

Canadian Institutes of Health Research





2009-10

Departmental Performance Report

Leona Aglukkaq
Minister of Health



Table of Contents

MINISTER'S MESSAGE 	1
SECTION I: DEPARTMENTAL OVERVIEW 	2
Raison d'être & Responsibilities.....	2
Strategic Outcome(s) and Program Activity Architecture (PAA).....	3
Summary of Performance	4
Contribution of Priorities to Strategic Outcome(s).....	10
Risk Analysis	11
Expenditure Profile	12
Voted and Statutory Items.....	13
SECTION II: ANALYSIS OF PROGRAM ACTIVITIES BY STRATEGIC OUTCOME 	14
Strategic Outcome #1: Advances in Health Knowledge.....	14
Program Activity 1.1: Open Research.....	14
Program Activity 1.2: Strategic Priority Research	16
Strategic Outcome #2: People and Research Capacity.....	18
Program Activity 2.1: Researchers and Trainees.....	18
Program Activity 2.2: Research Resources and Collaboration	20
Program Activity 2.3: National and International Partnerships.....	21
Program Activity 2.4: Ethical, Legal and Social Issues (ELSI).....	23
Strategic Outcome #3: Knowledge Translation and Commercialization	24
Program Activity 3.1: Knowledge Translation and Health Research	25
Program Activity 3.2: Commercialization of Health Research	27
Program Activity 4.1: Internal Services.....	29
SECTION III: SUPPLEMENTARY INFORMATION 	30
Financial Highlights	30
Financial Highlights Chart	31
Financial Statements.....	32
List of Supplementary Information Tables.....	32
Annex A – Health-Related R&D Budget in Canada in 2008	A
Annex B – Number of Canadian Publications in Medical Research and World Share	B
Annex C – Average Relative Citation Factor (ARC) in Health Research, 2008.....	C
Annex D – PhD Graduates in Canada	D
Annex E – Number of Health Researchers and Trainees Supported by CIHR	E
Annex F - Diversity of Investigators Funded by CIHR under Strategic Outcome #2	F
Annex G - Diversity of Open Research Grants	G
Annex H - Diversity of Strategic Priority Research Grants.....	H
Annex I - Diversity of Researchers and Trainees Grants.....	I
Annex J – Diversity of Research Resources and Collaboration Grants.....	J
Annex K - Diversity of National and International Partnership Grants	K
Annex L - Diversity of Knowledge Translation and Health Research Grants.....	L
Annex M - Number and Diversity of Stakeholders in KT.....	M

MINISTER'S MESSAGE

I am pleased to present the 2009-2010 Departmental Performance Report (DPR) for the Canadian Institutes of Health Research (CIHR).

The Government of Canada is committed, through our *Science and Technology Strategy*, to supporting cutting-edge research in areas of Canadian strength, including health research. CIHR is a critical component in our efforts to find solutions to some of our most pressing health issues, and in our efforts to move innovations from research into our health system and into the marketplace.

Through its funded research, CIHR is building the knowledge base that allows us to meet the challenge of ensuring the health and well-being of Canadians. Through its commitment to knowledge translation, CIHR is ensuring that the knowledge created through its funded research is applied in the form of new products, services and health care practices; improvements to policies and programs; and new tools used to help individuals maintain and enhance their own health.

This has been an eventful year for CIHR. Last fall, CIHR launched *Health Research Roadmap: Creating innovative research for better health and health care*, a five-year strategic plan that will take CIHR to 2013-14. *Roadmap* builds on CIHR's successes to date and sets out four strategic directions: invest in world-class research excellence; address health and health system research priorities; accelerate the capture of health and economic benefits of health research; and achieve organizational excellence, foster ethics and demonstrate impact.

Already, CIHR is at work on efforts to implement its new strategic directions. As an example, it has launched a national discussion on the important topic of patient-oriented research. During the past year, CIHR held consultations with governments, industry, health charities, academic healthcare organizations and other stakeholders to determine priorities for a patient-oriented research strategy and the steps required to implement such an initiative.

