priority areas that were identified in consultation with the community;
- encourage and catalyze the commercialization of research and build talent required. For example, since 2001, more than 160 projects have been funded through the Proof of Principle program intended to help commercialize research discoveries. Of the projects that have matured sufficiently to be evaluated, 63%, or 49 projects, resulted in new patents being funded; 21%, or 16 projects, had intellectual property licensed; and 14%, or 11 projects, contributed to new company formation;
- develop important new partnerships with provincial health research agencies, industry and health charities;
- put in place new collaborative agreements with partners in countries around the world; and
- develop programs to engage the users of health research in the health research process.

FUTURE CHALLENGES

CIHR has made great strides in the first five years of implementing its mandate and achieving its vision. These efforts were recognized in the 2005-2006 International Review of CIHR. The International Review Panel also identified some future challenges which are described in detail in the report of the International Panel and are listed below.

Due to the rapid growth and expansion of the mandate of CIHR:

- a) management and governance challenges; and
- b) complexity in programming and the peer review system.

As well, inherent in the CIHR model of virtual Institutes led by Scientific Directors who are based in their home University or hospital and are appointed to fixed terms:

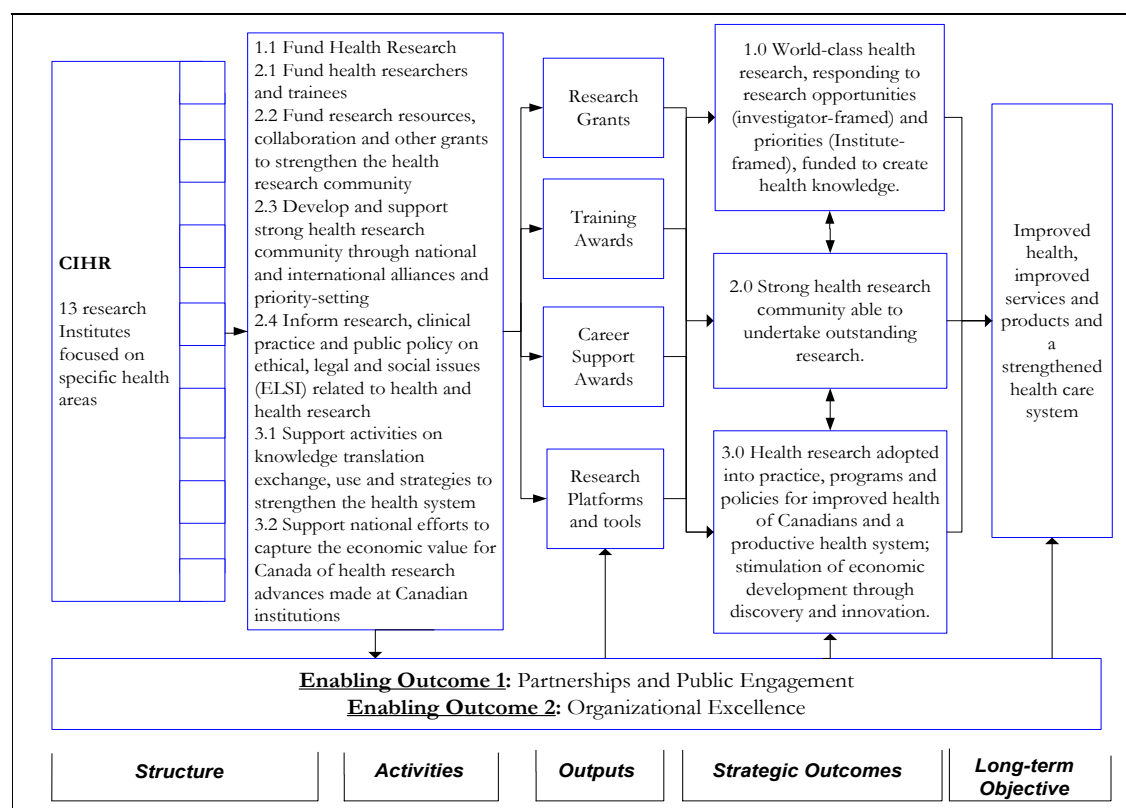
- c) challenges around sustainability and succession.

SECTION II: ANALYSIS OF PROGRAM ACTIVITIES BY STRATEGIC OUTCOME

INTRODUCTION

In this section of the Departmental Performance Report 2005-2006, CIHR reports on its performance in its three Strategic Outcome areas: *Outstanding Research*; *Outstanding Researchers in Innovative Environments*; and *Transforming Health Research into Action*. The results presented are directly linked to the indicators identified in CIHR's MRRS and to the plans set out in CIHR's 2005-2006 *Report on Plans and Priorities* (http://www.tbs-sct.gc.ca/est-pre/20052006/CIHR-IRSC/CIHR-IRSCr56_e.asp).

The logic model below provides an overview of the functioning of CIHR. The subsequent logic models throughout this section provide greater detail for their respective outcome areas and are linked through the one depicted below.



Note on Survey Methodology – The following three sections of this report use results of a survey of funded and non-funded researchers conducted for CIHR by EKOS Research Associates in February and March 2005. Both surveys consisted of structured telephone interviews based on a prioritized set of indicators developed in collaboration with a senior CIHR committee.

The results of the survey were intended to inform the 13 evaluations of each of the CIHR Institutes as well as the planned International Review of CIHR as a whole. Both funded and non-funded researchers were surveyed to enable comparisons on the assumption that each group would have different perspectives about CIHR.

The list of funded researchers was derived based on currently funded Grants and Awards as of Oct. 29, 2004 (open and strategic competitions). Awards made to trainees, or programs that were categorized as miscellaneous/undefined were excluded. Grants and Awards that were “Approved” but where the investigator declined the grant/award were also excluded. The list used included only the Nominated Principal Investigators (NPIs) and not other applicants on a project. Finally, assignment of researchers to an Institute for sampling purposes was based on the researcher’s own selection of a Primary Institute on their application for funding. The funded researcher survey fieldwork was fully launched on February 3 and was completed on March 18. A total of 1,676 surveys were completed.

The final average length of the survey interview was 21.8 minutes. The response rate was very good (56.3 per cent), particularly considering the busy schedules of the respondent group. The greatest challenge posed by the fieldwork was actually speaking with a researcher, with around 35 per cent of our sample frame never reached “live” throughout the full duration of the fieldwork (including 480 whose numbers were retired after 15 attempts, despite leaving at least a minimum of three messages). Those who were reached were positively inclined toward participation, as evidenced by a very low refusal rate (seven per cent).

In the survey of funded researchers, the overall number of completed interviews and the sampling error by Institute is described in the table below.

Sampling error (which exists in all sample surveys) refers to the uncertainty in the accuracy of the survey results due to the fact that only part of the entire population is being surveyed.

The figures in the table under “sampling error”, which is also sometimes called the “confidence interval”, mean (for the first example) that “the survey results are accurate within +/- 12 percentage points, 19 times out of 20.

Funded Researchers by Institute — Sampling Error

Institute	Completed Interviews	Sampling Error
CIHR-Institute of Aboriginal People's Health	24	12.1%
CIHR-Institute of Gender and Health	31	12.8%
CIHR-Institute of Aging	72	7.1%
CIHR-Institute of Population and Public Health	97	5.8%
CIHR-Institute of Health Services and Policy Research	88	7.2%
CIHR-Institute of Musculoskeletal Health and Arthritis	123	5.7%
CIHR-Institute of Human Development, Child and Youth Health	127	5.7%
CIHR-Institute of Nutrition, Metabolism and Diabetes	168	4.6%
CIHR-Institute of Cancer Research	172	4.9%
CIHR-Institute of Genetics	177	4.9%
CIHR-Institute of Infection and Immunity	188	5.0%
CIHR-Institute of Circulatory and Respiratory Health	188	5.3%
CIHR-Institute of Neurosciences, Mental Health and Addiction	191	5.7%
Not affiliated	30	17.3%
TOTAL	1,676	1.7%

For the group of non-funded applicant surveys, it was assumed likely that those who had not received funding from CIHR would be less willing to participate in the survey and/or their contact information may have been less current in the CIHR Grants and Awards database. Of the 1,159 in the sample frame, 532 were applicants who had never received funding and the remainder (627) had been successful at some point in the past, but not within the last two years (i.e., not in 2003 or 2004). For this group the final response rate was also very good (53 per cent), particularly considering the busy schedules of the respondent group.

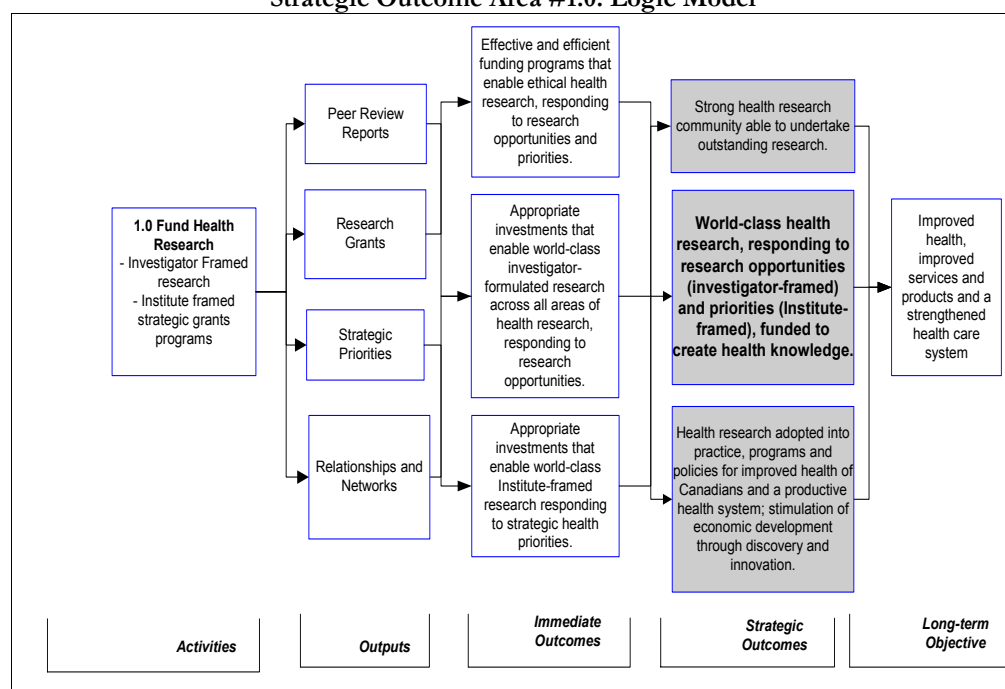
The fieldwork was fully launched on February 16 and was completed on March 18. A total of 588 surveys were completed with an average completion length of 16.6 minutes. Again, the greatest challenge posed by the fieldwork was actually speaking with a researcher, with around 41 per cent of the sample frame never reached “live” throughout the full duration of the fieldwork (including 103 whose numbers were retired after 15 attempts, despite leaving at least a minimum of three messages). Those who were reached were positively inclined toward participation, as evidenced by a very low refusal rate (five per cent). The overall sampling error for the non-funded survey was 2.9%.

Strategic Outcome # 1.0: Outstanding Research

CIHR supports the development of new knowledge through health research across all disciplines that are relevant to health. Throughout 2005-2006, CIHR continued to ensure that the best health research is supported to create health knowledge responding to opportunities and priorities.

Enabling the conduct of outstanding research is CIHR's core business. The logic model depicted below shows graphically the linkages between the long term objective of CIHR, that is, improved health and health services and a strengthened health care system, and how we hope to achieve it. This includes the activities of creating funding priorities and of funding health research which leads to the production of outputs such as grants to researchers, strategic priorities, reports and building of networks and relationships. These activities and outputs lead us to the accomplishment of the immediate outcomes and then our longer term strategic outcomes.

Strategic Outcome Area #1.0: Logic Model



Performance at the Strategic Outcome Level of the MRRS

In the area of funding Outstanding Research, CIHR aims to achieve the expected result of *world-class health research, responding to research opportunities (investigator-framed) and priorities (Institute-framed), funded to create health knowledge*. There are three key strategic outcome indicators by which success in this area is monitored:

1. Canadian ranking in health research expenditures compared to international levels
2. Number of publications resulting from CIHR-supported research and their impact
3. High peer review rankings of results of CIHR-funded research

Please note these are longer-term outcomes to which CIHR contributes and CIHR is not claiming direct attribution to the results. One of the key enabling inputs for health research is the amount available for investment. CIHR therefore monitors international trends regarding the level of investment in research in general and health research in particular. The number of publications resulting from CIHR-funded research is an indicator of the overall productivity of Canadian researchers. Finally, the peer review rankings of the results of research are an indicator of the quality of the research being produced.

Strategic Outcome Indicator 1 - Canadian ranking in health research expenditures compared to international levels⁴

The Canadian government is the second-largest funder of general research and development in Canada, behind the business sector. Since the end of the 1990s, federal expenditures have increased steadily, mostly through the funding of higher education and through the federal granting agencies (CIHR, the Natural Sciences and Engineering Research Council and the Social Sciences and Humanities Research Council) as well as the National Research Council and Department of National Defence. Government funding for R&D trails the US and other major OECD countries⁵

Recent OECD data shows Canada currently ranks 12 out of 30 countries in terms of the share of GDP invested in research and development⁶ Recent funding increases from the federal government have allowed Canada to assume a lead position among G-7 countries in terms of government *health expenditures* in research and development as a percentage of GDP, ranking 4th behind the United States, United Kingdom and Iceland⁷

⁴ International comparisons are always difficult to make with any degree of certainty, due to inclusions, exclusions etc.

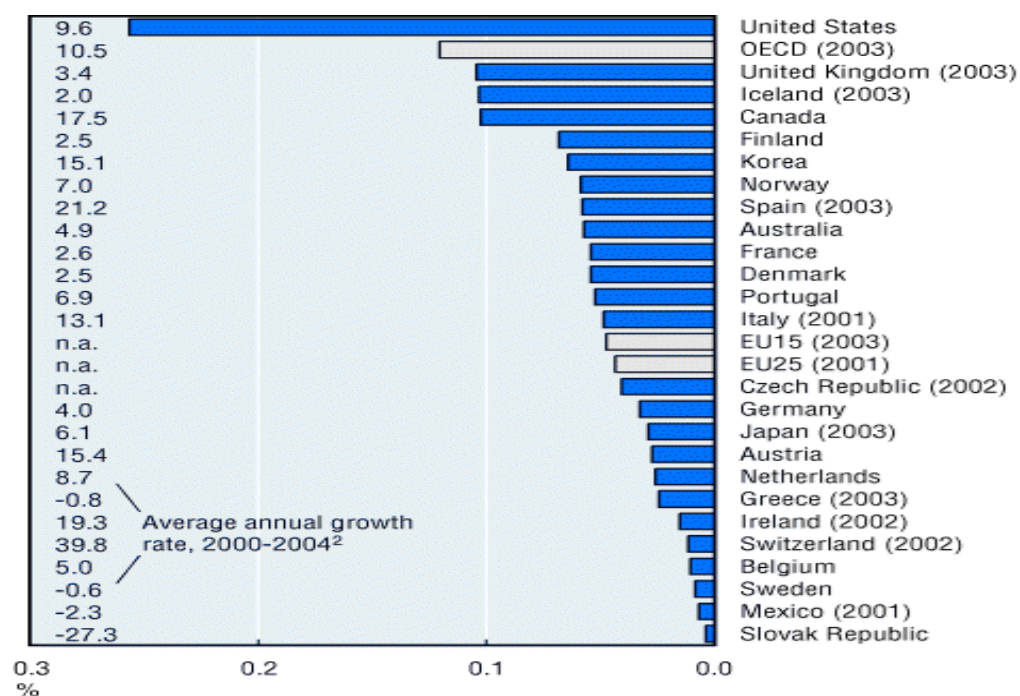
⁵ "Science and technology Policy Documents", Science and Technology Data – 2004 available at <http://strategis.ic.gc.ca/epic/internet/inrti-rti.nsf/en/te04319e.html>

⁶ See OECD, Main Science and Technology Indicators, 2006 <http://www.oecd.org/dataoecd/49/45/24236156.pdf>

⁷ For further information, please see OECD Science, Technology and Industry Scoreboard 2005 - Towards a knowledge-based economy. Please note that the variance between placement of the UK, Canada and Iceland is very small at roughly .02 of GDP.

Health-related R&D in government budgets (GBAORD¹), 2004

As a percentage of GDP



Source: OECD, Science, Technology and Industry Scoreboard 2005, figure A.8

1. Government budget appropriations or outlays for R&D.
2. Growth rate period is 2000-03 for Greece, Iceland, Japan, Spain, Sweden, the United Kingdom and Total OECD; 2001-04 for Denmark; 2000-02 for Ireland and Switzerland; 2000-01 for Italy and Mexico.

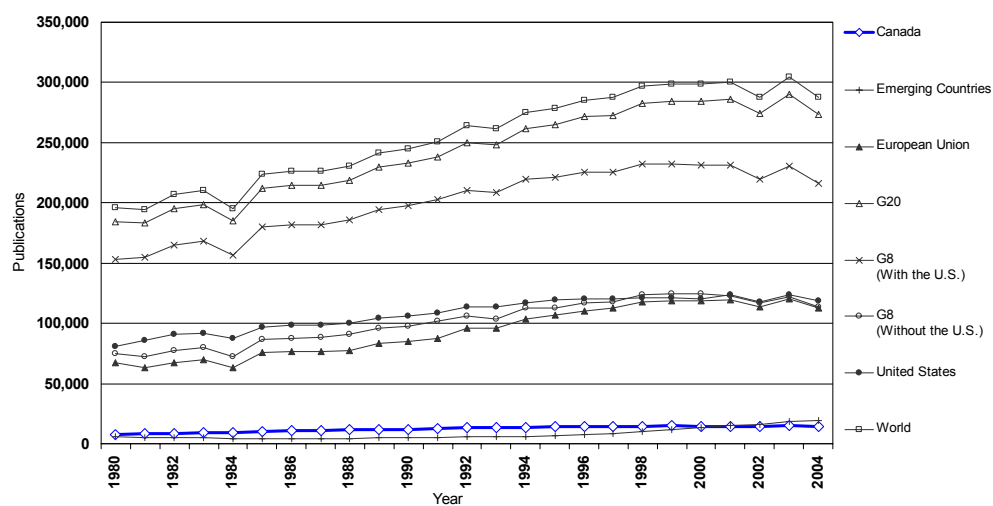
Strategic outcome Indicator 2 - Number of publications resulting from CIHR-supported research and their impact⁸

Publications are a key output measure of the productivity of researchers and a primary method by which the results of research are translated into results for Canadians. There are two key factors that need to be looked at: the overall number of publications and the measure of the impact that they have, which is largely dependent on the quality of the journal in which they are published.

⁸ Please note that these data present general publication trends in Canadian health research and cannot be used to discern the specific impact of CIHR. While CIHR is the largest single Canadian health research funding agency, the trends described here also include research publications supported through other funding sources.