CIHR played a critical role in the Government of Canada's response to the H1N1 outbreak and the medical isotope shortage, in both cases investing in rapid response research to provide the evidence the Government of Canada needed to support action and make decisions for the future in both of these important areas. CIHR has also looked ahead to future health-care challenges, such as the growing numbers of Canadians suffering from Alzheimer's disease. In response, CIHR created an International Collaborative Research Strategy for Alzheimer's disease. A France-Quebec-Canada joint funding initiative for Alzheimer's disease was launched in September 2009 and collaborations with the UK and Germany are in development.

As the above examples highlight, CIHR has excelled in its efforts to build partnerships with universities, academic healthcare organizations, charitable organizations, industry and international partners to maximize the impact of federal investment in health research, and to support excellence among Canada's best and brightest health researchers. CIHR's initiatives underscore its commitment to promoting excellence in health research for the benefit of all Canadians, now and in the future.

The Honourable Leona Aglukkaq, P.C., M.P.
Minister of Health
Government of Canada



SECTION I: DEPARTMENTAL OVERVIEW

Raison d'être & Responsibilities

[CIHR](#) is the Government of Canada's premier health research funding agency. It was created in June 2000 by the *CIHR Act* with a mandate "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".

CIHR responds to the evolving needs of health research by:

- Supporting outstanding research, both investigator-driven and strategic (i.e. targeted on priority areas), across all health sectors;
- Building research capacity by supporting researchers in under-developed areas and training the next generation of health researchers; and
- Promoting knowledge translation, so that the results of research are transformed into relevant applications (policies, practices, procedures, products and services), that have health and economic benefits.

At CIHR's inception, [13 institutes](#) were created. These institutes are not "bricks-and-mortar" buildings but communities of experts. In its topic area, each of CIHR's 13 Institutes supports a broad spectrum of research: biomedical, clinical, health services and systems, and population and public health. Institutes form national research networks linking researchers, funders and knowledge users across Canada to work on priority areas. This innovative structure has been hailed as a global best practice and supports a solution-focused, multidisciplinary and collaborative approach to health research.

CIHR is governed by a Governing Council of 16 members. The President of CIHR serves as its Chair, with the Deputy Minister of Health an *ex-officio* and non-voting member. CIHR reports to Parliament through the [Minister of Health](#) and, as such, plays a key role in the Health Portfolio.

CIHR works closely with [Natural Sciences and Engineering Research Council](#) (NSERC) and [Social Sciences and Humanities Research Council](#) (SSHRC) to share information and co-ordinate research efforts. The three Councils collectively manage several flagship programs for the Government of Canada, including the Networks of Centres of Excellence Program, the Canada Graduate Scholarships Program,

CIHR Quick facts: 2009-2010

President: [Dr. Alain Beaudet](#), MD, PhD

Annual Spending: \$983.7 Million

Head Office: Ottawa

Employees: 396

Institutes: 13

Aboriginal Peoples' Health: [Dr. Malcolm King](#)

Aging: [Dr. Anne Martin-Matthews](#)

Cancer Research: [Dr. Morag Park](#)

Circulatory and Respiratory Health: [Dr. Peter Liu](#)

Gender and Health: [Dr. Joy Johnson](#)

Genetics: [Dr. Roderick McInnes](#)

Health Services and Policy Research:
[Dr. Colleen M. Flood](#)

Human Development, Child and Youth Health:
[Dr. Michael Kramer](#)

Infection and Immunity: [Dr. Marc Ouellette](#)

Musculoskeletal Health and Arthritis:
[Dr. Jane Aubin](#)

Neurosciences, Mental Health and Addiction:
[Dr. Anthony Phillips](#)

Nutrition, Metabolism and Diabetes:
[Dr. Philip M. Sherman](#)

Population and Public Health:
[Dr. Nancy Edwards](#)

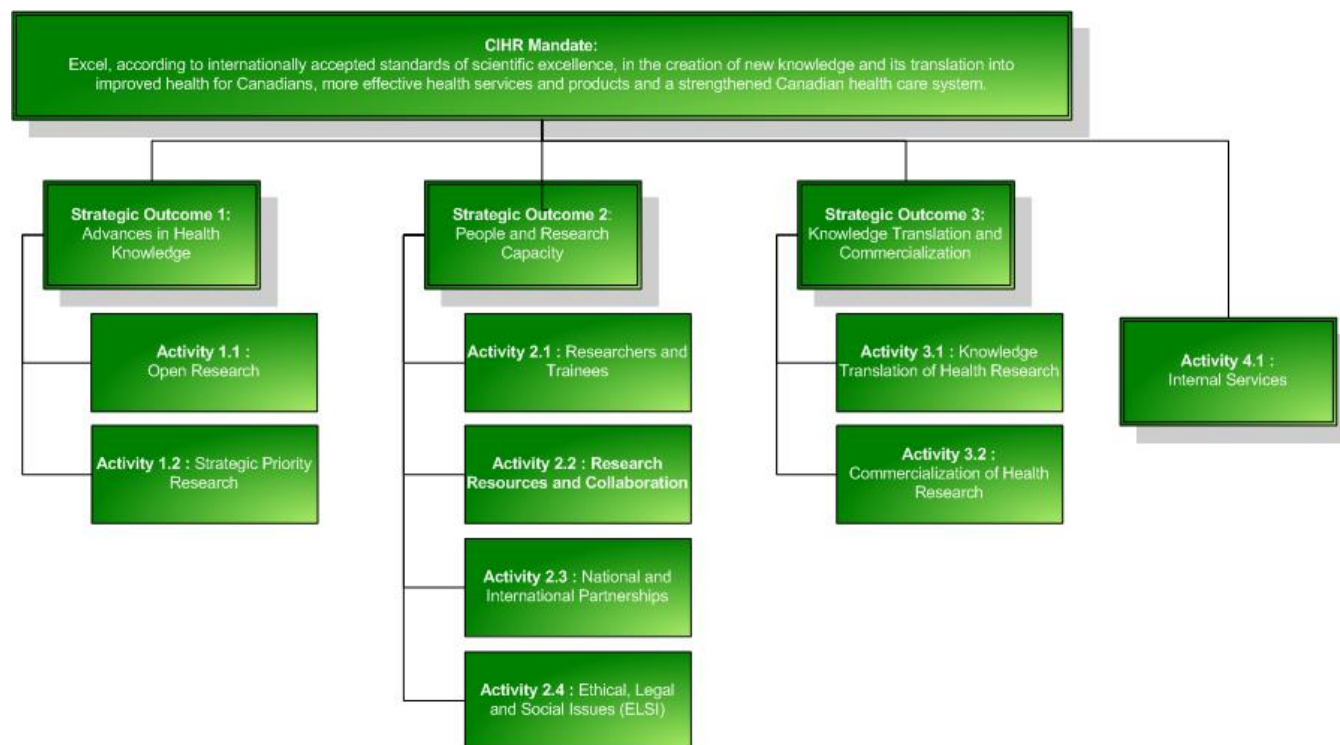
CIHR supports the work of over 13,600 health researchers and trainees

the Vanier Graduate Scholarship Program, and the Canada Research Chairs Program. In 2010-11, CIHR will introduce the Banting Post-doctoral Fellowships Program.

In 2009-10, CIHR continued to support the Government of Canada's [Science & Technology Strategy](#). CIHR's focus on excellence and innovation helps ensure that its investments are aligned to the Strategy's key theme of mobilizing S&T to Canada's advantage

Strategic Outcome(s) and Program Activity Architecture (PAA)

The figure below illustrates CIHR's Program Activity Architecture (PAA) for the 2009-10 fiscal year. It has three Strategic Outcomes divided into nine major Program Activities and 19 Sub-Program Activities.



To accomplish its mandate, CIHR provides a range of programs and activities that are designed to support outstanding research, to build health research capacity, and to promote knowledge translation. The following three strategic outcomes and program activities will help position Canada as a world leader in the creation and use of health knowledge for the betterment of Canadians and people across the globe. CIHR's strategic outcomes are as follows:

1. **Advances in Health Knowledge:** Canadian health research advances health knowledge and is responsive to current opportunities and priorities.
2. **People and Research Capacity:** A strong and talented health research community with the capacity to undertake health research.
3. **Knowledge Translation and Commercialization:** Health research is translated and adopted into practice, programs and policies that contribute to more effective health services and products, a strengthened health care system, and the improved health of Canadians.