Canada produces approximately 5% of the world's publications in health research:

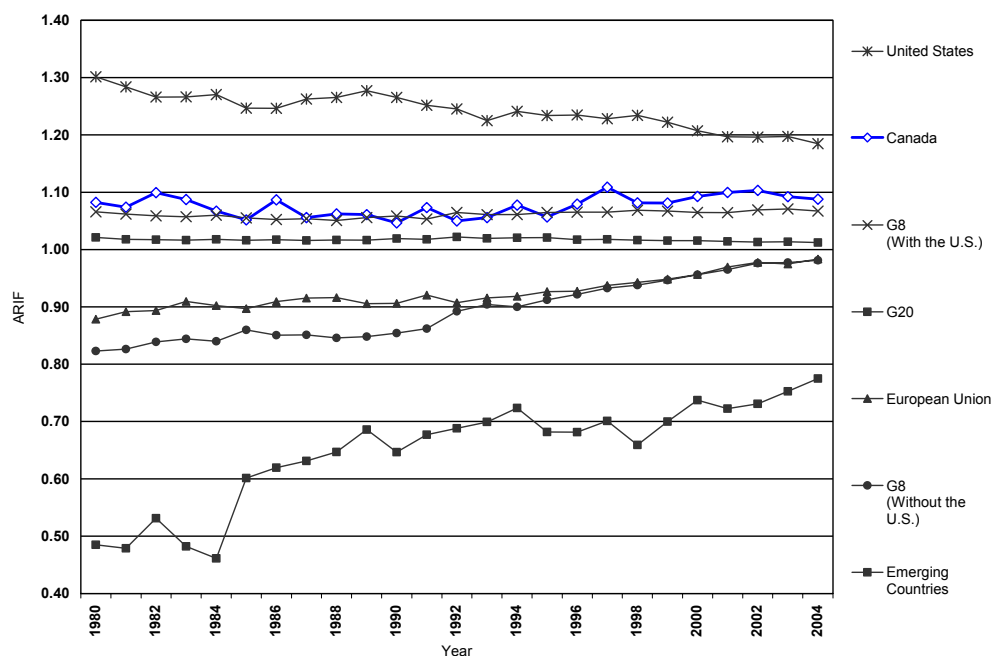
International Health Sciences Publication Counts – Overall Figures, 1980-2004



Source : Observatoire des sciences et des technologies; 25 years of Health Research in Canada : A Bibliometric Analysis, November 2005 (Commissioned by CIHR)

In addition, as the following graph displays, the impact of these publications is high:

International Average Relative Impact Factors in Health Sciences, 1980-2004



Source : Observatoire des sciences et des technologies; 25 years of Health Research in Canada : A Bibliometric Analysis, November 2005 (Commissioned by CIHR)

Strategic outcome Indicator 3 - High peer review rankings of results of CIHR-funded research

A key measure of the overall quality of the research published is the degree of importance attached to it by peers. While CIHR intends to more systematically use peer review processes to assess the quality of health research produced with CIHR funding, comprehensive data are not available at this time. Select examples are available, such as a “hot paper in medicine” published by CIHR-funded Dr. Salim Yusuf – considered high quality by peers in the sense that it was cited a total of 236 times, placing it among the top five papers published in the past two years in the field of clinical medicine.⁹

⁹ <http://in-cites.com/scientists/DrSalimYusuf.html>

Performance at the Program Activity Level of the MRRS

In the sections that follow, the Program Activities are identified and the financial as well as human resources devoted to them are presented. A table describing the program activity, its expected results and indicators of performance cited from CIHR's Report on Plans and Priorities and MRRS is then presented. Finally, a summary of results achieved is provided.

Program Activity Name: 1.1 Funding Health Research

Financial Resources:

Planned Spending	Authorities	Actual Spending
\$420.3M	\$442.6M	\$466.5M

Human Resources:

Planned	Actual	Difference
173	172	1

Performance Summary – Met Expectations

<i>Program Activity Description</i> Plan, launch and manage competitions and programs for grant funds to facilitate and enable the conduct of outstanding health research including collaborative programs in investigator-framed and Institute-framed initiatives.	
<i>Expected Results</i> Effective and efficient funding programs that enable ethical health research creating health knowledge that responds to opportunities and priorities.	<i>Program Activity Indicators</i> 1. Success of CIHR-funded research programs including results, awareness and satisfaction levels. 2. Extent to which Institutes have appropriately influenced the research, policy and/or practice agendas in their communities.
Link to Priority Priority #1: Research—Advance health knowledge, through excellent and ethical research, across disciplines, sectors, and geography.	

Summary of Results

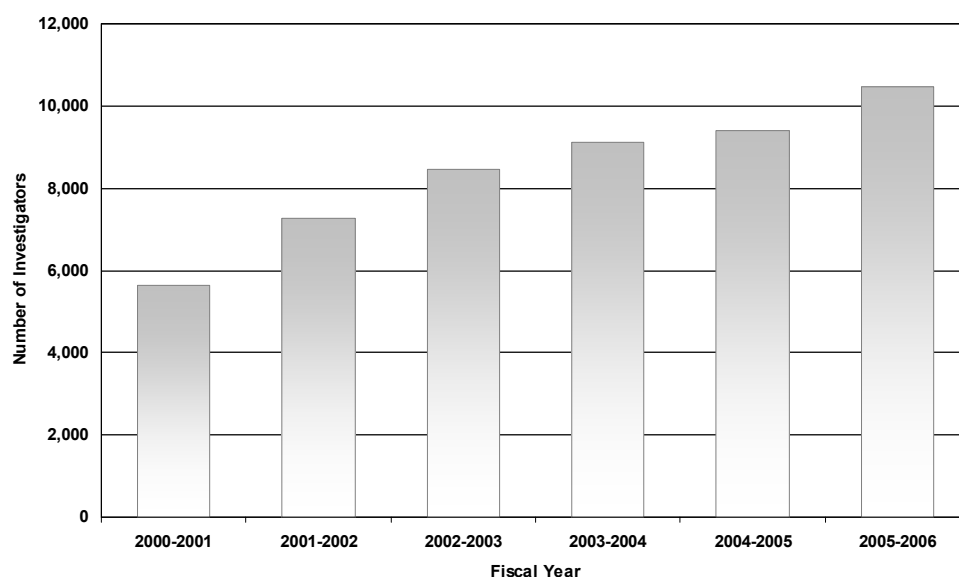
Under this program activity, CIHR has committed in its Report on Plans and Priorities (RPP) to fund excellence in health research, support strategic research through Institutes and develop national research platforms and initiatives. Through the effective and efficient operation of these funding programs, the expected result for CIHR is the enabling of ethical research that creates health knowledge that responds to opportunities and priorities. There are two primary program activity (PA) indicators by which CIHR measures its success in this area:

Program Activity Indicator 1 – Success of CIHR-funded research programs including results, awareness and satisfaction levels

There are several measures by which CIHR is currently monitoring results in relation to this indicator.

Results and Awareness

Number of Investigators receiving CIHR Grants and Awards¹⁰

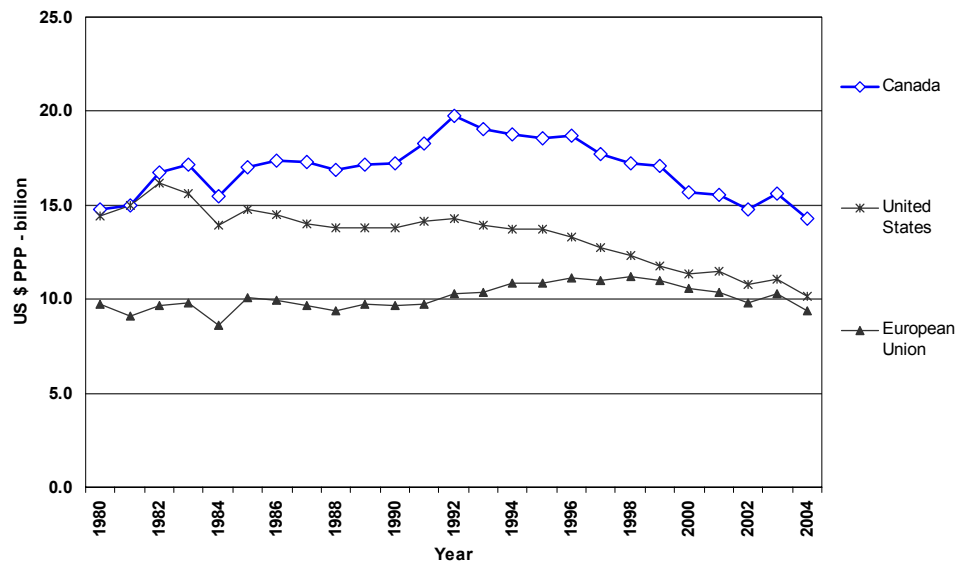


Source: CIHR Funding Database (Note, Networks of Centres of Excellence and Canada Research Chairs are excluded from these figures).

¹⁰ Data from CIHR internal data base.

- In terms of results, as the graph below indicates, Canadian health researchers produce more per dollar of GDP.

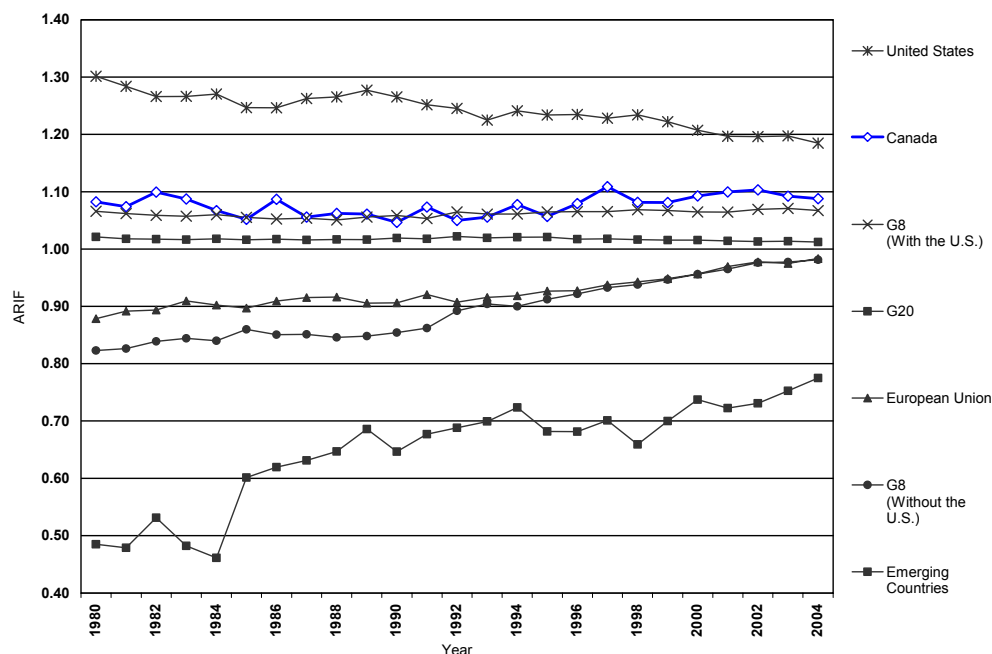
Health Research Publications/Real GDP



Source of GDP data is OECD database.
 US 2003 GDP data from national accounts data.
 Canada 2003 GDP data from Statistics Canada.

Canadians produce very high-quality health research publications:

Average Relative Impact Factors in Health Sciences for All Countries, 1980-2004



Source : Observatoire des sciences et des technologies; 25 years of Health Research in Canada : A Bibliometric Analysis, November 2005 (Commissioned by CIHR)

The number and impact of publications is a key measure of impact. Canada ranks first in the world for the percentage of papers published in the top 50 biomedical journals. In an examination of funds spent on research compared to the number of articles produced¹¹ Canada ranked first with 37.8 articles per billion of US dollars spent. The US ranked second with 36 articles. When the same authors looked at the number of articles produced per 1000 scientist years of research, Canada ranked second to the US, with 5.4 articles compared to 7.2 articles for the US¹².

¹¹ Elpidoforos S. Soteriades, Evangelos S Rosmarkis, Konstantinos Paraschakis and Matthew E. Falagas, "Research contribution of different world regions in the top 50 biomedical journals (1995 – 2002)" in *The FASEB Journal/Life Sciences Forum* (J.20) 29 – 34 (2005)

¹² Please note there are limitations to the data on publications including a tendency to underestimate publications from social sciences literature. There may also be a perceived bias toward English speaking countries. Finally, publications are only one important output of research and a currently available proxy for measuring research impacts.

Satisfaction Levels

Researcher Perceptions of Effectiveness

Researchers are the heart of the CIHR community. As a result, their satisfaction with and perceptions of CIHR's effectiveness, provide CIHR with an important measure of its overall success. A recent survey commissioned for CIHR provides important data in two key areas:

Appropriateness of CIHR Mandate

- 71 per cent of CIHR funded researchers say the mandate of CIHR is to a large extent appropriate, with 27 per cent saying it is appropriate to some extent and a small minority (one per cent) saying it is to little extent appropriate.
- 63 per cent of non-funded researchers say the mandate of CIHR is appropriate to a large extent, with 35 per cent saying it is appropriate to some extent.

Achievement of CIHR Objectives

- A small minority of funded researchers (14 per cent) believe CIHR has achieved its objective to a large extent, 78 per cent say to some extent, and only five per cent believe that the CIHR mandate has been achieved to little extent.
- 42 per cent of funded researchers feel the CIHR mandate is to a large extent achievable, with 55 per cent saying it is achievable to some extent, and a small minority indicating that it is not achievable (three per cent). In contrast, only 33 per cent of non-funded researchers feel the CIHR mandate is achievable to a large extent, with 62 per cent saying it is achievable to some extent

Program Activity Indicator 2 - Extent to which Institutes have appropriately influenced the research, policy and/or practice agendas in their communities

The degree to which CIHR Institutes have influenced research, policy and/or practice agendas in their communities helps to determine the achievement of the expected result of effective and efficient funding programs that enable ethical health research creating health knowledge that responds to opportunities and priorities. This is because Institutes create strategic funding opportunities in areas of health research priority thus encouraging their research communities to undertake more research in these areas.

The key source of information on success in this area is the opinions of our researchers.

CIHR Overall

Setting of a national health research agenda

- Most funded health researchers believe CIHR has succeeded in setting a national health research agenda, at least to some extent. Forty-two per cent feel to a large extent that CIHR has set a national agenda and 51 per cent believe this has occurred to some extent.
- Most non-funded health researchers believe CIHR has succeeded in setting a national health research agenda (i.e., who responded five or higher on the scale in the previous question). Thirty-two per cent feel to a large extent that CIHR has set a national agenda and 58 per cent believe this has occurred to some extent.

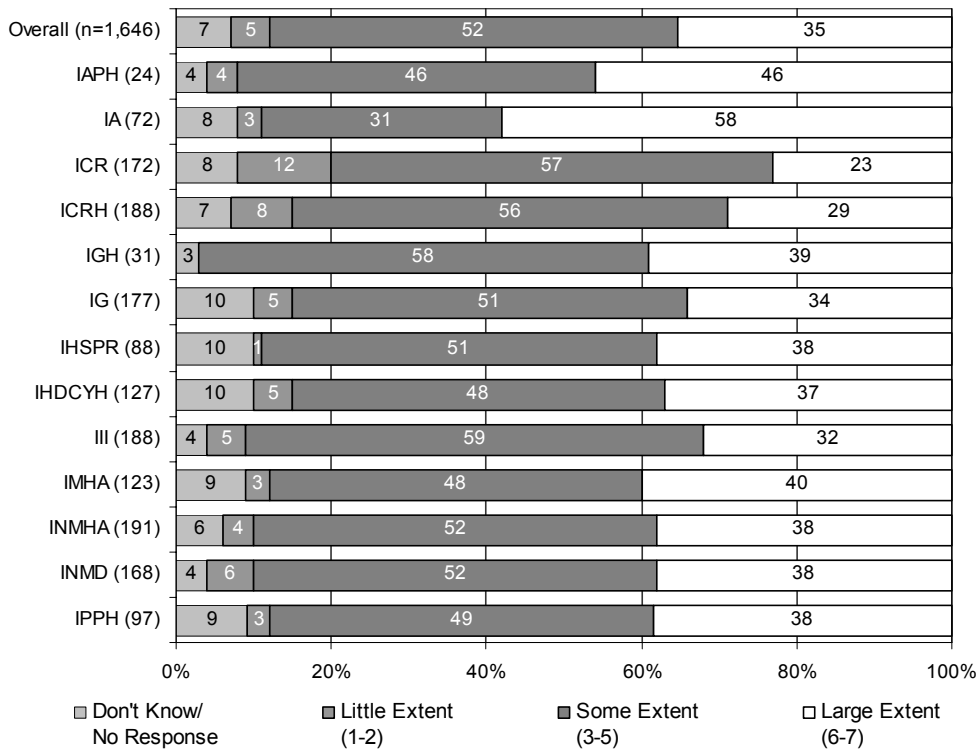
Appropriateness of the national health research agenda

- Of the funded health researchers who agree that CIHR has set a national health research agenda almost all say that this research agenda is, at least to some extent, the appropriate one. Forty-four per cent say that the agenda is to a large extent the appropriate one, and 51 per cent say to some extent.
- Of the non-funded researchers who agree that CIHR has set a national health research agenda (i.e., who responded five or higher on the scale in the previous question), almost all say that this research agenda is, at least to some extent, the appropriate one. Thirty-five per cent say that the agenda is to a large extent the appropriate one, and 58 per cent say to some extent.

CIHR Institutes

About one-third of funded health researchers overall (35 per cent) believe that the Institute with which they affiliate has been successful to a large extent in influencing the research agenda within its mandate, and 52 per cent believe it has been successful to some extent.

“To what extent do you feel the Institute has been successful in influencing the research agenda within its mandate?”



Source: Survey of Funded Researchers, 2005

n = 1,676

Institutes fall within three groups according to the degree to which their researchers believe they have influenced research agendas:¹³

- IAPH and IA: 46 and 58 per cent of IAPH and IA researchers respectively believe to a large extent that these Institutes have been successful in influencing the research agenda;
- IGH, IHSPR, IHDCYH, IMHA, INMHA, INMD, and IPPH: between 37 and 40 per cent believe this. Furthermore, one in ten did not know or were unable to respond with respect to IG, IHSPR, or IHDCYH.
- ICR, ICRH, IG and III: 23 to 34 per cent believe this. Furthermore, with respect to ICR, 12 per cent believe the Institute has only been successful to a little extent.

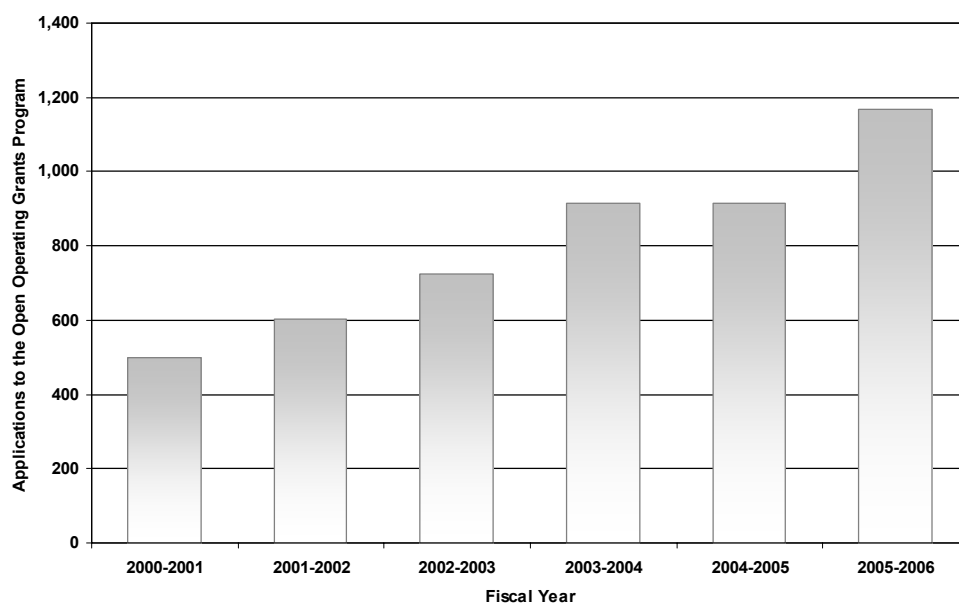
¹³ For list of Institute acronyms refer to page 16 of this report

Lessons Learned

While substantial progress has been made toward the expected result of achieving effective and efficient funding programs that enable ethical health research creating health knowledge that responds to opportunities and priorities, CIHR has also learned several key lessons from the evidence presented herein.

First, while the number of applications funded has generally been increasing, the graph below shows there is an increasing gap between the number of excellent proposals submitted to CIHR and the number that it is able to fund. As indicated in the section on risks, the inability of CIHR to adequately fund all applications received that are rated as very good and above is a significant concern.

Number of Applications to the Open Operating Grants Program Rated 3.5* and above Fundable, but not Funded



Source :CIHR Funding Database

Note: * CIHR has a rating scale of 0-5 for peer review of funding applications

Second, as noted by the International Review Panel, it will be increasingly important for CIHR to collect objective data for all funded health research to allow for more effective decision-making in the future. The planned implementation of an End-of Grant report from all grant holders will improve the data available to CIHR on the results of funded research.

Finally, with increased funding and a broader mandate, combined with more collaborative partnerships, CIHR's portfolio of funding programs has become increasingly complex. This can make it difficult for the research community to keep abreast of the numerous and complex funding opportunities. Therefore, CIHR has begun to examine how best to offer funding opportunities that are easier to understand, and are both regular and predictable for the research community and more manageable for CIHR staff.

Over the next five years CIHR intends to simplify its portfolio of funding programs by combining those programs with similar objectives. Any program re-design required to streamline CIHR's funding opportunities will be guided by consultation with the research community. The intended result is a simple, well-designed portfolio of funding programs that will be flexible enough to accommodate all approaches to health research.