In 2009-10, CIHR also reported separately on Program Activity 4.1: Internal Services, which include groups of related activities and resources that support the needs of CIHR's programs as well as its other corporate obligations.

Summary of Performance

2009–10 Financial Resources (in millions of dollars)

Strategic Outcomes	Planned Spending	Total Authorities	Actual Spending
1.0 Advances in Health Knowledge	\$ 591.6	\$ 594.8	\$ 602.2
2.0 People and Research Capacity	\$ 291.9	\$ 290.3	\$ 280.7
3.0 Knowledge Translation and Commercialization	\$ 76.1	\$ 76.2	\$ 75.0
4.1 Internal Services	\$ 20.7	\$ 26.4	\$ 25.8
TOTAL	\$ 980.3	\$ 987.7	\$ 983.7

Total Authorities:

CIHR's total parliamentary authorities increased to \$987.7M in 2009-10, an increase of \$7.4M compared to its planned spending. This modest increase primarily pertains to transfers received from other federal government departments to strengthen strategic health investments in areas including H1N1 vaccine research, the development of an influenza research network; and, child and maternal health research.

Actual Spending:

In 2009-10, CIHR's expenditures totaled \$983.7M, which was \$4.0M less than its total available parliamentary authorities. CIHR lapsed \$0.2M of its Grants Vote (\$929.3M) during the 2009-10 fiscal year due to diligent resource planning and management. CIHR lapsed \$3.8M of its Operating Expenditure Vote (\$58.4M); however, CIHR can carry forward \$2.1M of unspent authorities from its Operating Expenditures Vote to the 2010-11 fiscal year.

2009–10 Human Resources (FTEs)

Planned	Actual	Difference
410	396	14

In 2009-10, the variance in the actual number of FTEs when compared to the number of planned FTEs was mostly attributable to operational slippage including unexpected vacancies, and delays encountered in the hiring process.

Note: CIHR uses a peer review process to identify exemplary projects and individuals that merit funding. In 2009-10, some 2,900 researchers provided their time, without remuneration, and served on peer review panels to review approximately 13,000 applications within a short period of time. Without voluntary support from this community of experts, CIHR would not have the necessary financial and human resources to review and fund the same amount of quality health research.

Strategic Outcome #1: Advances in Health Knowledge. Canadian health research advances health knowledge and is responsive to current opportunities and priorities.

Performance Indicators	Targets
1. Canada's rank in the world in health research expenditures.	Maintain or increase international ranking in health research expenditures.
2. Changes in health practices, programs or policies informed by CIHR-funded research, improvements in service delivery or health informed by CIHR-funded research.	Anecdotal evidence of changes in health practices, programs, policies, health service delivery, or health due to the work of CIHR funded researchers.
3. Research or research agendas informed by CIHR-funded research in Canada and internationally.	Maintain or increase # partnered funding initiatives in Canada and internationally.
4. Canada's rank in health research publications and patents.	Maintain or increase international ranking in health research publications and patents.

2009–10 Performance

- According to the most recent data from the Organisation for Economic Co-operation and Development (OECD) published in 2009, Canada maintained its position in the [top four](#) out of 33 OECD countries in “health-related research and development in government budgets as a percentage of the Gross Domestic Product (GDP)”.
- Reports from the Institutes and other sources show that CIHR-funded research has had a positive impact on health practices, programs, policies and health service delivery. For example:
 - A CIHR-funded randomized controlled trial (RCT) led by Dr. Amy Plint has found that the combined therapy of two drugs, dexamethasone and epinephrine, significantly reduced hospital admissions for infants who arrived at emergency departments with a wheeze-inducing infection (bronchiolitis). Both drugs have previously been used separately with no consistent benefit.
 - With support from CIHR's Team Grants Program, Dr. Pierre Haddad is leading a multi-disciplinary team that is working with the Cree of Eeyou Istchee in Northern Quebec to evaluate the anti-diabetic activity of medicinal plants used by traditional healers. The team has analyzed 17 plants and found that 9 have properties similar to those of Metformin, which is used to treat type II diabetes.
 - The Canadian Longitudinal Study on Aging will follow 50,000 Canadians aged 45-85 for the next 20 years to generate new knowledge about how physical, social and economic factors affect health as people age. The study will lead to the identification of better ways to prevent disease and improve health services; new knowledge of how clinical, psycho-social and societal factors influence healthy aging; and rapid adoption of research into policies, practices and programs to benefit older Canadians.
 - CIHR-funded researcher, Dr. Geoffrey Fong is leading an international collaboration, the [International Tobacco Control Policy Evaluation Project](#), which has become the world's authority on the effectiveness of tobacco control policies. The team found that graphic warnings on cigarette packages lose their impact over time, suggesting that tobacco-control measures may need continual strengthening to keep them effective. Countries including Ireland, France, Malaysia, the United Kingdom and China have used findings from the project to shape their tobacco control policies.
- In 2009-10, CIHR actively collaborated with 234 national and international partners to support research on relevant health issues, which provided an additional research contribution of \$118M. Compared to 2008-09, CIHR slightly increased its total amount of leveraged funds by partner contributions by 5.9%. Through this collaboration, CIHR is influenced and influences the research agendas of its many partners.
- Canada maintained its ranking of 10th in relation to international, medical research publications per billion dollars of Gross Domestic Product (GDP). However, Canada's most recently measured [average relative citation](#) (ARC) factor in medical research increased to 1.43 in 2008 from 1.34 in 2007, both of which are well above the global average of 1.0. Although Canada's ARC rating improved from 2007 to 2008, Canada maintains its worldwide ranking of 7th in medical research.

Financial Summary: Strategic Outcome #1 (in millions of dollars)

Program Activity	2008–09 Actual Spending	2009–10 ¹				Alignment to Government of Canada Outcome
		Main Estimates	Planned Spending	Total Authorities	Actual Spending	
1.1 Open Research	\$ 493.9	\$ 449.7	\$ 455.8	\$ 455.6	\$ 473.8	An Innovative and Knowledge-Based Economy
1.2 Strategic Priority Research	\$ 131.6	\$ 112.0	\$ 135.8	\$ 139.2	\$ 128.4	
Total	\$ 625.5	\$ 561.7	\$ 591.6	\$ 594.8	\$ 602.2	

Total Authorities:

Total authorities increased by \$33.1M during the year, which was mainly due to a significant portion of the \$34M funding increase awarded in the two Program Activities under this Strategic Outcome from Budget 2008 for research that addresses the health priorities of Canadians. The majority of these funds were allocated to key strategic priority research areas including: the next phase of CIHR's Canadian Longitudinal Study on Aging, the commencement of a unique partnership with the State of California to conduct research into cancer stem cells, safe food and water in northern and aboriginal communities, childhood obesity, and the impact on health of environmental contaminants, all of which support Strategic Priority Research. Additional funding was also allocated to the Open Research Program Activity to ensure CIHR continues to support Canada's broad base of scientific excellence.

Actual Spending:

Actual spending associated with this strategic outcome was higher than total authorities largely as a result of the re-allocation of funds from Strategic Outcome #2: People and Research Capacity to CIHR's Open Research Program Activity.

Strategic Outcome #2: People and Research Capacity. A strong and talented health research community with the capacity to undertake health research.	
Performance Indicators	Targets
1. Number and types of PhD graduates in Canada by year compared to other countries.	Maintain or increase international ranking.
2. Number of PhD graduates pursuing a postdoctoral fellowship in health research in Canada.	Maintain or increase the number of postdoctoral fellows in health research.
3. Number and fields of investigators funded.	Maintain number and diversity of investigators funded.
4. Rating by researchers as to adequacy of resources available for research (infrastructure, resources, hardware, software, people).	70% or more of researchers rate resources adequate.
2009–10 Performance	
1. According to the most recent data from the Conference Board of Canada, the number of PhD graduates in Canada is increasing slowly, and has increased from 177 per 100,000 population (aged 25-29) to 210 per 100,000 population (aged 25-29) in six years. Despite this increase, Canada's international ranking in the number of graduated PhD students compared to other OECD countries ranked next to last in 1998, and consistently last from 2005 to 2007.	