FUTURE CHALLENGES FOR CIHR IN THE AREA OF OUTSTANDING RESEARCH

a) Getting the balance right between strategic and investigator-led research

The tensions that currently exist between the need for operating grant support and the need for strategic initiatives are likely to continue.

The appropriate balance between these various forms of research funding, as with the balance between funding between disciplines, is a critical determinant of the future success of Canadian health research. This balance is likely to vary in different areas of health research so that no single formula can be applied across the organization. Both processes and structures must be established for the research community to productively and collaboratively participate in these crucial decisions. These deliberations must be transparent.

b) Other national and provincial funding initiatives have significantly increased the demand for operating support from CIHR

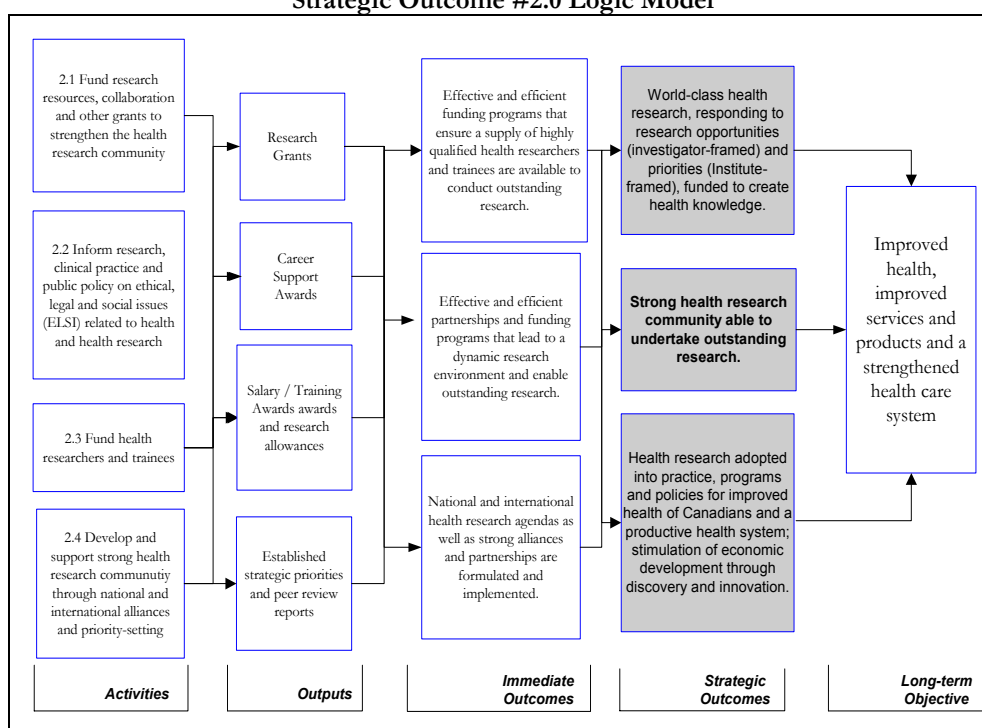
The International Review Panel was surprised by the extent, diversity and complexity of the research funding environment in Canada for health research. Canada appears to have more potential sources of such research funding than many nations.

The single health research funding agency most affected by investment made through many of these various funding streams is the CIHR. This is because CIHR remains the single, major source of federal funds for health research operating grants necessary to ensure that these other investments made in personnel and infrastructure succeed (e.g. the majority of infrastructure investments to date by the Canada Foundation for Innovation (CFI) have been in the health area). Each investment in personnel or building infrastructure inevitably puts further demands on the CIHR's operating grant budget. If all such streams of funding were coordinated this would provide a powerful expansion in capacity across the research sector in Canada. When not well matched, however, significant new demands on grant support cannot be met. Failure to align these funding streams at a federal level creates a serious risk that supply and demand in health research will become dangerously unbalanced.

Strategic Outcome #2.0: Outstanding Researchers in Innovative Environments

CIHR is committed to strengthening Canada's health research capacity by continuing to broaden, deepen and sustain health research excellence. CIHR will continue to increase its support for multidisciplinary and multisectoral teams of researchers. CIHR will ensure that it supports the right balance and mix of health researchers to realize its mandate and strategic objectives. CIHR recognizes the importance of new investigators to the Canadian health research enterprise. Throughout 2005-2006 and beyond, CIHR will work to ensure a strong Canadian health research community that is able to undertake outstanding research.

Strategic Outcome #2.0 Logic Model



Performance at the Strategic Outcome Level of the MRRS

Developing a community of outstanding health researchers is part of CIHR's core business.

The logic model depicted above shows graphically the linkages between the long term objective of CIHR, that is, improved health and health services and a strengthened health care system, and how we hope to achieve it. This includes the activities of funding health researchers and trainees, informing research and clinical practice on the ethical, legal and social issues related to health research and the development of alliances and priorities which leads to the production of outputs such as grants to researchers, strategic priorities, career support awards and salary and training awards.

These activities and outputs lead us to the accomplishment of the immediate outcomes (identified above) and then our longer term strategic outcome. There are four longer term strategic outcome indicators by which success in this area is determined :

1. Number and types of PhD graduates in Canada by year
2. Percent of PhD graduates in Canada planning postdoctoral fellowship or research associateship in health
3. Canadian international ranking in level of education
4. Quality and availability of adequate resources for research (infrastructure, resources, hardware, software)

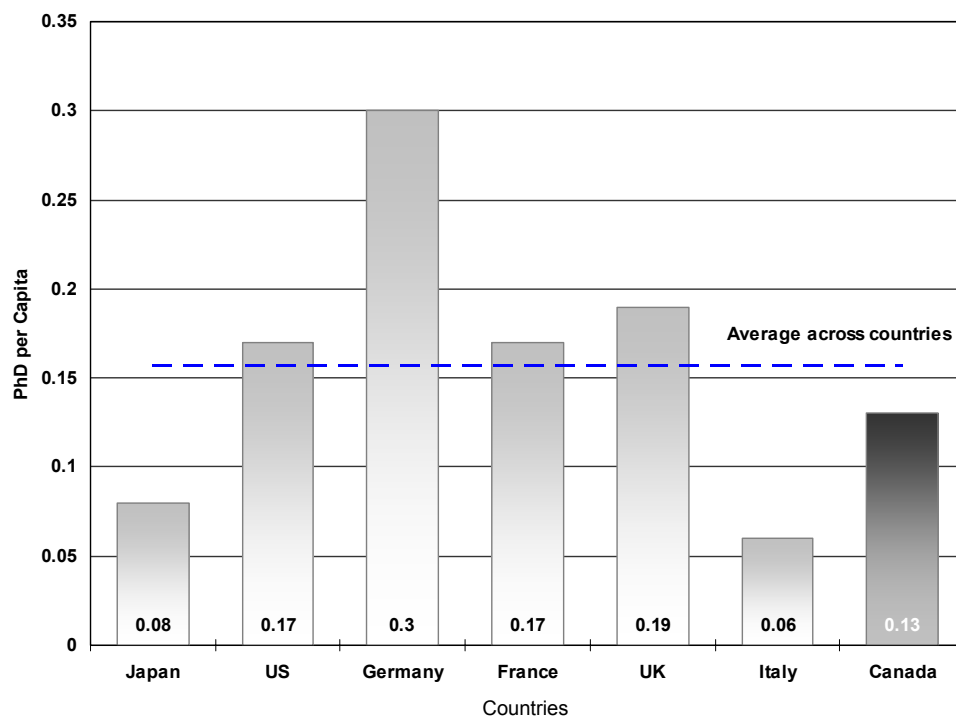
Data for the first three strategic outcomes are from a Statistics Canada Survey on Earned Doctorates¹⁴ and from the OECD. Indicators at the strategic outcome level are general societal indicators. Since these are longer term outcomes to which CIHR contributes, CIHR does not claim direct attribution to the results. CIHR contributes to the development of highly qualified personnel (HQP) through direct investments in people through training awards. To measure the effectiveness of this contribution, CIHR monitors societal indicators including the number and type of PhD graduates, those planning on further post-doctoral work as well as the percentage of the population with post-secondary education.

¹⁴ For details on the methodology and limitations of this study, please see Gluszynski, Tomasz and Valerie Peters, Survey of Earned Doctorates: A Profile of Doctoral Degree Recipients, Statistics Canada and Human Resources Development Canada, p.42.

Strategic Outcome Indicator 1 - Number and types of PhD graduates in Canada by year.

A key measure for success in building capacity in this area is the number of PhDs per capita. CIHR contributes to increasing the number of HQP in Canada, which currently ranks fifth for proportion of the population with a PhD.

PhD's per Capita, Average Value from 1998-2000



Source: 2004, King, Scientific Impact of Nations, URL: <http://www.dti.gov.uk/files/file11959.pdf>

Field Code Changed

According to Statistics Canada, between July 31, 2003 and June 30, 2004 (the most recent data available), approximately 3600 students graduated from Canadian universities with Doctoral degrees. In their study of 3,327 of these, 21% graduated from the biological sciences, 13% from engineering and 13% from humanities programs¹⁵.

¹⁵ Data taken from Gluszynski, Tomasz and Valerie Peters, Survey of Earned Doctorates: A Profile of Doctoral Degree Recipients, Statistics Canada and Human Resources Development Canada, p.8.

Strategic Outcome Indicator 2 - Percent of PhD graduates in Canada planning postdoctoral fellowship or research associateship in health

The percentage of PhD graduates planning post doctoral work is a key indicator of both the likelihood of PhD training encouraging individuals to continue in health research and of the potential demand for CIHR post-doctoral fellowship awards. According to the Survey of Earned Doctorates, 56% of graduates planned to enter the labour force after graduation while 34% were planning to undertake a postdoctoral fellowship.¹⁶ However, for those graduating in the life sciences, this number is much higher with approximately *64% planning on continuing their training or study through a postdoctoral fellowship or other arrangement.*

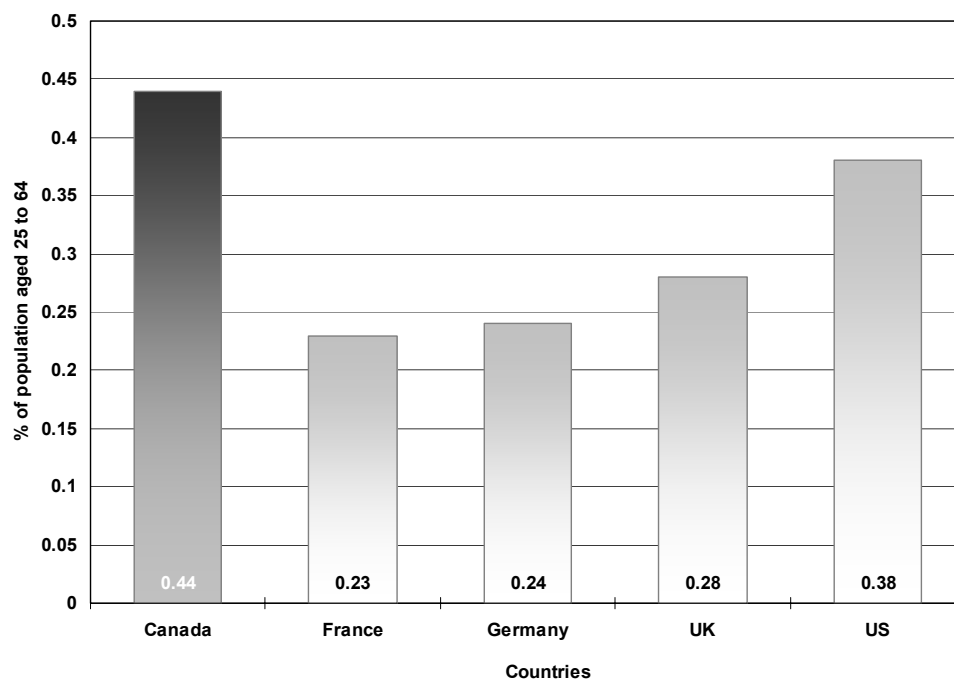
Strategic Outcome Indicator 3 - Canadian international ranking in level of education

HQP are a major requirement for Canada's innovative economy. Having access to a highly skilled, highly educated workforce helps ensure capacity to maintain and improve the overall Canadian economy. Through its Canada Graduate Scholarships Programs and Doctoral Research Awards, CIHR is contributing to Canada's leading position in the proportion of the population with post-secondary Education¹⁷

¹⁶ *Ibid.*, p.14

¹⁷ OECD data - % of population aged 25-64 with post secondary education as of 2003

Proportion of the Population ages 25 to 64 with Post-Secondary Education, 2003



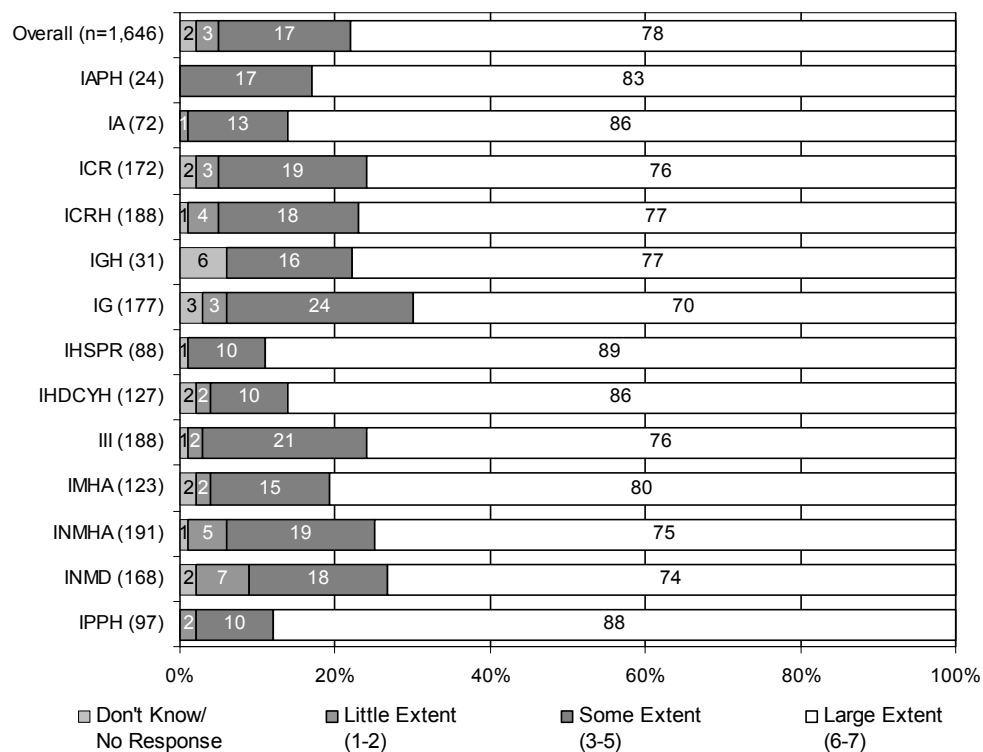
Source: OECD and World Bank

Strategic Outcome Indicator 4 - Quality and availability of adequate resources for research (infrastructure, resources, hardware, software)

In terms of the development of research capacity, in the survey of CIHR funded Researchers, only 8% agreed that capacity in terms of research environments (infrastructure, resources, hardware, software) is optimal to a large extent, with 70% saying it is optimal to some extent. Further, as the figure below demonstrates, researchers clearly identify capacity building as an area where the perceived need for the CIHR is highest, ranging from 89% (IHSPR) to 70% (IG and IGH).

Need for Institutes: Capacity – Funded Researchers

“To what extent is the Institute needed in your field of research to support the development of Canadian capacity (in terms of people and research environment)?”



Source: Survey of Funded Researchers, 2005

n = 1,676

Performance at the Program Activity Level of the MRRS

Program Activity Name: 2.1 Fund Health Researchers and Trainees

Financial Resources (in millions)

Planned Spending	Authorities	Actual Spending
\$195.4M	\$200.1M	\$178.3M

Human Resources:

Planned	Actual	Difference
67	87	-20

Performance Summary – Exceeded Expectations

Justification - In each of the evaluations of the Institutes conducted in 2005-2006, capacity building was perceived to be a major strength and in most cases, the area wherein there were perceptions of some of the highest levels of success.

<i>Program Activity Description</i>	
Plan, launch and manage competitions and programs for both salary awards to enable health researchers to devote more time to their research, as well as competitions for training awards to develop future health researchers.	
<i>Expected Results</i>	<i>Program Activity Indicators</i>
Effective and efficient funding programs that ensure a supply of highly qualified health researchers and trainees are available to conduct outstanding research.	<ol style="list-style-type: none">1. Success of CIHR-funded salary and training programs including results, awareness and satisfaction levels.2. Level and success of Institute activity in creating opportunities for capacity development based on successful initial and ongoing identification and targeting of research domains in need of capacity development.
Link to Priority Priority #2: Researchers—Develop and sustain Canada's health researchers in vibrant, innovative and stable research environments.	

Summary of Results

Under this program activity, CIHR has committed in its Report on Plans and Priorities to training the next generation of researchers, supporting research careers, and building research capacity in universities.

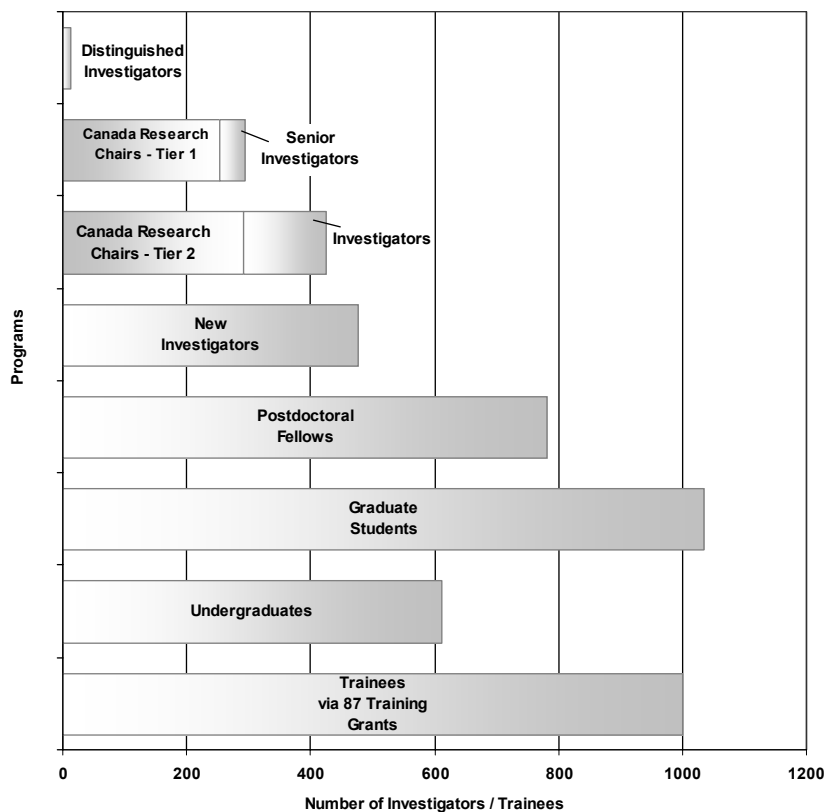
Through the effective and efficient operation of these funding programs, the expected result for CIHR is ensuring a supply of highly qualified health researchers and trainees is available to conduct outstanding research. There are two primary program activity (PA) indicators by which CIHR measures its success in this area:

Results and Awareness

Program Activity Indicator 1 - Success of CIHR-funded salary and training programs including results, awareness and satisfaction levels.

- CIHR manages a variety of programs aimed at strengthening the supply of health researchers. The graph below displays the number of people in health research throughout Canada who were supported through various CIHR awards programs in 2005-2006.