¹ Commencing in the 2009-10 Estimates cycle, the resources for Program Activity: Internal Service is displayed separately from other program activities; they are no longer distributed among the remaining program activities, as was the case in previous Main Estimates. This has affected the comparability of spending and FTE information by Program Activity between fiscal years. CIHR estimates that \$ 16M was spent on Internal Services in 2008-09 for Strategic Outcome #1. This amount is comparable to the amount spent for this Strategic Outcome in 2009-10.

2. The number of PhD graduates pursuing a postdoctoral fellowship is an indicator of future health research capacity. In 2007-08, the only year for which CIHR has data, 2,981 PhD graduates pursued postdoctoral fellowships in the medical sciences². Due to limited resources, CIHR could not collect information on all the parameters listed in the original performance indicator from the 2009-10 *Report on Plans and Priorities* (RPP): "Percentage of PhD graduates in Canada planning postdoctoral fellowship, research associate-ship or occupation in health/life sciences". However, CIHR is committed to building health research capacity, and increased its number of supported researchers and trainees from 13,021 in 2008-09 to 13,695 in 2009-10.
3. The [number](#) and [diversity of investigators](#) funded by CIHR has increased in all research sectors, at all Institutes and for many different types of research.
4. Data from the CIHR Open Grants Program evaluation survey completed in 2009 showed that an estimated 91% of CIHR-funded researchers reported they had access to sufficient resources to undertake their research.

Financial Summary: Strategic Outcome #2 (in millions of dollars)

Program Activity	2008-09 Actual Spending	2009-10 ³				Alignment to Government of Canada Outcome
		Main Estimates	Planned Spending	Total Authorities	Actual Spending	
2.1 Researchers and Trainees	\$ 188.9	\$ 199.7	\$ 214.9	\$ 214.6	\$ 192.0	An Innovative and Knowledge-Based Economy
2.2 Research Resources and Collaboration	\$ 58.9	\$ 48.5	\$ 49.5	\$ 47.9	\$ 60.3	Healthy Canadians
2.3 National and International Partnerships	\$ 23.7	\$ 24.5	\$ 24.7	\$ 24.9	\$ 24.9	
2.4 Ethical, Legal and Social Issues (ELSI)	\$ 2.4	\$ 2.8	\$ 2.8	\$ 2.9	\$ 3.5	
Total	\$ 273.9	\$ 275.5	\$ 291.9	\$ 290.3	\$ 280.7	

Total Authorities:

Total authorities increased by \$14.8M compared to the 2009-10 Main Estimates. This increase is due to the \$14M temporary funding increase announced in Budget 2009 for the CIHR Canada Graduate Scholarships (CGS) Program.

² Source: The Association of Faculties of Medicine in Canada.

³ Commencing in the 2009-10 Estimates cycle, the resources for Program Activity: Internal Service is displayed separately from other program activities; they are no longer distributed among the remaining program activities, as was the case in previous Main Estimates. This has affected the comparability of spending and FTE information by Program Activity between fiscal years. CIHR estimates that \$ 7.7M was spent on Internal Services in 2008-09 for Strategic Outcome #2. This amount is comparable to the amount spent for this Strategic Outcome in 2009-10.

Actual Spending:

Actual spending was less than total authorities due to the in-year re-allocation to the “Advances in Health Knowledge” strategic outcome – more specifically, to the CIHR Open Research Program Activity.

As part of the grants and awards year-end funding strategy, CIHR reviews all programs and initiatives to confirm their forecasted surplus at year-end. In 2009-10, both the Canada Research Chairs Program and the Canada Graduate Scholarships Program were forecasted to have surpluses. These surplus funds were applied to the year-end funding strategy, providing additional funding for new operating grants, as well as additional one-year grants.