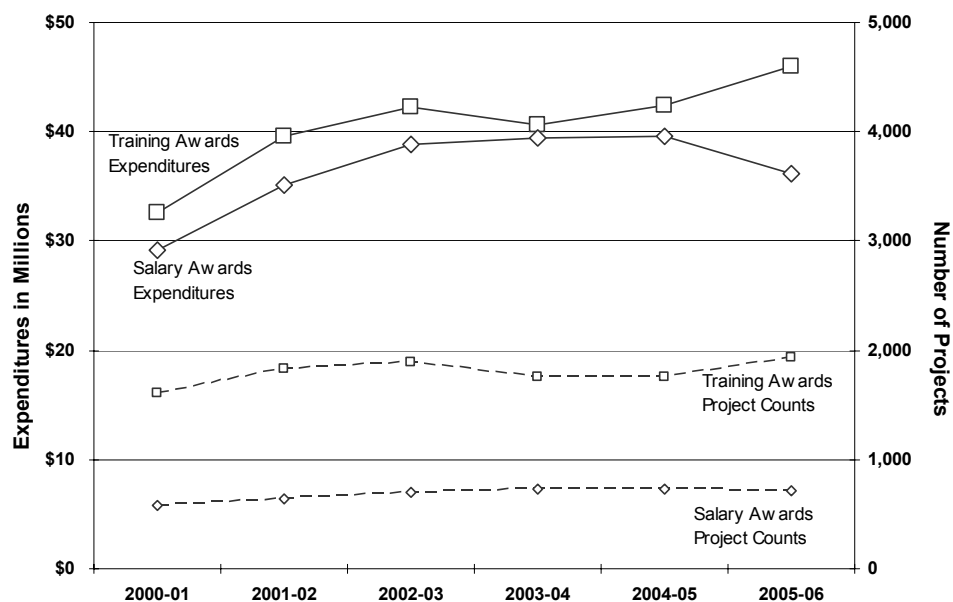
Research Capacity Building by program



Source : CIHR Funding Database

- **Expenditures for training programs and salary support**

Expenditures in the Training area increased in the period 2000-2001 to 2005-2006 as is shown in the graph below. Training award expenditures rose from \$33M in 2000-2001 to \$46M in 2005-2006. Salary award expenditures rose from \$29M in 2001-2002 to \$36M in 2005-2006.



Salary Award figures exclude the Canada Research Chairs
Source: CIHR Funding Database

In 2001 CIHR created the Strategic Training Initiative in Health Research (STIHR), through which it provides Strategic Training Program (STP) grants. STIHR funding is provided by CIHR and its partners in government, voluntary and private sectors. In 2005-2006, CIHR provided funds to 87 STIHR Grants, supporting an estimated 1000 trainees and an additional 1000 trainees participated in this training although they were not necessarily supported financially. For information about the STIHR, including partners in the government, private and voluntary sectors, see <http://www.cihr-irsc.gc.ca/e/22174.html>.

In collaboration with the federal funding agencies (Natural Sciences and Engineering Research Council and Social Sciences and Humanities Research Council of Canada) CIHR will continue to invest in research capacity building through the Canada Research Chairs program and the Canada Graduate Scholarships program in 2005–2006 and beyond.

Canada Research Chairs Programs: CIHR contributed \$72.9 million to the Canada Research Chairs (CRC) program in 2005-2006 to support 544 Chair awards in health research. The CRC initiative provides up to 2000 Chair awards to excellent researchers in all disciplines, 1,000 each at the senior (Tier 1) and junior (Tier 2) levels. Seven hundred of the CRCs are in health research. CRC funds are “flow throughs”, that is, they are voted to CIHR by Parliament and specifically earmarked for this program. CIHR’s Governing Council cannot divert these funds to other investments. Five hundred and forty four Chairs are currently filled.

Canada Graduate Scholarship Programs: The Canada Graduate Scholarships (CGS) Doctoral and Master’s awards programs were introduced in 2003 by the federal government. These programs provide additional funding to CIHR specifically to support individual training awards for MSc and PhD level students. In 2005-2006 CIHR invested \$8.1 million in CGS to support approximately 215 PhD students and 184 MSc students.

Satisfaction

Researcher Perceptions of Relevance of Training Support

Researchers are the heart of the CIHR community. As a result, their perceptions of CIHR, both strengths and weaknesses, provide CIHR with a key measure of its overall relevance, success and effectiveness. In a recent survey commissioned for CIHR:

- Researchers perceive a particularly great need for grants that fund training awards, grants and career awards to help young researchers (88 per cent)
- A majority of funded CIHR researchers see a great need for the Institute with which they are affiliated to support development of Canadian capacity in terms of people and the research environment (78 per cent)

Program Activity Indicator 2 - Level and success of Institute activity in creating opportunities for capacity development based on successful initial and ongoing identification and targeting of research domains in need of capacity development

CIHR measures its results in relation to this indicator in several ways.

Researcher perceptions of effectiveness:

- Most funded researchers who were surveyed indicated that the Institute with which they are affiliated has contributed to some or a large extent in developing capacity in terms of people (63 and 21 per cent, respectively) and the research environment (66 and 17 per cent) and in developing research excellence (59 and 32 per cent).
- Overall, across funded researchers affiliated with all Institutes, only 13 per cent believe that current capacity in terms of people is optimal to a large extent, while two-thirds of researchers (66 per cent) believe that capacity in terms of people is optimal to some extent, and 11 per cent believe it is optimal to a little extent only.
- Although the current capacity is perceived to be only somewhat optimal by most funded researchers, most believe that the Institutes have contributed to developing capacity within their research area in terms of people and research environment. Overall, the vast majority of researchers (94 per cent) believe that Institutes have contributed to developing capacity in terms of people to some or to a large extent (63 per cent believe that they have contributed to some extent, and 21 per cent believe that they have contributed to developing capacity to a large extent).

There is some variation in the extent to which funded researchers affiliated with each Institute believe that the Institute has contributed to the development of human capacity. Institutes fall into four groups according to the degree to which the researchers in their domain believe they have contributed to developing capacity in terms of people.¹⁸

- Funded IAPH researchers are most likely to indicate that this Institute has contributed to a large extent to the development of capacity in its research area in terms of people (50 per cent +);
- IA and IGH: 35 and 39 per cent of IA and IGH researchers believe this Institute has contributed to the development of human capacity to a large extent;

¹⁸ Please note that all Institutes work within varying contexts, especially in capacity building. IAPH, for example, may be perceived to have a greater need for capacity building as very little capacity existed in the area, whereas other more established areas of health research, such as cancer research, have much higher pre-existing capacity levels.

- IG, IHSPR, IMHA, and IPPH: between 24 and 29 per cent of these researchers believe this; and
- ICR, INMD, ICRH, INMHA, III, and IHDCYH: between 14 and 20 per cent of these researchers believe this.

Program Activity Name: 2.2 Fund research resources, collaboration and other grants to strengthen the health research community

Financial Resources:

Planned Spending	Authorities	Actual Spending
\$64.9M	\$68.1M	\$70.0M

Human Resources:

Planned	Actual	Difference
20	26	-6

Performance Summary - Met Expectations

<p><i>Program Activity Description</i></p> <p>Plan, launch and manage competitions and programs for grant funds for research-enabling activities, such as networking, provision of new equipment, databases and/or specialized resources. Encourage participation and involvement of stakeholders in the public and private sectors through collaborative, enabling programs and competitions.</p>	
<p><i>Expected Results</i></p> <p>Effective and efficient partnerships and funding programs that lead to a dynamic research environment and enable outstanding research.</p>	<p><i>Program Activity Indicators</i></p> <ol style="list-style-type: none"> 1. Success of CIHR-funded research resources and collaboration programs including results, awareness and satisfaction levels. 2. Level of Institute leadership, activity and success in strengthening research infrastructure/environment.
<p>Link to Priority Priority #2: Researchers—Develop and sustain Canada’s health researchers in vibrant, innovative and stable research environments.</p>	

Summary of results in relation to indicators:

Under this program activity, CIHR has committed in its Report on Plans and Priorities to supporting work in multidisciplinary teams and advancing research that is relevant to official language minority communities. In collaboration with partners, CIHR expects to contribute to the achievement of a dynamic research environment and to enable outstanding research. There are two primary Program Activity indicators by which CIHR measures its success in this area:

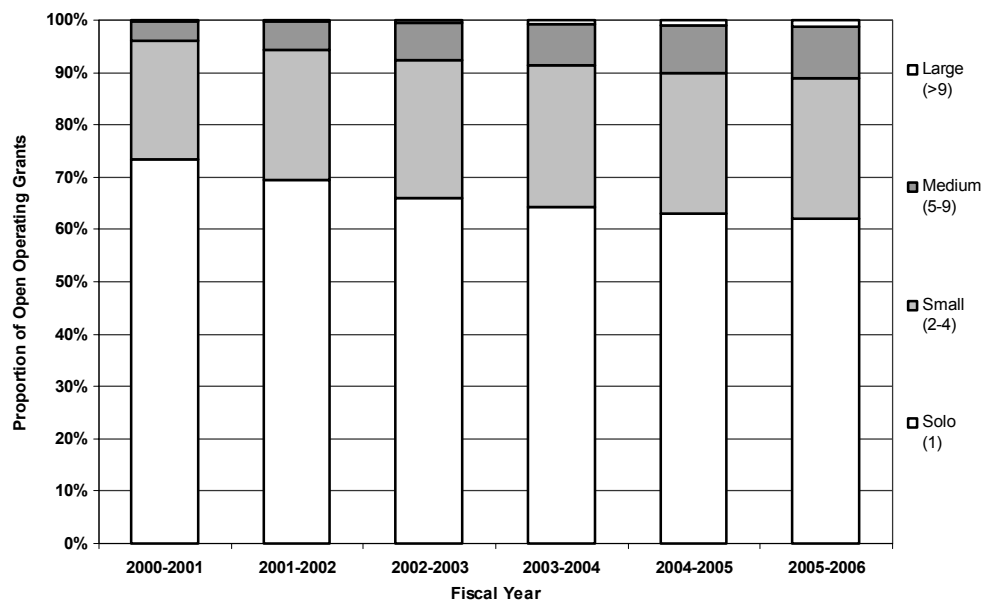
Program Activity Indicator 1 - Success of CIHR-funded research resources and collaboration programs including results, awareness and satisfaction levels

In 2005-2006, CIHR and its Institutes continued to promote and support collaborative programs such as multidisciplinary research teams. In a survey of CIHR-funded researchers, about three-quarters (74%) stated that half or more of their projects are interdisciplinary. Overall, across all funded CIHR researchers, the average percentage of research projects which are considered interdisciplinary is 64 per cent.

Number of research teams, networks and partnerships established.

Collaboration in research is an international trend, and Canadian health researchers clearly value this approach. This is shown by an analysis of the number of investigators named on successful applications for CIHR open operating grants—a funding program where there is no requirement for application by teams (see Graph below).

Size of Investigator Team Associated with Open Operating Grants



Source: CIHR Funding Database

In the area of partnerships, CIHR also works internationally. Two of our programs in the international arena, the International Opportunities Program and the bilateral National Science Foundation of China (NSFC)-CIHR joint research program, have attracted considerable interest. In addition, CIHR has joint research programs with Mexico, Japan, India, Australia and New Zealand.

Working in Multidisciplinary Teams¹⁹

To leverage the success of several programs launched during its first four years, CIHR has combined them into a recently launched (2004-2005) Team Grant program. The health research community has responded well to this opportunity. Combined expenditures on projects that encourage collaborative research, including the new Team Grant, are as follows:

CIHR Expenditures for FY 2005-06	\$ in millions
Community Alliance's in Health Research	\$6.4
CIHR Team Grants	\$0.4
Groups	\$28
Collaborative Genomics Special Projects	\$2.7
New Emerging Teams	\$21.7
Interdisciplinary Health Research Teams	\$8.8
ICE	\$4.4
Centres for Research Development	\$1.5

Program Activity Indicator 2 - Level of Institute leadership, activity and success in strengthening research infrastructure/environment

- Most funded researchers who were surveyed indicated that the Institute with which they identify has contributed to some or a large extent in developing capacity in terms of people (63 and 21 per cent, respectively) and the research environment (66 and 17 per cent) and in developing research excellence (59 and 32 per cent).
- Although the current capacity is perceived to be only somewhat optimal by most funded researchers, most believe that the Institutes have contributed to developing capacity within their research area in terms of people and research environment. Overall, the vast majority of researchers (94 per cent) believe that Institutes have contributed to developing capacity in terms of people to some or to a large extent).

In 2005-2006, as befits its mandate, CIHR supports health research related to topics relevant to the needs of official language minority communities (OLMC) and has included the OLMC initiative as one of the CIHR multi-institute strategic initiatives. Activities and accomplishments for the year 2005-2006 are numerous.

¹⁹ There may be some double counting between group grants and NETs as some NETs are classified as group grants.

In October 2005, CIHR committed funds to support OLMC research in the next four fiscal years. As a result, CIHR launched two priority announcements (fellowship, operating grants) to fund research projects focusing on health issues pertinent to OLMC in Canada in December 2005.

To further support the OLMC initiative CIHR created two positions and appointed a team lead and a project officer.

Their first objective was to meet the existing consultative committee to discuss future activities. Among the identified priorities was the pressing need to build research capacity and increase awareness of the challenges facing OLMC among young researchers. In order to successfully achieve this goal, the initiative's management team included a session dedicated to OLMC in CIHR's 2006 Summer Institute. Having also recognized the lack of strategic direction within the initiative, CIHR recently held a retreat for the purpose of identifying key strategic directions to guide future health research activities and assisting performance monitoring for the next 2-4 years. Finally, CIHR responded to a survey commissioned by the Office of the Commissioner of Official Languages (OCOL) as well as a survey from the Consortium national de formation en santé.

Program Activity Name: 2.3 Develop and support a strong health research community through national and international alliances and priority setting

Financial Resources:

Planned Spending	Authorities	Actual Spending
\$27.7M	\$28.1M	\$23.4M

Human Resources:

Planned	Actual	Difference
40	10	30

Performance Summary - Met Expectations

<i>Program Activity Description</i> Plan, launch and manage both Institute Support Grants that enable Institute activities such as the development of strategic health research priorities and development of alliances, as well as competitions and programs for grant funds for both national and international partnered programs.	
<i>Expected Results</i> National and international health research agendas are formulated and implemented.	<i>Program Activity Indicators</i> <ol style="list-style-type: none">1. Success of CIHR-funded partnership research programs including results, awareness and satisfaction levels.2. Number, diversity and scope of linkages, exchanges, alliances and partnerships with other organizations including health policy-makers at all levels of government (especially provincial governments) compared to baseline. Includes willingness of stakeholders to support research in Institute domains and number and size of funding flows through jointly-funded partnership programs where relevant.
Link to Priority Priority #2: Researchers—Develop and sustain Canada’s health researchers in vibrant, innovative and stable research environments.	

Summary of results in relation to indicators:

Under this program activity, CIHR has committed in its Report on Plans and Priorities to building and cultivating partnerships for health research, enhancing international collaboration and institute support grants. CIHR’s expected result in this area is that national and international health research agendas are formulated and implemented. There are two primary Program Activity indicators by which CIHR measures its success in this area:

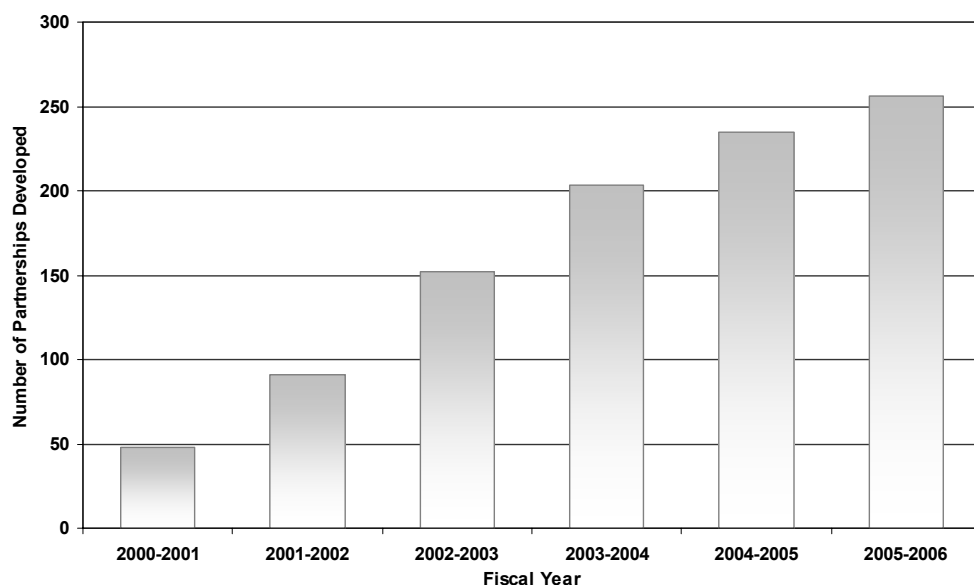
Program Activity Indicator 1 - Success of CIHR-funded partnership research programs including results, awareness and satisfaction levels

Support Grants of \$1M a year are provided to each of the 13 Institutes 1) to support the operations of Institutes and 2) for Institute activities such as workshops and symposia that promote, encourage and support the research community affiliated with the Institute, and the Institute’s research planning activities.

According to the evaluations of the Institutes, all 13 Institutes have succeeded in developing effective collaborations and partnerships.

These relationships extend to a very wide range of stakeholders and sectors, well beyond the range of partnerships that existed prior to the Institutes' creation, and including the not-for-profit and consumer advocacy sectors; other health funding agencies; governments; and the private sector. For several Institutes, their partnerships were identified by stakeholders as their key strength.

Number of partnerships developed²⁰



Source: CIHR Funding Database

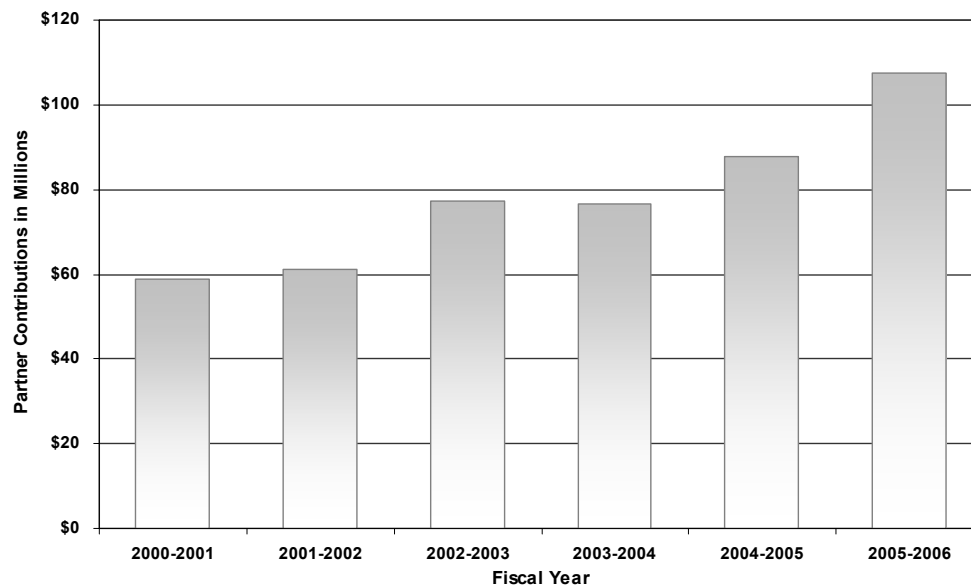
Program Activity Indicator 2 - Number, diversity and scope of linkages, exchanges, alliances and partnerships with other organizations including health policy-makers at all levels of government (especially provincial governments) compared to baseline. Includes willingness of stakeholders to support research in Institute domains and number and size of funding flows through jointly-funded partnership programs where relevant.

Dollars leveraged for health research

Overall, CIHR has increased leveraged funding through partnership agreements. The Graph below shows the committed amounts for partnerships for 1999-00 to 2005-06. Through partnerships, CIHR has leveraged over \$500M for health research between 1999-00 and 2005-06.

²⁰ Includes only formal partnerships as based on data contained in internal CIHR database

Partner Contributions, by fiscal year



Source: CIHR Funding Database

Researcher satisfaction

According to Institute stakeholders consulted in the evaluations of the Institutes, collaboration and partnership development has benefited Institutes in several ways, including better coordination of research priorities and activities, enhanced capacity to develop common strategies to address areas of shared interest, and to some extent, leveraging of additional funds.

In terms of the types of partners with which Institutes have developed collaborations, only one area of relative weakness was consistently identified. It was noted in several of the Institute evaluations that their partnerships could be broadened to more deeply engage health practitioners and provincial health systems.

Program Activity Name: 2.4 Inform research, clinical practice and public policy on ethical, legal and social issues (ELSI) related to health and health research

Financial Resources:

Planned Spending	Authorities	Actual Spending
\$6.2M	\$6.3M	\$1.9M

Human Resources:

Planned	Actual	Difference
20	3	17

Performance Summary - Met Expectations

<p><i>Program Activity Description</i></p> <p>Undertake consultations to enable inclusive dialogue across sectors, disciplines and communities to lead to greater public engagement, improved knowledge and understanding of the ethical, legal and social issues (ELSI) in the context of health and health research. As well, plan, launch and manage competitions and programs for grant funds to create new knowledge and provide grant funds that enable effective insights pertaining to the ethical, legal and social issues in the context of health and health research.</p>	
<p><i>Expected Results</i></p> <p>Uptake and application of ethics knowledge as an integral part of decision-making in health practice, research and policy.</p>	<p><i>Program Activity Indicators</i></p> <ol style="list-style-type: none"> 1. Success of CIHR's ELSI activities, for example, changes in the number of ethics-related incidents that arise from health practice, research, and policies. 2. Number of publications resulting from ELSI research. 3. Number of public policies influenced by ELSI principles. 4. Opinions of health researchers, and policy-makers regarding their success in uptake and application of new ethical knowledge.
<p>Link to Priority Priority #2: Researchers—Develop and sustain Canada's health researchers in vibrant, innovative and stable research environments.</p>	

Summary of results in relation to indicators:

Under this program activity, CIHR has committed in its Report on Plans and Priorities to promoting research on ELSI related to health, contributing to broader health policy debate, addressing allegations of non-compliance with research policies and governance of ethics on research involving humans.

CIHR's expected result in this area is that uptake and application of ethics knowledge will be an integral part of decision making in health practice, research and policy. There are four primary Program Activity indicators by which CIHR measures its success in this area:

Program Activity Indicator 1 - Success of CIHR's ELSI activities, for example, changes in the number of ethics-related incidents that arise from health practice, research, and policies.

Degree of investment in ELSI

The table below reflects the total CIHR investment in research that has ethics or health law as its primary focus, and ethics and health law as its secondary²¹ focus. The table also indicates the number of projects funded in each category.

Table 1: Overall Funding of Ethics/Law Projects (in thousands of dollars):

	2000-2001		2001-2002		2002-2003	
	Investment	Project Count	Investment	Project Count	Investment	Project Count
Ethics Primary	\$3,189	11	\$4,726	33	\$5,817	54
Law Primary	\$255	2	\$547	6	\$976	8
Ethics or Law Secondary	\$0		\$191	12	\$1,113	16
Grand Total	\$3,444	13	\$5,464	51	\$7,906	78
	2003-2004		2004-2005		2005-2006	
	Investment	Project Count	Investment	Project Count	Investment	Project Count
Ethics Primary	\$6,771	69	\$7,570	80	\$4,041	73
Law Primary	\$1,015	7	\$1,059	8	\$1,059	11
Ethics or Law Secondary	\$1,938	15	\$2,425	20	\$3,345	24
Grand Total	\$9,723	91	\$11,055	108	\$8,446	108

Source: CIHR Funding Database

In 2005-2006, the CIHR Ethics Branch has invested approximately \$1.4 million to support grants and awards in the area of ELSI.

²¹ It should be noted that the figures provided for projects with a secondary focus on ethics/law must be interpreted with caution. At this time, there is no way to tease out the specific amount of the grant that is dedicated to the ethics/law component of the project.

Researcher Awareness of ELSI

While CIHR has undertaken a variety of ethics-related activities and has made a contribution in the area of ethics, evaluations of the Institutes revealed awareness of the CIHR ethics mandate and the Institute's contribution in this respect is low among many key informants.

Demonstrable progress has been made by several Institutes, including IAPH, which has made a significant contribution to the CIHR ethics mandate through its own internal process to develop ethics guidelines.

A comprehensive, nation-wide strategy for consultation with Aboriginal communities, researchers and institutions has been built on the CIHR-IAPH National Aboriginal Capacity and Developmental Research Environments (ACADRE) Network. These broad consultations and vetting within the Aboriginal and research communities were initiated in April 2005 and occurred over the spring and the summer. Feedback from the consultations will form the basis for revisions to the Guidelines for Health Research Involving Aboriginal Peoples. Plans for broader consultation with the research community through CIHR and its partners are being developed.

Further, INMHA has made considerable progress in support of the CIHR ethics mandate, particularly in its efforts in the development of the area of neuroethics, which was highlighted in the Institute evaluation by staff and IAB members as an area where the Institute is taking an international lead.

Program Activity Indicator 2 - Number of publications resulting from ELSI research

The following four publications were produced in 2005–2006:

- CIHR Best Practices for Protecting Privacy in Health Research, September 2005 - This is a set of Best Practices for protecting privacy and confidentiality of personal information being used for health research. The document is intended to be a resource for researchers, research ethics boards and others in the design, conduct or assessment of research. The Best Practices are also cross-indexed to relevant provisions in Canadian privacy legislation.
- Ethics Live! @CIHR - 4th Issue - Fall 2005 - The Ethics Office annual on-line newsmagazine, features articles on ethics-related research and Institute activities, discussions of emerging issues in research ethics, and provides updates on ethics funding opportunities.
- CIHR Guidelines for Health Research Involving Aboriginal Peoples - draft for consultation, September 2005. The guidelines are designed to facilitate the ethical conduct of research involving Aboriginal peoples. The guidelines are grounded in research partnerships and promote mutually beneficial health research that is respectful of Aboriginal culture and tradition.

- Guidelines for Human Pluripotent Stem Cell Research, June 7, 2005 - The *Guidelines for Human Pluripotent Stem Cell Research* provide a well-defined ethical framework for research made possible by federal public funds. The *Guidelines* allow for response to rapidly evolving science and shifting public opinion, and enable Canadian researchers to move forward and remain at the forefront of their field while conducting their research according to explicit ethical standards. Funding agencies, Research Ethics Boards, and universities now have a framework to guide their evaluation and approval decisions.

Program Activity Indicator 3 - Number of public policies influenced by ELSI principles

CIHR was actively involved in the regulations being developed under the *Assisted Human Reproduction Act* - Health Canada (Assisted Human Reproduction Implementation Office, AHRIO), and specifically in 2005-2006, proposed regulations for section 8 of the *AHR Act* (consent). Since the 2002 Guidelines are incorporated by reference into the *Act*, AHRIO staff contact the EO regularly for guidance on the interpretation of certain provisions of the Guidelines.

Together with the other members of the Interagency Advisory Panel on Research Ethics (PRE) and Secretariat on Research Ethics (the Natural Sciences and Engineering Research Council of Canada, and the Social Sciences & Humanities Research Council of Canada), CIHR is engaged in a “Season of Consultations”, a public consultation process to amend the current Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans (TCPS). Three consultation papers were made available in late 2005-early 2006 for analysis, debate and written commentary by members of the TCPS user community.

Program Activity Indicator 4 - Opinions of health researchers and policy-makers regarding their success in uptake and application of new ethical knowledge

Researcher perceptions of CIHR leadership in ethics

Overall, CIHR is seen to provide some leadership on ethics. Most funded researchers believe that the CIHR provides leadership on ethics to some extent (48%) or to a large extent (33%).

Somewhat fewer funded researchers see CIHR as supporting the research necessary to address ethical issues around research. While close to half (47%) agree that CIHR is to some extent supporting the research necessary to address ethical issues, less than one-quarter (23%) believe they are providing this support to a large extent. One-quarter (25%) did not or could not indicate the extent to which CIHR is supporting research to address ethical issues.

Lessons Learned

CIHR has learned a number of key lessons from the data presented in this section on Outstanding Researchers in Innovative Environments.

First, CIHR, its Institutes and the research community place a high value on development of capacity and CIHR's role in supporting this.

Second, the value of partnerships in helping CIHR to achieve its vision is critical. Both in terms of financial and in-kind contributions, partners contribute enormously to the overall success of CIHR. Efforts must be placed to continue to reach out to existing partners and to identify new ones.

Third, CIHR notes the increased trend in multidisciplinary research and needs to continue to support this type of research.

Finally, CIHR notes that the Institutes focus in the area of ethics needs to develop and mature further.

Challenges for CIHR in the Area of Outstanding Researchers in Innovative Environments

a) CIHR's broad mandate across many disciplines requires a diversity of approaches to achieving multidisciplinary research

One of the most important features of the CIHR has been its commitment to encouraging research across different disciplines in the health research arena. Multidisciplinarity, however, can be achieved in many different ways and, among the CIHR constituency, there should be different approaches to encourage this activity. The mandate of the Institutes was to promote multidisciplinary research, and many of the new strategic initiatives have encouraged applications that include investigators from different health research backgrounds. Initiatives such as the Large Team Grants clearly promote these interactions.

This approach to encouraging multidisciplinary is valuable in many settings but not all. Basic biomedical and clinical investigators often develop multidisciplinary programs, but they do so in a bottom-up fashion designed to solve particular problems that they encounter as they undertake their individual research programs.

Collaborations and interactions are made to solve specific scientific problems that are encountered along the way and cannot be predicted in advance. This can be as valuable as predetermining multidisciplinary groupings in a strategic way. Both approaches to multidisciplinary need to be valued and encouraged. In order to ensure this, the organization needs to be flexible, responsive and intelligent.

b) Canada may lose health research talent

Canada is not taking full advantage of the capacity for high-quality health research in Canada. As previously noted, CIHR is not able to fund all the excellent applications that are received on an annual basis. This leads to a risk that highly capable Canadian researchers will either leave Canada or will choose kinds of work other than research. While data show that 80% of doctoral graduates intend to stay in Canada, of the 20% who plan to leave, doctoral graduates in life science programs comprise the largest group of potential “leavers”. Over 40% of those who intend to leave Canada after graduation are from the life sciences²² CIHR will, however, have to manage expectations in this area as the budget for this type of funding support is not likely to grow substantially.

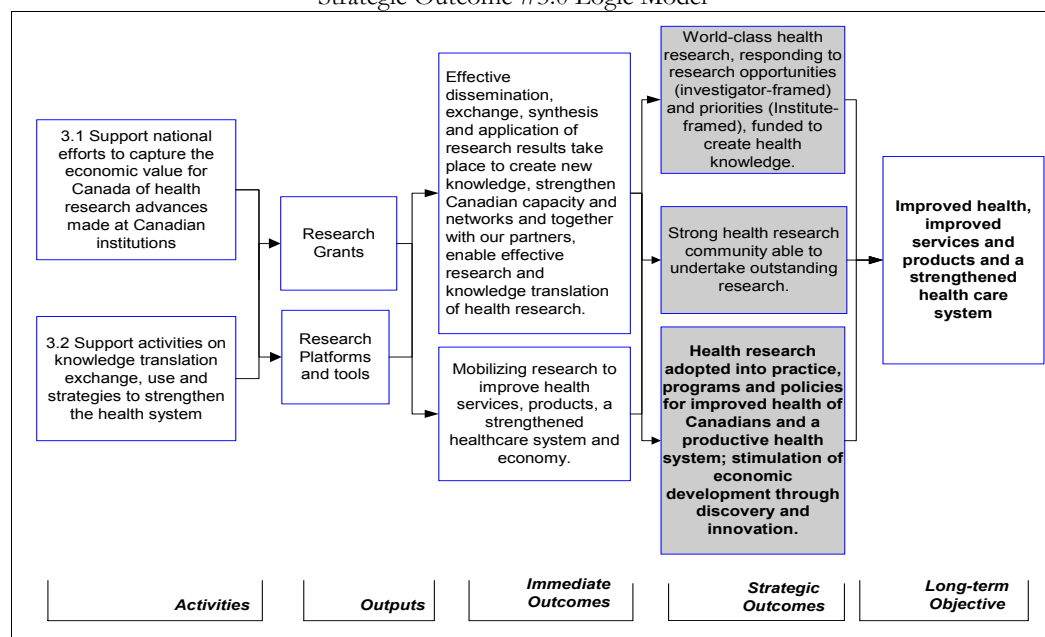
²² Data taken from Gluszynski, Tomasz and Valerie Peters, Survey of Earned Doctorates: A Profile of Doctoral Degree Recipients, Statistics Canada and Human Resources Development Canada, pp 18-19.

Strategic Outcome #3.0: Transforming Health Research into Action

CIHR's knowledge translation activities aim to accelerate the transformation of research results into health benefits for Canadians and an improved health care system. This includes funding knowledge translation research and building knowledge translation networks.

CIHR also plays a role in helping to move promising new research breakthroughs toward potential commercial applications. Throughout 2005-2006, CIHR helped enable the translation of health research into practice, programs and policies for a productive health system and the stimulation of economic development through discovery and innovation.

Strategic Outcome #3.0 Logic Model



Performance at the Strategic Outcome level of the MRRS

Developing programs and strategies to translate the results of research into results for Canadians is part of CIHR's core business.

The logic model depicted above shows graphically the linkages between the long term objective of CIHR, that is, improved health and health services and a strengthened health care system, and how we hope to achieve it. This includes activities that help capture the economic value of health research and activities that support knowledge translation, exchange and use. These activities result in outputs such as research grants and platforms and tools. These activities and outputs lead us to the accomplishment of the immediate outcomes (identified above) and then our longer-term strategic outcome.

There are five key strategic outcome indicators by which success in this area is monitored²³.

1. Changes in research questions, agendas, context and methods attributable to prior CIHR-funded research (research targeting)
2. Changes in health practice, programs or policies attributable to CIHR-funded research, improvements in service delivery or health benefits attributable to prior CIHR-funded research
3. Commercial activity – products (IP), companies and employment generated as a result of CIHR-funded projects
4. Health and educational sector labour market indicators
5. Canadian quality of life and health status indicators

Strategic Outcome Indicator 1 – Changes in research questions, agendas, context and methods attributable to prior CIHR-funded research (research targeting)

One indicator of progress in this area is the extent to which the nature of research is changing, for example, is there a greater focus on knowledge translation? Is research becoming more interdisciplinary? The CIHR survey of researchers found:

- More than half (58 per cent) of funded CIHR researchers said that half or more of their research projects have a significant knowledge translation component.²⁴ Furthermore, funded researchers with a high level of involvement in the Institute they are identified with are more apt to indicate that between 75 and 99 per cent of their projects involve a significant knowledge translation component, while researchers with little involvement in an Institute are more likely to indicate that between 25 and 50 percent of their projects include this component.
- Almost three-quarters of funded researchers (74 per cent) state half or more of their research is interdisciplinary (with 22 per cent saying 100 per cent of their research is interdisciplinary, 22 per cent saying between 75 and 99 per cent of their research is, and 30 per cent saying from 50 to 74 per cent of their research is interdisciplinary).
- Only 10 per cent indicate that less than one-quarter of their research is interdisciplinary. Overall, across all funded CIHR researchers, the mean or average percentage of research projects which are considered interdisciplinary is 64 per cent.

²³ As previously mentioned, the indicators at the strategic outcome level are societal-level indicators and changes can not necessarily be attributed to CIHR.

²⁴ It should be noted that respondents were not provided with a definition of knowledge translation for this survey: they used their own interpretation of the term within their own research context.

Strategic Outcome Indicator 2 - Changes in health practice, programs or policies attributable to CIHR-funded research, improvements in service delivery or health benefits attributable to prior CIHR-funded research

In its first five years, CIHR has established several initiatives to help realize the potential of research in Canada, to improve the health of Canadians, strengthen Canada's health care system and contribute to a growing knowledge-based economy. They include:

- programs to assist researchers in translating their discoveries to applications in the marketplace and to engage communities across Canada in health research;
- strategic initiatives that address emerging health threats such as SARS, and other important issues including health disparities among vulnerable populations; rural and northern health research; environmental influences on health; injury; obesity; asthma; food and water safety; and global health; and innovative training initiatives that will support the next generation of health researchers and provide them with the training they need in a collaborative, interdisciplinary research environment.

The following provides examples of important immediate outcomes, at the process and program level.

Improving Health Care

- *Health Research Helping to Solve Wait Times Issues* - Overcrowding in the emergency room may be why fewer than half of all heart attack victims receive potentially life-saving drugs within the recommended 30 minutes of arrival, according to research by CIHR-funded Dr. Jack Tu and the Canadian Cardiovascular Outcomes Research Team. Better organization of emergency rooms, routine monitoring of treatment times and a triage system that deals with chest pain patients immediately could help to reach the 30-minute treatment goal.
- Nursing-home residents with pneumonia may do as well if they receive the same medical treatment at their residence rather than in hospital, a study conducted by McMaster University researchers²⁵ and funded by the Canadian Institutes of Health Research (CIHR) has shown. This can significantly save health care costs, estimated to be \$1,200 per patient treated for pneumonia in hospital.

²⁵ Referenced from Faculty of Health Sciences, "Pneumonia treatment in nursing homes reduces hospitalization" June 7, 2006 available at <http://dailynews.mcmaster.ca/story.cfm?id=4049>

Strengthening Health Services Research

- **Atlantic Canada:** The Atlantic Regional Training Centre (ARTC) has received renewed funding for an innovative program that is building a critical mass of health service researchers in Atlantic Canada. The ARTC offers a Master's degree in Applied Health Services Research that is the first of its kind in Canada. "Our healthcare system needs local researchers to study cost-effective and efficient methods of healthcare delivery," said Dr. Vianne Timmons, a Principal Investigator of the ARTC. The renewed funding was based on the results of a review by the Canadian Health Services Research Foundation and CIHR that described the program as "a model of inter-provincial collaboration".

Overcoming Barriers to Health Care in Rural Areas

- **Saskatoon:** A University of Saskatchewan researcher has been working with rural and remote communities and care providers to help people with Alzheimer's disease access home care and support groups. CIHR-funded Dr. Debra Morgan identified eight barriers to the use of formal services in rural and remote areas, including the stigma of dementia, lack of privacy and anonymity, lack of awareness and lack of access to services because of distance.

Strategic Outcome Indicator 3 - Commercial activity – products (IP), companies and employment generated as a result of CIHR-funded projects

CIHR's innovative and dynamic commercialization and innovation strategy encompasses four themes: research, capital, talent and linkages. CIHR is implementing this strategy with a coherent suite of programs—including the Proof of Principle (POP) program, Phase I and Phase II—to move research from the academic setting to the marketplace. They build on CIHR's funded research, which yields the new concepts and materials that fuel the cycle of innovation.

Over the past five years, through its innovation and commercialization programs, CIHR and its partners have invested more than \$350 million to discover and move innovative research forward. CIHR is working in collaboration with federal and provincial partners in the private and public sectors in the development of strategic and operating initiatives. Through its focus on commercialization, CIHR is playing a central role in encouraging innovation that will result in solutions to the health problems that concern Canadians most as well as contribute to economic growth, investment and high-quality jobs.

POP funding has led to the strengthening or creation of many spin-off companies. Since 2001, more than 160 projects have been funded. Of the projects that have matured sufficiently to be evaluated, 63%, or 49 projects, resulted in new patents being funded; 21%, or 16 projects had intellectual property licensed; and 14%, or 11 projects, contributed to new company formation.

For example, Amorfix Life Sciences Ltd. Toronto, raised \$4M and began trading on the TSX venture exchange on October 3, 2005. Benefiting from a CIHR Proof of Principle grant, the company is developing new diagnostic tests to safeguard against prion-based diseases in the human blood supply.

Building Capacity for Commercialization. A consistent finding in analyses of Canada's capacity to innovate has been the lack of business and financial managers with an understanding of science and research. CIHR's **Science to Business Program (S2B)** helps to generate that human capital. It provides partnered funding to select Business Schools with health and biotechnology-based MBA programs to recruit and support PhDs with an interest in entering the business world. Richard Ivey School of Business at the University of Western Ontario is one of 4 business schools across Canada currently participating in the S2B program.

Strategic Outcome Indicator 4 – Health and educational sector labour market indicators.

Canada's health care system continues to ensure that Canadians are healthier and have access to quality health care. According to a new study,²⁶ Canadians are healthier than US residents and obtain better care for half of what Americans spend on their medical system. The study, published in the American Journal of Public Health, was conducted by Harvard Medical School researchers. They also found that:

- Canadians were seven per cent more likely to have a regular doctor;
- Canadians were 19 per cent less likely than Americans to have their health needs go unmet; and
- Americans were more than twice as likely to forgo needed medicines because of cost.

On the negative side, the study found that Canadians, on average, wait three times more than Americans for medical treatment; this appears, however, to have little impact on outcomes.

²⁶ This first-ever cross-national health survey analyzed data from the Joint Canada/US Survey of Health, with data collected by Statistics Canada and the US National Center for Health Statistics. The Joint Canada/US Survey of Health surveyed 3,505 Canadians and 5,183 US residents between November 2002 and March 2003. Available at: http://www.ctv.ca/servlet/ArticleNews/story/CTVNews/20060530/canada_us_healthcare_060530/20060530?hub=Canada

Strategic outcome Indicator 5 - Canadian quality of life and health status indicators

Canada continues to rank in the top five of the UN's most liveable countries index. The Human Development Index (HDI), published annually by the UN, ranks nations according to their citizens' quality of life rather than strictly by a nation's traditional economic figures. The criteria for calculating rankings include life expectancy, educational attainment, and adjusted real income. The 2005 index is based on 2003 figures.

"Most Livable" Countries, 2005			
1.	Norway	11.	Japan
2.	Iceland	12.	Netherlands
3.	Australia	13.	Finland
4.	Luxembourg	14.	Denmark
5.	Canada	15.	United Kingdom
6.	Sweden	16.	France
7.	Switzerland	17.	Austria
8.	Ireland	18.	Italy
9.	Belgium	19.	New-Zealand
10.	United States	20.	Germany

Source: Human Development Report, 2005, United Nations. Web: hdr.undp.org .

Performance at the Program Activity Level of the MRRS

Program Activity Name: 3.1 Support activities on knowledge translation, exchange, use and strategies to strengthen the health system

Financial Resources:

Planned Spending	Authorities	Actual Spending
\$37.0M	\$40.7M	\$35.4M

Human Resources:

Planned	Actual	Difference
22	16	6

Performance Summary - Met Expectations

<i>Program Activity Description</i> <p>Implement strategies to enable the effective dissemination, exchange, synthesis and application of health research results that will lead to improvements in the Canadian health system. As well, plan, launch and manage competitions and programs for grant funds designed to create new knowledge, strengthen Canadian capacity and networks, and together with our partners undertake effective research and knowledge translation of health research.</p>	
<i>Expected Results</i> <p>Effective dissemination, exchange, synthesis and application of research results take place to create new knowledge, strengthen Canadian capacity and networks, and together with our partners, enable effective research and knowledge translation of health research.</p>	<i>Program Activity Indicators</i> <ol style="list-style-type: none"> 1. Success of CIHR-funded research programs including results, awareness and satisfaction levels. 2. Increased number, scope and diversity of knowledge translation activities supported by CIHR (and its partners where relevant) or resulting from CIHR activities (for example, synthesis papers, briefs, participation in policy task forces) compared to baseline. 3. Identification of and initial communication with key knowledge translation stakeholders, followed by increased number of inputs (driven by research evidence) to stakeholders' decision processes.
<p>Link to Priority Priority #3: Knowledge Translation—Catalyze health innovation in order to strengthen health and the health care system and contribute to the growth of Canada's economy.</p>	

Summary of Results

Under this program activity, CIHR has committed in its Report on Plans and Priorities to various activities including knowledge translation, helping Canada innovate and commercialization.

The expected result of these activities is the effective dissemination, exchange, synthesis and application of research results to create new knowledge, strengthen Canadian capacity and networks, and together with our partners, enable effective research and knowledge translation of health research. There are three primary Program Activity (PA) indicators by which CIHR measures its success in this area:

Program Activity Indicator 1 - Success of CIHR-funded research programs including results, awareness and satisfaction levels

Opinions on quality of tools, programs and strategies implemented to support knowledge translation (KT)

The extent to which CIHR provides leadership and supports research on knowledge translation (KT) was explored in the researcher survey. The majority of funded researchers believe that CIHR offers some leadership in this area. Overall, 64 per cent of funded researchers indicate that CIHR provides leadership on knowledge translation to some extent, and 21 per cent believe that this leadership is provided to a large extent. Similarly, 59 per cent of funded researchers believe that CIHR supports the research necessary to improve knowledge translation to some extent, while 26 per cent believe it supports the research necessary to a large extent.

Funded researchers were also asked to rate the extent to which the activities of the individual Institutes support knowledge translation. Overall, more than half of researchers (54 per cent) indicate that the activities of the Institute they are affiliated with support knowledge translation to some extent, and 22 per cent feel that they support knowledge translation to a large extent. A significant number (16 per cent) did not know or did not rate the extent to which the activities of the Institute support knowledge translation.

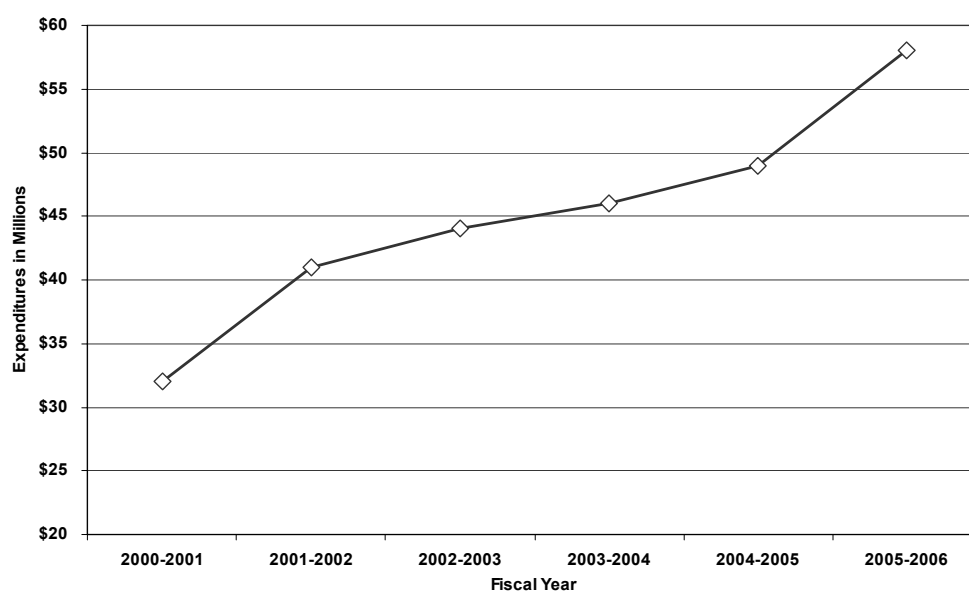
Program Activity Indicator 2 - Increased number, scope and diversity of knowledge translation activities supported by CIHR (and its partners where relevant) or resulting from CIHR activities (for example, synthesis papers, briefs, participation in policy task forces) compared to baseline

Percentage increase in expenditures for KT activities

Investments in the KT mandate are shown below. As this graph shows, identifiable knowledge translation expenditures originated with the birth of CIHR, and have grown substantially over the last five years from \$32 million in 2000-2001 to \$58 million in 2005-2006.

About one third of this has been expended on research into KT. The Institutes have supported KT research through various strategic initiatives.

Grants and Awards Expenditures – Transforming Research into Action



Source: CIHR Funding Database

Includes Networks of Centres of Excellence (NCE)

Percentage increase in number of researchers incorporating KT into their research activities.

While we are unable to assess an increase in the number of researchers incorporating KT into their research activities, the survey of researchers has provided a baseline against which to measure future changes.

- Most researchers agree that CIHR has increased (at least to some extent) the extent to which researchers include KT²⁷ elements in their grant applications and to which they engage in knowledge translation and translation, although the impact is perceived as significant for funded researchers, and more modest for non-funded.
- One-quarter (26 per cent) of funded researchers indicated that, due to CIHR, they have increased the degree to which KT elements are included in their grant applications to a large extent (and 48 per cent say to some extent).

²⁷ Please note the results were dependent on the researcher's own interpretation of KT, that is, they were not provided with a standard definition.

- Most funded researchers indicated that they engage in KT and transfer to some or a great extent (53 and 21 per cent, respectively) due to CIHR.
- More than half (58 per cent) of funded CIHR researchers said that half or more of their research projects have a significant KT component.
- Furthermore, funded researchers with a high level of involvement in the Institute they are identified with are more apt to indicate that between 75 and 99 per cent of their projects involve a significant KT component, while researchers with little involvement in an Institute are more likely to indicate that between one-quarter and half their projects include this component.
- Most funded researchers perceive that CIHR is to some or a large extent providing leadership on KT to the research community (64 and 21 per cent, respectively) and is supporting research necessary to improve KT (59 and 26 per cent, respectively).

However, although KT was clearly identified as a priority, the mid-term evaluations of the Institutes reveal knowledge translation has been a significant challenge for the majority of Institutes.

Program Activity Indicator 3 - Identification of and initial communication with key knowledge translation stakeholders, followed by increased number of inputs (driven by research evidence) to stakeholders' decision processes

During 2005-2006, CIHR devoted significant effort towards increasing its media outreach efforts. The approach involved much greater proactive contact with the media. Such contact helped CIHR understand the kinds of stories that would interest the media and the ways in which CIHR needed to present research results in order to earn media coverage. The end result was a dramatic increase in coverage. From fewer than one hundred CIHR mentions in the media per quarter, the number has increased to more than 600 media mentions this year, marking the highest-ever coverage for CIHR during a single year.

The approach also helped cultivate a reputation that CIHR is the place to go to for questions about health research. In the first quarter of 2005-2006, CIHR received 72 media calls. In the fourth quarter of 2005-2006, CIHR handled 375 media inquiries. Over this time period, CIHR also issued 125 news releases. Attention also focused on increasing CIHR's presence in the French-language media.

The net effect of this coverage is to increase awareness of the importance of health research to the general public as well as other audiences listed above. Specific accomplishments include the following:

- launched a new monthly electronic media newsletter;
- launched a revamped media room on the CIHR corporate website, an online area with an experts database, researcher profiles and archives for the e-media newsletter;
- produced a new brochure aimed at the media, telling them what services they could expect from CIHR;
- conceived a special journalists workshop on genetics, which will be held in September 2006 in Toronto;
- supported and participated in the conferences for the Quebec and Canadian science writing community; and
- produced a wide array of products for use by the media such as media advisories, backgrounder and fact sheets.

To encourage KT activities by the health research community, CIHR funds workshops and symposia with strong KT components.

In 2005, the National Knowledge Translation Award was presented to the Canadian Cardiovascular Outcomes Research Team (CCORT), led by Dr. Jack Tu of the Toronto-based Institute for Clinical Evaluative Sciences. The team has produced important results to help physicians provide better care to their patients while providing policy makers with the information they need to ensure a consistent quality of care for all people with cardiovascular disease.

CCORT is one of ten Interdisciplinary Health Research Teams supported by CIHR. The team brings together more than 30 researchers representing five provinces. KT has been an integral component of the team's work, which has published more than 60 peer-reviewed articles and conducted two randomized trials to assess alternative approaches to KT. The team has developed national cardiac performance indicators and benchmarks that are being used by hospitals throughout Canada. Most recently, it has found that heart failure patients at the highest risk of dying are not getting the life-saving drugs they need.

In early 2005, the CIHR Institute of Population and Public Health (IPPH) and the Canadian Population Health Initiative issued a joint call for KT "stories" that illustrated both successful and less-than-successful examples of the collaborative development and practical use of population and public health research evidence. IPPH recently published a case book of KT stories, *Moving Population and Public Health Knowledge Into Action*. The Institute of Health Services and Policy Research (IHSPR) conducted a similar exercise and published *Evidence in Action, Acting on Evidence: A case book of health services and policy research knowledge translation stories*.

In November 2005, a pilot program was launched in partnership with 15 universities to engage researchers and the public more directly and increase awareness of the benefits of health research. Universities used a variety of events and formats to engage their local communities' attention to the benefits of health research, usually with a strong health promotion message.

Program Activity Name: 3.2 Support national efforts to capture the economic value for Canada of health research advances made at Canadian institutions.

Financial Resources:

Planned Spending	Authorities	Actual Spending
\$25.3M	\$27.2M	\$25.4M

Human Resources:

Planned	Actual	Difference
15	10	5

Performance Summary - Met Expectations

<p><i>Program Activity Description</i></p> <p>Implement strategies to enable the effective development and commercialization of health research that will lead to a better quality of life for Canadians through improvements in the Canadian health system, products and economy. As well, plan, launch and manage competitions and programs for grant funds to create and transfer new knowledge, strengthen Canadian capacity and networks, and undertake effective commercialization of health research.</p>	
<p><i>Expected Results</i></p> <p>Mobilizing research to improve health services, products, a strengthened healthcare system and the economy.</p>	<p><i>Program Activity Indicators</i></p> <ol style="list-style-type: none"> 1. Success of CIHR-funded research programs including results, awareness and satisfaction levels. 2. Number and nature of patents, spin-off companies and licenses for intellectual property (IP) generated from CIHR-funded research.
<p>Link to Priority Priority #3: Knowledge Translation—Catalyze health innovation in order to strengthen health and the health care system and contribute to the growth of Canada's economy.</p>	

Summary of Results

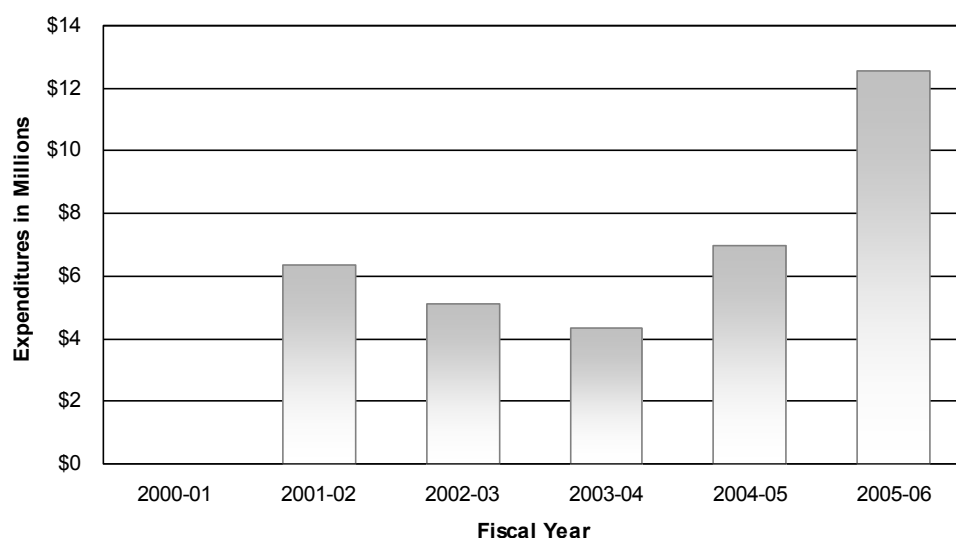
Under this program activity, CIHR has committed in its Report on Plans and Priorities to various activities including innovation and commercialization of health research outcomes. The expected result of these activities is enabling research to improve health services and products and contributed to a strengthened healthcare system and economy. There are two primary Program Activity (PA) indicators by which CIHR measures its success in this area:

Program Activity Indicator 1. Success of CIHR-funded research programs including results, awareness and satisfaction levels

Percentage increase in expenditures for health research commercialization activities

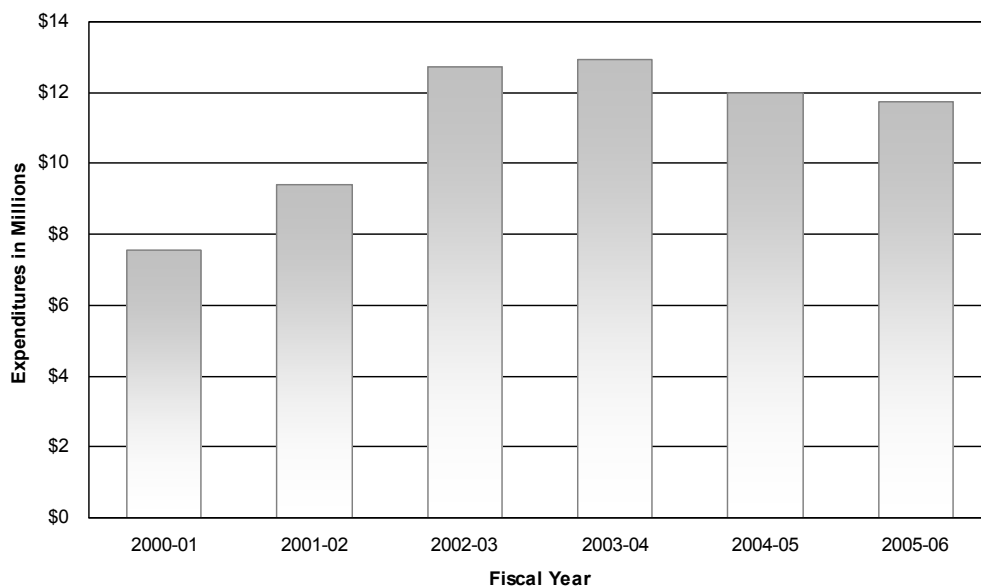
CIHR's commercialization and industry collaborative programs are designed to encourage and enable the academic community to interact with Canadian companies with an interest in health research and development. These programs promote a wide variety of peer-reviewed research and training opportunities at eligible institutions that are jointly funded by Canadian companies and CIHR. These programs, along with their funding levels, are shown in the table below.

CIHR Commercialization Program Expenditures, 2000-2001 – 2005-2006



Source: CIHR Funding Database

CIHR Innovation Program Expenditures, 2000-2001 – 2005-2006



Source: CIHR Funding Database

Examples of quality of tools, programs and strategies implemented to support commercialization

CIHR launched the Science to Business Program (S2B) in June 2005 with a \$500K commitment. It enables Business Schools to recruit recent PhD science graduates to pursue an MBA to better identify and facilitate the transfer of health innovations into useful products for the benefit of all Canadians. It provides a stipend and 50% of tuition costs, which must be matched by the participating business school. CIHR's S2B program was enthusiastically welcomed by Canada's business schools. In the first round of the program, four schools were funded, including The Richard Ivey School of Business MBA Biotechnology Stream at the University of Western Ontario, and the Management of Technology and Biotechnology MBA Program at Simon Fraser University, Burnaby, BC.

Moving the products of research from the academic setting to the marketplace:

In September, 2005, the Industry and Health Ministers announced 22 grants worth \$17.1 million over three years to accelerate the transfer of knowledge and new technology being developed in Canadian universities, hospitals and colleges for use in the Canadian economy²⁸.

²⁸ Source: <http://www.nserc.gc.ca/news/2005/p050920.htm>

These grants will strengthen interactions among publicly funded research institutions through the support of regionally based networks and expand the training of technology transfer experts required to increase the benefits to Canadians of our public investments in research.

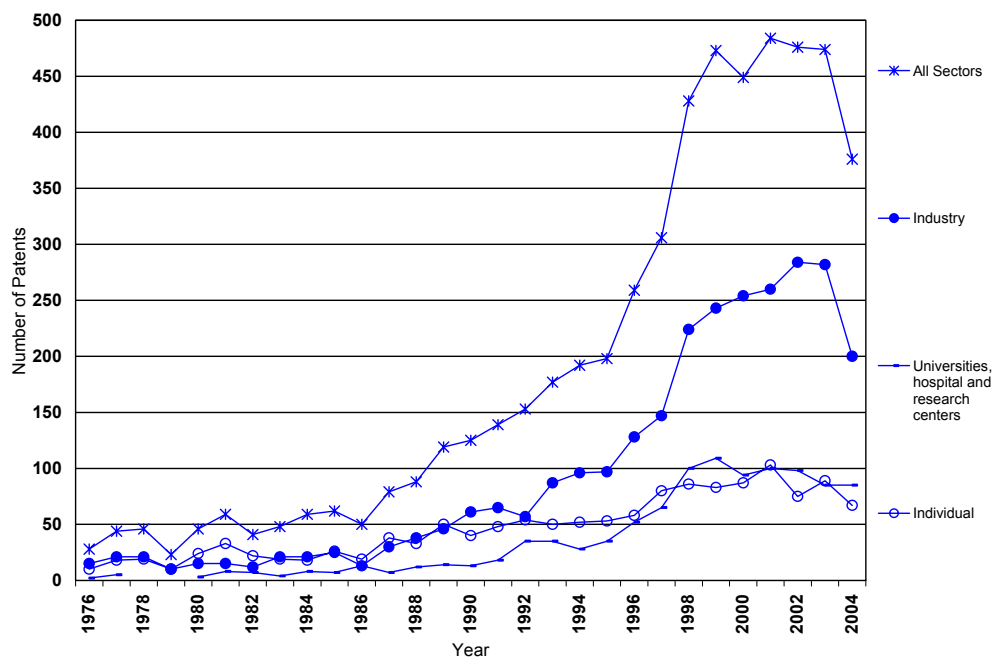
Sixteen network awards, worth \$14.26 million, will provide the essential resources for research-intensive institutions to develop the critical mass of expertise, tools and resources to manage and protect intellectual property, to encourage entrepreneurship and to make industry more aware of the knowledge and technology resources at their disposal. To address the short supply of technology transfer practitioners in Canada, \$2.87 million will be invested in six internship programs. These internships provide the opportunity to gain the hands-on experience required to effectively manage intellectual property and guide its commercialization.

These grants are being funded through the Intellectual Property Mobilization program, a cooperative arrangement involving the Natural Sciences and Engineering Research Council, CIHR and the Social Sciences and Humanities Research Council of Canada.

Program Activity Indicator 2 - Number and nature of patents, spin-off companies and licenses for intellectual property (IP) generated from CIHR-funded research

Between roughly 1985 and 2000, there was rapid growth in the number of Canadian researchers receiving US patents in health sciences. The number of patents appears to have stabilized after 2000.

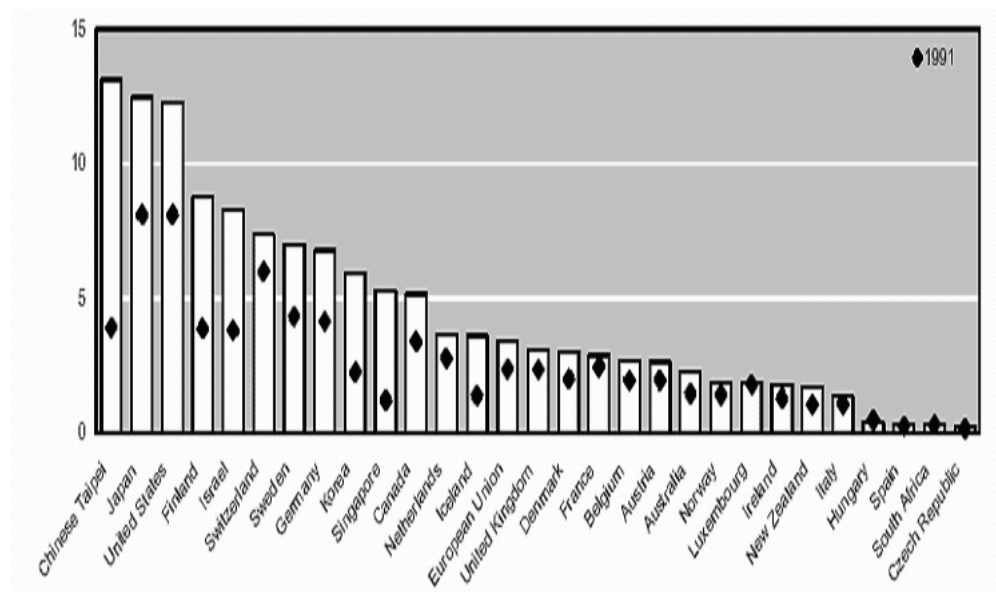
US Health Sector Patents held by Canadians, by Sector



Source : Observatoire des sciences et des technologies; 25 years of Health Research in Canada: A Bibliometric Analysis, November 2005 (commissioned by CIHR)

As the following figure demonstrates, more work clearly needs to be done in terms of encouraging Canadian researchers in the area of commercialization. Canadians are among the top eleven countries internationally in the seeking of patents, adjusted for GDP.

Patents granted at the US Patent Trade Office: Patent Intensity
Patents granted at the USPTO over GDP, 2002



Source: <http://www.oecd.org/dataoecd/60/24/8208325.pdf>, p. 16

Spin-off companies

In a study undertaken for CIHR, it was confirmed that CIHR funding contributed to the creation of 49 spin-off companies between 1999 and 2005 that generated 1,860 new jobs and \$617 million in sales.

Proof of Principle (PoP) Program

CIHR identified a critical gap in funding at the early stage of commercialization, between the traditional role of granting agencies in supporting discovery research, and demonstration of “proof of principle” for an innovation, at which stage private sector investment becomes interested. In 2001, CIHR filled this gap with the Proof of Principle (PoP) program, which provides two funding rounds to develop intellectual property with commercializable potential emerging from CIHR-funded projects.

The PoP program works with investigators and institutional technology transfer offices and provides peer-reviewed grants designed to strengthen intellectual property and improve successful identification and commercial development of health research discoveries and innovations. Applications are made jointly by the investigators and the institutional Technology Transfer Office, to show that the intellectual property (IP) has been subjected to an initial technology assessment and selected for its significant commercial potential. To date, 161 applications and \$16.8M in CIHR commitments have been made through PoP. From the first three years of competition funding, 63% of funded projects resulted in new patents being filed after receiving PoP funding (49 projects), 21% of funded PoP projects had IP licensed (16 projects), and 14% of funded PoP projects contributed to new company formation (11 projects).

The PoP program was highlighted in the 2004 federal Budget as a program which the Government needs to encourage. This program has been emulated by other organizations in Canada and elsewhere, including the National Institutes of Health (NIH, USA) and the Medical Research Council Technology (MRC-T, UK), among others, as filling a critical gap between the end of traditional research agency funding and the uptake of intellectual property by private sector financing.

Lessons Learned

As the International Review Panel and Institute evaluations have made clear, KT has been accepted as an important part of the CIHR mandate. While progress has already been made in some areas of KT particularly in infectious disease, public health and some areas of health services research, there remains lack of clarity about the definition of KT across the organization. The Panel also felt that more attention should be directed at providing leadership in the area of technology commercialization.

SECTION III: SUPPLEMENTARY INFORMATION- MANDATORY REQUIREMENTS

Notes:

1. These Tables compare actual spending by CIHR in millions of dollars versus planned and authorized spending. Authorized spending refers to spending levels approved by the Treasury Board of Canada. CIHR did not spend all available and planned funding in 2005-2006, incurring a surplus of \$10.8 million and \$1.4 million in its Operating budget. The lapsed funding in the Grants and Awards was the result of difficulties experienced by universities in filling Canada Research Chairs at the anticipated rate. Because of the financial arrangements in place for this program, there will be no impact on the capacity to fund health-related Chairs in coming years. The factors resulting in the Operating surplus include: staff not being hired at the rate expected thereby underutilizing the salary budget, projects being cancelled or not starting as quickly as planned and efficiencies identified in the peer review process.
2. Wherever “actual” expenditures are referred to in Tables on the following pages, it should be noted that the actual expenditures are prepared on a cash basis to compare with Parliamentary Appropriations which are cash basis budgets. Hence, the actual expenditures will not tie in with the Statements of Operations and Net Assets of the audited financial statements which are prepared on an accrual basis.

Table 1: Comparison of Planned to Actual Spending (including FTEs)

(\$ millions)	2003– 2004 Actual	2004– 2005 Actual	2005–2006			
			Main Estimates	Planned Spending	Total Authorities	Total Actuals
1.1. Fund Health Research	403.7	436.8	420.3	420.3	442.6	466.5
2.1. Fund Health Researchers and Trainees	147.4	162.7	195.4	195.4	200.1	178.3
2.2. Fund Research Resources, Collaboration and Other Grants to Strengthen the Health Research Community	57.7	69.0	64.9	64.9	68.1	70.0
2.3. Develop and Support Strong Health Research Community through National and International Alliances and Priority-Setting	26.3	24.6	27.7	27.7	28.1	23.4
2.4. Inform Research, Clinical Practice and Public Policy on Ethical, Legal and Social Issues Related to Health and Health Research	1.8	2.7	6.2	6.2	6.3	1.9
3.1. Support Activities on Knowledge Translation, Exchange, Use and Strategies to Strengthen the Health System	30.3	31.8	37.0	37.0	40.7	35.4
3.2. Support National Efforts to Capture the Economic Value for Canada of Health Research Advances made at Canadian Institutions	19.0	20.4	25.3	25.3	27.2	25.4
Total	686.2	748.0	776.8	776.8	813.1	800.9
Less: Non-respendable revenue	2.8	3.4	2.8	2.8	2.8	4.1
Plus: Cost of services received without charge	2.3	4.2	4.2	4.2	4.2	4.8
Total Departmental Spending	685.7	748.8	778.2	778.2	814.5	801.6
Full-time Equivalents	282	282	357	357	357	324

Table 1 compares actual spending by CIHR in millions of dollars versus planned and authorized spending. Authorized spending refers to spending levels approved by the Treasury Board of Canada. The lapsed funding in the Grants and Awards was the result of difficulties experienced by universities in filling Canada Research Chairs at the rate that had been hoped for. Because of the financial arrangements in place for this program, there will be no impact on the capacity to fund health-related Chairs in coming years.

Table 2: Resources by Program Activity

Resources by Program Activity

\$ millions

2005–06									
Program Activity	Budgetary							Plus: Non-budgetary	Total
	Operating	Capital	Grants	Contributions and Other Transfer Payments	Total: Gross Budgetary Expenditures	Less: Res-pondable Revenue	Total: Net Budgetary Expenditures	Loans, Investments, and Advances	
Fund Health Research	20.9	0.0	399.4	0.0	420.3	-	420.3	0.0	420.3
Fund Health Researchers and Trainees	7.8	0.0	187.6	0.0	195.4	-	195.4	0.0	195.4
Fund Research Resources, Collaboration and other Grants to Strengthen the Health Research Community	2.4	0.0	62.5	0.0	64.9	-	64.9	0.0	64.9
Develop and Support Strong Health Research Community through National and International Alliances and Priority-Setting	4.1	0.0	23.4	0.0	27.7	-	27.7	0.0	27.7
Inform Research, Clinical Practice and Public Policy on Ethical, Legal and Social Issues Related to Health and Health Research	2.5	0.0	3.7	0.0	6.2	-	6.2	0.0	6.2

2005-06									
Program Activity	Budgetary							Plus: Non-budgetary	Total
	Operating	Capital	Grants	Contributions and Other Transfer Payments	Total: Gross Budgetary Expenditures	Less: Res-pondable Revenue	Total: Net Budgetary Expenditures	Loans, Investments, and Advances	
Support Activities on Knowledge Translation, Exchange, Use and Strategies to Strengthen the Health System	2.9	0.0	34.1	0.0	37.0	-	37.0	0.0	37.0
Support National Efforts to Capture the Economic Value for Canada of Health Research Advances made at Canadian Institutions	1.6	0.0	23.7	0.0	25.3	-	25.3	0.0	25.3
Main Estimates	42.2	0.0	734.6	0.0	776.8	-	776.8	0.0	776.8
<i>Planned Spending</i>	42.2	0.0	734.6	0.0	776.8	-	776.8	0.0	776.8
Total Authorities	44.1	0.0	769.0	0.0	813.1	-	813.2	0.0	813.2
<i>Actual Spending</i>	42.8	0.0	758.1	0.0	800.9	-	800.9	0.0	800.9
Fund Health Research	22.7	0.0	443.8	0.0	466.5	-	466.5	0.0	466.5
Fund Health Researchers and Trainees	11.5	0.0	166.8	0.0	178.3	-	178.3	0.0	178.3

2005-06									
Program Activity	Budgetary							Plus: Non-budgetary	Total
	Operating	Capital	Grants	Contributions and Other Transfer Payments	Total: Gross Budgetary Expenditures	Less: Res-pondable Revenue	Total: Net Budgetary Expenditures	Loans, Investments, and Advances	
Fund Research Resources, Collaboration and other Grants to Strengthen the Health Research Community	3.4	0.0	66.6	0.0	70.0	-	70.0	0.0	70.0
Develop and Support Strong Health Research Community through National and International Alliances and Priority-Setting	1.3	0.0	22.1	0.0	23.4	-	23.4	0.0	23.4
Inform Research, Clinical Practice and Public Policy on Ethical, Legal and Social Issues Related to Health and Health Research	0.5	0.0	1.4	0.0	1.9	-	1.9	0.0	1.9
Support Activities on Knowledge Translation, Exchange, Use and Strategies to Strengthen the Health System	2.1	0.0	33.3	0.0	35.4	-	35.4	0.0	35.4

2005–06									
Program Activity	Budgetary							Plus: Non-budgetary	Total
	Operating	Capital	Grants	Contributions and Other Transfer Payments	Total: Gross Budgetary Expenditures	Less: Res-pondable Revenue	Total: Net Budgetary Expenditures	Loans, Investments, and Advances	
Support National Efforts to Capture the Economic Value for Canada of Health Research Advances made at Canadian Institutions	1.3	0.0	24.1	0.0	25.4	-	25.4	0.0	25.4

Table 2 compares actual spending by CIHR in millions of dollars versus spending authorized by the Treasury Board of Canada and planned CIHR spending. CIHR actual spending in Grants and Awards was \$10.8 million below allotted levels.

Table 3: Voted and Statutory Items

\$ millions

Vote or Statutory Item	Truncated Vote or Statutory Wording	2005–06			
		Main Estimates	Planned Spending	Total Authorities	Total Actuals
10	Operating expenditures	37.9	37.9	39.9	38.6
15	Grants	734.6	734.6	769.0	758.1
(S)	Contributions to employee benefit plans	4.3	4.3	4.3	4.2
	Total	776.8	776.8	813.2	800.9

Table 3 illustrates the Parliament votes resources distribution to CIHR.

Table 4: Services Received Without Charge

(\$ millions)	2005-2006
Accommodation provided by Public Works and Government Services Canada	2.9
Contributions covering employers' share of employees' insurance premiums and expenditures paid by Treasury Board of Canada Secretariat (excluding revolving funds). Employer's contribution to employees' insured benefits plans and associated expenditures paid by TBS	1.8
Audit services provided by the Office of the Auditor General of Canada	0.1
Total 2005-2006 Services received without charge	4.8

Table 5: Sources of Respendable and Non-respendable Revenue

Respendable Revenue – N/A

Non-respendable Revenue

(\$ millions)	Actual 2003- 04	Actual 2004- 05	2005-06			
			Main Estimates	Planned Revenue	Total Authorities	Actual
Fund health research						
Refunds of Previous Years' Expenditures	1.5	1.8	1.6	1.6	1.6	2.2
Fund health researchers and trainees						
Refunds of Previous Years' Expenditures	0.8	0.9	0.7	0.7	0.7	1.1

Fund research resources, collaboration and other grants to strengthen the health research community						
Refunds of Previous Years' Expenditures	0.2	0.3	0.2	0.2	0.2	0.3
Develop and support strong health research community through national and international alliances and priority-settings						
Refunds of Previous Years' Expenditures	0.1	0.1	0.1	0.1	0.1	0.1
Inform research, clinical practice and public policy on ethical, legal and social issues (ELSI) related to health and health research						
Refunds of Previous Years' Expenditures	-	-	-	-	-	0.1
Support activities on knowledge translation, exchange, use and strategies to strengthen the health system						
Refunds of Previous Years' Expenditures	0.1	0.2	0.1	0.1	0.1	0.2

Support national effort to capture the economic value for Canada of health research advances made at Canadian institutions						
Refunds of Previous Years' Expenditures	0.1	0.1	0.1	0.1	0.1	0.1
Total Non-respendable Revenue	2.8	3.4	2.8	2.8	2.8	4.1

Table 6: Response to Parliamentary Committees, and Audits and Evaluations for Fiscal Year 2005–06

Response to Parliamentary Committees
There were no Parliamentary Committee Recommendations made in 2005 - 2006.
<p><u>Internal Audits</u></p> <p><u>Post-Award Administration Function for Research Personnel Awards Programs - February 2005</u></p> <p>Findings of the audit</p> <ul style="list-style-type: none"> • Internal roles and responsibilities are not currently clearly defined for all PAA activities. • The criteria/risk basis for the selection of review visits is not well documented. • Support for monitoring visit findings is not clearly referenced and findings are not consistently categorized. • Internal reporting and analysis of issues identified through monitoring visits is untimely. • Reporting of monitoring visit findings to recipients was untimely. • There is no formal mechanism to ensure timely follow up on issues identified through monitoring visits and other monitoring activities. <p>Management agreed with the recommendations and has developed an implementation plan as part of its response. Further details are available under the management response section of the report available at: http://www.cihr-irsc.gc.ca/e/29405.html#A</p> <p><u>Hospitality Expenses – February 2005</u></p> <p>Findings of the audit</p> <ul style="list-style-type: none"> • The CIHR Hospitality Policy includes a definition of what hospitality normally consists of, however it does not include the definition or examples of hospitality expenses which are provided on an exceptional basis, including tickets to theatre, room rentals, and incidentals such as flowers. • Procedures in place used to verify and process claims are inconsistently applied; specifically, appropriate formal pre-authorization is not sought consistently for hospitality expenditures, and as a result, the process is, in many cases, incomplete, untimely and inappropriate. • Supporting documentation for hospitality claims is not always adequate and in line with the established procedures. In many instances, evidence supporting the expense does not include an original receipt. • Hospitality expenses for the Executives, as published on CIHR Website, are not always up-to-date in comparison with the recording in the General Ledger.

Management agreed with the recommendations and has developed an implementation plan as part of its response. Further details are available under the management response section of the report available at: [http://www.cihr-irsc.gc.ca/e/29136.html#Appendix_2 - Management Response](http://www.cihr-irsc.gc.ca/e/29136.html#Appendix_2_-_Management_Response)

Internal Audit or Evaluation

An International Review of CIHR was conducted in February 2006 and is available at <http://www.cihr-irsc.gc.ca/e/31464.html>

Mid-term evaluations were conducted of each of CIHRs Institutes and are available at <http://www.cihr-irsc.gc.ca/e/31683.html>

An evaluation of CIHRs Regional Partnerships Program was completed in May, 2005 and is available at <http://www.cihr-irsc.gc.ca/e/31386.html>)

Table 7: Procurement and Contracting

Department	
Points to Address	Organization's Input
1. Role played by procurement and contracting in delivering programs	The procurement and contracting function at the CIHR provides support to programs by acquiring essential goods and services in a timely fashion and in accordance with federal government policies, regulations and Trade Agreements.
2. Overview of how the department manages its contracting function	The CIHR procurement and contracting function has been delegated to the Administration division and is in the day-to-day control of the Manager, Administration and the Senior Contracting and Procurement Officer (Services) and Procurement & Materials Management Officers. Processes have been established for each type of procurement and, in consultation with our CIHR clients, the procurement and contracting team ensures that each procurement follows the various policy, regulatory and relevant treaty requirements and follows contract award with the sound contract management practices as recommended by the Treasury Board. Where applicable, the CIHR procurement staff liaise with Public Works and Government Services for procurements with a dollar value in excess of the CIHR contracting threshold; for complex requirements and in using PWGSC Supply Arrangements or Standing Offers. Every three months CIHR publishes on the Internet contracts over \$10,000 awarded by the institution in the previous three months.
3. Progress and new initiatives enabling effective and efficient procurement practices	The CIHR has recently purchased the Freebalance Procurement Module which will integrate with the Freebalance Financial System and allow for more reliable and more timely contract data capture; Senior Contracting and Procurement Officer is currently updating the draft CIHR Contracting Procedures to include references to the new electronic procurement module; two Requests for Proposal are in development for multi-year facilitation services and graphic design services which will substantially reduce the number of non-competitive service contracts let annually by the CIHR.

Table 8: Service Improvement

CIHR assesses client satisfaction through surveys, pilot studies and direct contact via our telephone and e-mail hot lines. We publicize information on health research competitions, develop application processes and forms, provide advice and assistance to applicants, design and operate review processes, communicate decisions and organize payment processes. The CIHR website, is continually being modified to improve content and accessibility. Through ResearchNet and similar initiatives we are making the application process less onerous for researchers and more streamlined while still retaining the depth of information that is essential to a fair assessment of proposals.

Table 9: Travel Policies

CIHR follows TBS travel parameters, and therefore, no differences are reported.

SECTION IV – OTHER ITEMS OF INTEREST

**Canadian Institutes of Health Research
MANAGEMENT RESPONSIBILITY
FOR FINANCIAL STATEMENTS**

Responsibility for the integrity and objectivity of the accompanying financial statements of the Canadian Institutes of Health Research (CIHR) for the year ended March 31, 2006 and all information contained in these statements rests with CIHR's management. These financial statements have been prepared by management in accordance with Treasury Board accounting policies which are consistent with Canadian generally accepted accounting principles for the public sector, and year-end instructions issued by the Office of the Comptroller General.

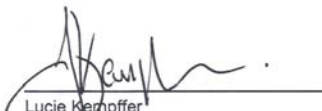
Management is responsible for the integrity and objectivity of the information in these financial statements. Some of the information in the financial statements is based on management's best estimates and judgement and gives due consideration to materiality. To fulfil its accounting and reporting responsibilities, management maintains a set of accounts that provides a centralized record of CIHR's financial transactions. Financial information submitted to the *Public Accounts of Canada* and included in CIHR's *Departmental Performance Report* is consistent with these financial statements.

Management maintains a system of financial management and internal control designed to provide reasonable assurance that financial information is reliable, that assets are safeguarded and that transactions are in accordance with the *Financial Administration Act*, are executed in accordance with prescribed regulations, within Parliamentary authorities, and are properly recorded to maintain accountability of Government funds. Management also seeks to ensure the objectivity and integrity of data in its financial statements by careful selection, training and development of qualified staff, by organizational arrangements that provide appropriate divisions of responsibility and by communications programs aimed at ensuring that regulations, policies, standards and managerial authorities are understood throughout the organization.

The Standing Committee on Performance Measurement, Evaluation and Audit, appointed by the Governing Council of CIHR, has reviewed these statements with management and the auditors, and has reported to the Governing Council. The Governing Council has approved the financial statements.

The financial statements of CIHR have been audited by the Auditor General of Canada, the independent auditor for the Government of Canada.

Approved by:



Lucie Kempffer
Acting Vice-President, Services & Operations



Dr. Alan Bernstein, O.C., FRSC
President

June 2, 2006



Auditor General of Canada
Vérificatrice générale du Canada

AUDITOR'S REPORT

To the Canadian Institutes of Health Research
and the Minister of Health

I have audited the statement of financial position of the Canadian Institutes of Health Research (CIHR) as at March 31, 2006 and the statements of operations, equity of Canada and cash flow for the year then ended. These financial statements are the responsibility of CIHR's management. My responsibility is to express an opinion on these financial statements based on my audit.

I conducted my audit in accordance with Canadian generally accepted auditing standards. Those standards require that I plan and perform an audit to obtain reasonable assurance whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation.

In my opinion, these financial statements present fairly, in all material respects, the financial position of CIHR as at March 31, 2006 and the results of its operations and its cash flows for the year then ended in accordance with Canadian generally accepted accounting principles.

Nancy Y. Cheng, FCA
Assistant Auditor General
for the Auditor General of Canada

Ottawa, Canada
June 2, 2006

240 rue Sparks Street, Ottawa, Ontario K1A 0G6

Canadian Institutes of Health Research

STATEMENT OF OPERATIONS

FOR THE YEAR ENDED MARCH 31

(in thousands of dollars)

	2006	2005
EXPENSES (Note 4)		
Health research	475,620	445,184
Health researchers in innovative environments	275,206	260,456
Transforming health research into action	61,674	52,428
TOTAL EXPENSES	812,500	758,068
REVENUES (Note 5)		
Health research	6,264	5,389
Health researchers in innovative environments	3,624	3,153
Transforming health research into action	812	635
TOTAL REVENUES	10,700	9,177
NET COST OF OPERATIONS	801,800	748,891

The accompanying notes are an integral part of these financial statements.

Canadian Institutes of Health Research
STATEMENT OF FINANCIAL POSITION
AS AT MARCH 31
(in thousands of dollars)

	2006	2005
ASSETS		
Financial Assets		
Due from the Consolidated Revenue Fund	18,640	12,417
Accounts receivable:		
Other Federal Government departments	367	648
External parties	353	195
Advances	191	192
Total financial assets	19,551	13,452
Non-financial assets		
Prepaid expenses	542	200
Tangible capital assets (Note 6)	4,049	3,948
Total non-financial assets	4,591	4,148
TOTAL ASSETS	24,142	17,600
LIABILITIES		
Accounts payables and accrued liabilities		
Other Federal Government departments	381	378
External parties	3,913	2,940
Vacation pay and compensatory leave	910	1,084
Deferred revenue (Note 7)	14,346	9,099
Employee severance benefits (Note 8)	4,633	3,826
TOTAL LIABILITIES	24,183	17,327
EQUITY OF CANADA	(41)	273
TOTAL LIABILITIES AND EQUITY OF CANADA	24,142	17,600

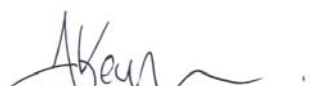
Contingent liabilities (Note 9)
Contractual obligations (Note 10)

The accompanying notes are an integral part of these financial statements.

Approved by Governing Council:

Approved by Management:


Dr. Alan Bernstein, O.C., FRSC
Chair


Lucie Kermiff
Acting Vice-President, Services & Operations

Canadian Institutes of Health Research

STATEMENT OF EQUITY

FOR THE YEAR ENDED MARCH 31

(in thousands of dollars)

	2006	2005
EQUITY OF CANADA, BEGINNING OF YEAR	273	729
Net cost of operations	(801,800)	(748,891)
Net cash provided by Government	790,458	739,093
Change in due from the Consolidated Revenue Fund	6,223	5,232
Services provided without charge by other Government departments (Note 11)	4,805	4,110
EQUITY OF CANADA, END OF YEAR	(41)	273

The accompanying notes are an integral part of these financial statements.

Canadian Institutes of Health Research
STATEMENT OF CASH FLOW
FOR THE YEAR ENDED MARCH 31
(in thousands of dollars)

	<u>2006</u>	<u>2005</u>
OPERATING ACTIVITIES		
Net cost of operations	801,800	748,891
Non-cash items:		
Amortization of tangible capital assets	(1,376)	(1,426)
Services provided without charge by other Government departments	(4,805)	(4,110)
	<u>(6,181)</u>	<u>(5,536)</u>
Variations in Statement of Financial Position:		
Increase (decrease) in accounts receivable and advances	(124)	310
Increase (decrease) in prepaid expenses	342	(350)
Increase in liabilities	(6,856)	(6,200)
	<u>(6,638)</u>	<u>(6,240)</u>
Cash Used by Operating Activities	<u>788,981</u>	<u>737,115</u>
CAPITAL INVESTMENT ACTIVITIES		
Acquisitions of tangible capital assets	<u>1,477</u>	<u>1,978</u>
Cash Used by Capital Investment Activities	<u>1,477</u>	<u>1,978</u>
FINANCING ACTIVITIES		
NET CASH PROVIDED BY GOVERNMENT OF CANADA	<u>790,458</u>	<u>739,093</u>

The accompanying notes are an integral part of these financial statements.

Canadian Institutes of Health Research
NOTES TO THE FINANCIAL STATEMENTS
FOR THE YEAR ENDED MARCH 31, 2006

1. Authority and Objectives

The Canadian Institutes of Health Research (CIHR) was established in June 2000 under the *Canadian Institutes of Health Research Act*, replacing the former Medical Research Council of Canada. It is listed in Schedule II to the *Financial Administration Act* as a departmental corporation.

CIHR's objective is to excel, according to international standards of scientific excellence, in the creation of new knowledge, and its translation into improved health, more effective health services and products, and a strengthened Canadian health care system. CIHR achieves these objectives through three strategic outcomes. The first strategic outcome is outstanding research, achieved by funding excellent and ethical health research across all disciplines that are relevant to health. The second strategic outcome is outstanding researchers in innovative environments, achieved by providing funding to develop and sustain health researchers in vibrant, innovative and stable research environments. The third strategic outcome is transforming health research into action, achieved by CIHR's knowledge translation activities and funding aimed to accelerate the transformation of research results into health benefits for Canadians and an improved health care system as well as helping to move new research breakthroughs toward potential commercial applications.

CIHR is led by a President who is the Chairperson of a Governing Council of not more than 19 other members appointed by the Governor in Council. The Governing Council sets overall strategic direction, goals and policies and oversees programming, resource allocation, ethics, finances, planning and accountability.

CIHR has 13 Institutes that focus on identifying the research needs and priorities for specific health areas, or for specific populations, then developing strategic initiatives to address those needs. Each Institute is led by a Scientific Director who is guided by an Institute Advisory Board, which strives to include representation of the public, researcher communities, research funders, health professionals, health policy specialists and other users of research results.

CIHR's grants, awards, and operating expenditures are funded by budgetary lapsing authorities. Employee benefits are funded by statutory authorities.

2. Significant Accounting Policies

These financial statements have been prepared in accordance with Treasury Board accounting policies which are consistent with Canadian generally accepted accounting principles for the public sector, and year-end instructions issued by the Office of the Comptroller General. The most significant accounting policies are as follows:

(a) Parliamentary appropriations - CIHR is financed by the Government of Canada through Parliamentary appropriations. Appropriations provided to CIHR do not parallel financial reporting according to generally accepted accounting principles since appropriations are primarily based on cash flow requirements. Consequently, items recognized in the statement of operations and the statement of financial position are not necessarily the same as those provided through appropriations from Parliament. Note 3 provides a high-level reconciliation between the bases of reporting.

(b) Net cash provided by Government – CIHR operates within the Consolidated Revenue Fund (CRF), which is administered by the Receiver General for Canada. All cash received by CIHR is deposited to the CRF and all cash disbursements made by CIHR are paid from the CRF. The net cash provided by Government is the difference between all cash receipts and all cash disbursements including transactions between departments of the federal government.

(c) Due from the Consolidated Revenue Fund represents the amount of cash that CIHR is entitled to draw from the Consolidated Revenue Fund without further appropriations, in order to discharge its liabilities.

(d) Revenues

- Funds received from external parties for specified purposes are recorded upon receipt as deferred revenues. These revenues are recognized in the period in which the related expenses are incurred.
- Other revenues are accounted for in the period in which the underlying transaction or event occurred that gave rise to the revenues.

(e) Expenses – Expenses are recorded on the accrual basis:

- Grants and awards are recognized when the entitlement has been established, the recipient has met the eligibility criteria, and the commitment has been approved.
- Vacation pay and compensatory leave are expensed as the benefits accrue to employees under their respective terms of employment.
- Services provided without charge by other government departments are recorded as operating expenses at their estimated cost.

(f) Employee future benefits

- i. Pension benefits: Eligible employees participate in the Public Service Pension Plan, a multiemployer plan administered by the Government of Canada. CIHR's contributions to the Plan are charged to expenses in the year incurred and represent the total obligation of CIHR to the Plan. Current legislation does not require CIHR to make contributions for any actuarial deficiencies of the Plan.
- ii. Severance benefits: Employees are entitled to severance benefits under labour contracts or conditions of employment. These benefits are accrued as employees render the services necessary to earn them. The obligation relating to the benefits earned by employees is calculated using information derived from the results of the actuarially determined liability for employee severance benefits for the Government as a whole.

(g) Accounts receivable - These are stated at amounts expected to be ultimately realized. A provision for doubtful accounts is made for any amounts where recovery is considered uncertain.

- (h) **Contingent liabilities** - Contingent liabilities are potential liabilities which may become actual liabilities when one or more future events occur or fail to occur. To the extent that the future event is likely to occur or fail to occur, and a reasonable estimate of the loss can be made, an estimated liability is accrued and an expense is recorded. If the likelihood is not determinable or an amount cannot be reasonably estimated, the contingency is disclosed in the notes to the financial statements.
- (i) **Tangible capital assets** - All tangible capital assets having an individual initial cost of \$5,000 or more are recorded at their acquisition cost. Amortization of tangible capital assets is done on a straight-line basis over the estimated useful life of the capital asset as follows:

Asset class	Amortization period
Informatics hardware	3-5 years
Informatics software	3 years
Office equipment	10 years
Motor vehicles	5 years

Amounts included in work-in-progress are uncompleted capital projects which are transferred to informatics software upon completion, and are then amortized according to CIHR's policy.

- (j) **Measurement uncertainty** - The preparation of these financial statements in accordance with Treasury Board accounting policies which are consistent with Canadian generally accepted accounting principles for the public sector, and year-end instructions issued by the Office of the Comptroller General, requires management to make estimates and assumptions that affect the reported amounts of assets, liabilities, revenues and expenses reported in the financial statements. At the time of preparation of these statements, management believes the estimates and assumptions to be reasonable. The most significant items where estimates are used are contingent liabilities, the liability for vacation pay and compensatory leave, employee severance benefits and the useful life of tangible capital assets. Actual results could differ significantly from those estimated. Management's estimates are reviewed periodically and, as adjustments become necessary, they are recorded in the financial statements in the year they become known.

3. Parliamentary Appropriations

CIHR receives most of its funding through annual parliamentary appropriations. Items recognized in the statement of operations and the statement of financial position in one year may be funded through parliamentary appropriations in prior, current or future years. Accordingly, CIHR has different net results of operations for the year on a government funding basis than on an accrual accounting basis. The differences are reconciled in the following tables:

(a) Reconciliation of net cost of operations to current year appropriations used

	<u>2006</u>	<u>2005</u>
	(in thousands of dollars)	
Net cost of operations	801,800	748,891
Adjustments for items affecting net cost of operations but not affecting appropriations:		
Add (Less):		
Services provided without charge	(4,805)	(4,110)
Refunds of previous years' expenses	4,132	3,942
Employee severance benefits	(807)	(672)
Amortization of tangible capital assets	(1,376)	(1,426)
Vacation pay and compensatory leave	174	(296)
Other	(61)	15
	<u>(2,743)</u>	<u>(2,547)</u>
Adjustments for items not affecting net cost of operations but affecting appropriations:		
Add (Less):		
Acquisitions of tangible capital assets	1,477	1,978
Prepaid expenses	342	(350)
Current year appropriations used	<u>800,876</u>	<u>747,972</u>

(b) Appropriations provided and used

	<u>2006</u>	<u>2005</u>
	(in thousands of dollars)	
Parliamentary appropriations provided:		
Vote 10 – Operating expenditures	39,902	42,030
Less:		
Lapsed appropriation	<u>(1,393)</u>	<u>(2,601)</u>
	<u>38,509</u>	<u>39,429</u>
Vote 15 – Grants	768,980	712,033
Less:		
Lapsed appropriation	<u>(10,832)</u>	<u>(7,344)</u>
	<u>758,148</u>	<u>704,689</u>
Statutory contributions to employee benefit plans	<u>4,219</u>	<u>3,854</u>
Current year appropriations used	<u>800,876</u>	<u>747,972</u>

(c) Reconciliation of net cash provided by Government to current year appropriations used

	2006	2005
	(in thousands of dollars)	
Net cash provided by Government	790,458	739,093
Refunds of previous years' expenses	4,132	3,942
Change in net position in the Consolidated Revenue Fund		
Variation in accounts receivable and advances	124	(310)
Variation in accounts payable and accrued liabilities	976	(2,164)
Variation in deferred revenue	5,247	7,396
Other adjustments	(61)	15
	<u>6,286</u>	<u>4,937</u>
Current year appropriations used	<u>800,876</u>	<u>747,972</u>

4. Expenses

	2006	2005
	(in thousands of dollars)	
Grants and awards		
Open competitions	478,109	455,173
Strategic initiatives	171,878	156,589
Institute support grants	13,000	13,000
Knowledge translation	5,458	3,491
Canada research chairs	72,900	60,603
Networks of centres of excellence	27,500	25,000
Total grants and awards	768,845	713,856
Less: Refunds of previous years' grants and awards	(3,777)	(3,377)
	<u>765,068</u>	<u>710,479</u>
Operations and administration		
Salaries and employee benefits	29,594	27,499
Professional and special services	6,184	10,098
Travel	3,957	3,087
Accommodation	2,865	2,351
Amortization of tangible capital assets	1,376	1,426
Communication	1,308	1,351
Furniture, equipment and software	1,185	1,476
Other	963	301
Total operations and administration	<u>47,432</u>	<u>47,589</u>
Total expenses	<u>812,500</u>	<u>758,068</u>

5. Revenues

The following are the revenues earned for the year:

	2006	2005
	(in thousands of dollars)	
Donations for health research	9,499	5,595
Cost sharing agreements with other Government departments	1,198	3,569
Endowments for health research	2	3
Other	1	10
Total revenues	10,700	9,177

6. Tangible Capital Assets

(in thousands of dollars)

Cost					Accumulated amortization					
Capital asset class	Opening balance	Acquisitions	Transfers, disposals and write-offs	Closing balance	Opening balance	Amortization	Transfers, disposals and write-offs	Closing balance	2006 Net Book Value	2005 Net Book Value
Informatics hardware	1,658	159	-	1,817	995	275	-	1,270	547	663
Informatics software	5,232	1,318	24	6,574	2,282	1,065	-	3,347	3,227	2,950
Office equipment	345	-	-	345	54	35	-	89	256	291
Vehicles	23	-	-	23	17	1	-	18	5	6
Work-in-progress	38	-	(24)	14	-	-	-	-	14	38
Total	7,296	1,477	0	8,773	3,348	1,376	-	4,724	4,049	3,948

Amortization expense (in thousands) for the year ended March 31, 2006 is \$ 1,376 (2005 - \$1,426).

7. Deferred Revenue

Monies received as donations from various organizations and individuals for health research as well as interest on endowments are recorded as deferred revenue until such time they are disbursed in accordance with agreements between the contributor and CIHR or in accordance with the terms of the endowments.

The transactions relating to these accounts are as follows:

	<u>2006</u>	<u>2005</u>
	(in thousands of dollars)	
Donations for health research		
Balance, beginning of year	9,097	1,700
<i>Add:</i>		
Donations received	14,449	12,833
Interest earned	297	159
<i>Less:</i>		
Grants expensed	<u>9,499</u>	<u>5,595</u>
Balance, end of year	<u>14,344</u>	<u>9,097</u>
Interest on endowments for health research		
Balance, beginning of year	2	3
<i>Add:</i>		
Interest earned	2	2
<i>Less:</i>		
Miscellaneous expenses	<u>2</u>	<u>3</u>
Balance, end of year	<u>2</u>	<u>2</u>
Total deferred revenue	<u>14,346</u>	<u>9,099</u>

8. Employee Benefits

Employees of CIHR are entitled to specific benefits on or after termination or retirement, as provided for under various collective agreements or conditions of employment.

- (a) Pension benefits: CIHR's employees participate in the Public Service Pension Plan, which is sponsored and administered by the Government of Canada. Pension benefits accrue up to a maximum period of 35 years at a rate of 2 percent per year of pensionable service, multiplied by the average of the best five consecutive years of earnings. The benefits are integrated with the Canada/Quebec Pension Plans benefits and they are indexed to inflation. Both the employees and CIHR contribute to the cost of the Plan. CIHR's responsibility with regard to the Plan is limited to its contributions. Actuarial surpluses or deficiencies are recognized in the financial statements of the Government of Canada, as the Plan's sponsor.

The 2005-06 expense represents approximately 2.6 times (3.1 in 2004-05) the contributions by employees.

CIHR's and employees' contributions to the Public Service Pension Plan for the year were as follows:

	2006	2005
	(in thousands of dollars)	
CIHR's contributions	3,121	3,141
Employees' contributions	1,203	1,026

- (b) Severance benefits: CIHR provides severance benefits to its employees based on eligibility, years of service and final salary. These severance benefits are not pre-funded. Benefits will be paid from future appropriations. Information about the severance benefits, measured as at March 31, is as follows:

	2006	2005
	(in thousands of dollars)	
Accrued benefit obligation, beginning of year	3,826	3,154
Expense for the year	1,024	792
Benefits paid during the year	(217)	(120)
Accrued benefit obligation, end of year	4,633	3,826

9. Contingent Liabilities

A legal suit for employment equity was initiated by the Public Service Alliance of Canada against Her Majesty the Queen naming certain separate employer organizations of the Government of Canada, including the Canadian Institutes of Health Research (CIHR), as defendants. The amount of this claim, as it relates to CIHR, is estimated to be \$747,000. In management's opinion, the outcome of this litigation is not presently determinable and no estimated liability has been accrued or expense recorded in the financial statements.

The other legal suit pending is immaterial. In management's opinion, the outcome of this litigation is unlikely to result in a liability and no estimated liability has been accrued or expense recorded in the financial statements.

10. Contractual Obligations

CIHR is committed to disburse grants and awards in future years subject to the appropriation of funds by Parliament. In addition, the nature of CIHR's operating activities results in some multi-year contracts whereby CIHR will be committed to make some future payments when the goods or services are rendered. Future year contractual obligations are as follows.

(in thousands of dollars)	2007	2008	2009	2010	2011 and thereafter	Total
Grants and Awards	715,279	538,987	340,635	192,182	129,600	1,916,683
Operating	2,256	1,380	90	75	-	3,801
Total	717,535	540,367	340,725	192,257	129,600	1,920,484

11. Related Party Transactions

CIHR is related in terms of common ownership to all Government of Canada departments, agencies, and Crown corporations. CIHR enters into transactions with these entities in the normal course of business and on normal trade terms. Also, during the year, CIHR received services which were obtained without charge from other Government departments as follows:

	2006	2005
	(in thousands of dollars)	
Accommodation provided by Public Works and Government Services Canada	2,865	2,351
Employer's contribution to the health and dental insurance plans provided by Treasury Board Secretariat	1,864	1,699
Audit services provided by the Office of the Auditor General of Canada	76	60
Total services provided without charge by other Government departments	4,805	4,110

12. Financial instruments

The fair values of financial assets and liabilities approximate the carrying amounts of these instruments due to the short period to maturity.

13. Comparative information

Certain comparative figures have been reclassified to conform to the current year's presentation.