Strategic Outcome #3: Knowledge Translation and Commercialization. Health research is translated and adopted into practice, programs and policies that contribute to more effective health services and products, a strengthened health care system, and the improved health of Canadians.	
Performance Indicators	Targets
1. Changes in health practice, programs or policies informed by CIHR-funded research, improvements in service delivery or health informed by CIHR-funded research.	Anecdotal evidence of changes in health practices, programs, policies, health service delivery or health due to work of CIHR funded researchers.
2. Commercial activity - products (IP), companies and employment generated as a result of CIHR-funded projects.	Anecdotal evidence of commercial activity due to work of CIHR funded researchers.
3. Changes in the health and quality of life of Canadians in areas of CIHR investment.	Maintain or increase international ranking related to quality of life.
2009–10 Performance	
<p>1. Reports from Institutes and other sources have provided some evidence of the positive impact of CIHR-funded research on health practices, programs, policies and health service delivery. For example:</p> <ul style="list-style-type: none"> • Twenty-five physiotherapists were engaged as knowledge brokers to assist their colleagues across Canada in helping children with physical disabilities. These knowledge brokers were able to increase the knowledge and the number of clinicians and health care providers applying specific evidence-based measures; changes that were sustained 12 months later. This research provides evidence for the effectiveness of knowledge brokers as a strategy for knowledge translation. • A significant proportion of people seeking help for addiction also have a mental health problem. CIHR-funded researcher Dr. Brian Rush, of Toronto’s Centre for Addiction and Mental Health, has developed a protocol to screen for mental health problems. He and his team are now pilot-testing the protocol at four Ontario addiction treatment centres. If successful, the clinical protocol will be offered to other treatment centres to create a “community of practice” across Canada. <p>2. The reports of the Institutes and other sources have provided examples that CIHR-funded research has led to significant commercial activity. For example:</p> <ul style="list-style-type: none"> • Dr. Geoff Fernie has developed a wearable badge that signals to a nurse or doctor where and when they should clean their hands and records their responses for download and review. Andrew Hart, president of Industry partner AJ Hart, says that the commercialization potential is enormous for a system that could reduce infection transmission in hospitals. Dr. Fernie is in the process of patenting the sophisticated technology and is beginning a CIHR-funded clinical trial to reduce infection rates in hospitals. • Cells hold the key to understanding how the body functions and how diseases take root and spread. Dr. Albert Stolow, together with colleague Dr. John Pezacki, used funding from CIHR to develop a better way to see inside cells. Now, a major optical equipment manufacturer has begun selling the world’s first commercially available Coherent Anti-Stokes Raman Scattering (CARS) microscope, based on their made-in-Canada technology. 	

3. Although it is important to note that health research funded by CIHR could contribute to the improved health of Canadians, we do not attribute the results below to CIHR. Many international studies have shown there are multiple ways to determine Canada's overall health and quality of life status. According to these studies:
- Canada decreased in ranking from 3rd to 4th worldwide in terms of the [Human Development Index](#), which considers measures of life expectancy, literacy, educational attainment and per capita Gross Domestic Product (GDP).
 - Canada maintained its ranking in the top five among the G7 countries in terms of life expectancy.
 - In 2009-10, Canada decreased in ranking from 23rd to 25th among 34 countries according to the [Euro-Canada Health Consumer Index](#), which incorporates measures of patient rights and information, wait times for various treatments, clinical outcomes; and, provision of pharmaceuticals.

Financial Summary: Strategic Outcome #3 (in millions of dollars)

Program Activity	2008–09 Actual Spending	2009–10 ⁴				Alignment to Government of Canada Outcome
		Main Estimates	Planned Spending	Total Authorities	Actual Spending	
3.1 Knowledge Translation of Health Research	\$ 41.5	\$ 40.2	\$ 44.1	\$ 44.0	\$ 45.8	Healthy Canadians
3.2 Commercialization of Health Research	\$ 28.5	\$ 26.1	\$ 32.0	\$ 32.2	\$ 29.2	An Innovative and Knowledge-Based Economy
Total	\$ 70.0	\$ 66.3	\$ 76.1	\$ 76.2	\$ 75.0	

Total Authorities:

Total authorities increased by \$9.9M compared to the 2009-10 Main Estimates. This increase primarily comes from new funding (\$4.4M) approved for the second phase of the [Centres of Excellence for Commercialization and Research \(CECR\) program](#), and \$1.7M of funding for the newly created [Business-Led Centres of Excellence \(BL-NCE\) program](#). Both the CECR and the BL-NCE programs, which are reported under the Commercialization of Health Research Program Activity, aim to mobilize Canada's research talent in the academic, private, public and not-for-profit sectors; and, apply this talent to the task of developing the economy and improving the life of Canadians. These programs are also aligned with the government's science and technology (S&T) strategy: [Mobilizing Science and Technology to Canada's Advantage](#), which provides the framework to guide Canada's S&T policy, and provide Canada an Entrepreneurial Advantage, a Knowledge Advantage and a People Advantage.

The increase to CIHR authorities is also due in part to the \$34M base budget increase announced for CIHR as part of Budget 2008. CIHR allocated \$3.8M of the \$34M base budget increase to various Knowledge Translation and Commercialization activities to facilitate the translation of new knowledge into new products, services or health interventions for the benefit of Canadians.

Actual Spending:

Actual spending associated with this strategic outcome was slightly below planned spending in 2009-10.

⁴ Commencing in the 2009-10 Estimates cycle, the resources for Program Activity: Internal Service is displayed separately from other program activities; they are no longer distributed among the remaining program activities, as was the case in previous Main Estimates. This has affected the comparability of spending and FTE information by Program Activity between fiscal years. CIHR estimates that \$ 2M was spent on Internal Services in 2008-09 for Strategic Outcome #3. This amount is comparable to the amount spent for this Strategic Outcome in 2009-10.

Contribution of Priorities to Strategic Outcome(s)

In 2009, CIHR launched its new five-year strategic plan, [Health Research Roadmap](#), which provides a sound foundation and framework for the effective management of key health-related strategic priorities and decisions. *Roadmap's* strategic directions guide and align efforts in areas of research, knowledge translation and commercialization of health priorities. The operational and management priorities listed in the 2009-10 RPP have been updated in the table below to reflect the wording that was published in the approved Strategic Plan. The status for each priority has also been provided. A three year implementation plan has been developed for the [Strategic Plan](#). It will be published and refreshed annually.

Operational Priorities	Type	Status	Linkages to Strategic Outcome(s)
Strategic Direction #1 Invest in world-class research excellence	On-going	Met All <ul style="list-style-type: none"> ◆ Initiated an evaluation of the Open Operating Grant Program ◆ Launched new Chairs of Excellence in Research competition ◆ Transitioned Randomized Controlled Trials funding tool within the Open Operating Grants Program ◆ Redesigned CIHR's peer review website and consolidated peer review recruitment functions across CIHR ◆ Developed a strategy to support training graduate students abroad and initiated environmental scan of support for trainees in Canada ◆ Launched revised Science to Business training program 	Advances in Health Knowledge And People and Research Capacity
Strategic Direction #2 Address health and health system research priorities	On-going	Met All <ul style="list-style-type: none"> ◆ Established a new strategic investment planning process ◆ Completed environmental scans of each of the five health research priorities identified in Roadmap ◆ Developed a Strategy for Patient-Oriented Research (SPOR) and started consultations with stakeholders ◆ Held a summit on primary healthcare that engaged multiple stakeholders ◆ Established the Drug Safety and Effectiveness Network office and initiated the launch of several funding opportunities that address research gaps in the post-market use of drugs ◆ Continued to advance HIV/AIDS research, with a focus on evaluating community-based initiatives and further our understanding of the interplay of HIV/AIDS with other diseases ◆ Initiated several rapid-response funding opportunities to address the H1N1 pandemic and the worldwide shortage of medical isotopes ◆ Completed the draft of an International Collaborative Research Study on Alzheimer's Disease and concluded a France-Quebec-Canada partnership to fund research on the early diagnosis and treatment of Alzheimer's Disease 	All

<p>Strategic Direction #3 Accelerate the capture of health and economic benefits of health research</p>	<p>On-going</p>	<p>Met All</p> <ul style="list-style-type: none"> ◆ Launched <i>The Best Brains Exchange</i> initiative to help provincial health authorities integrate research knowledge into policies that affect health and the health system; and, <i>Evidence on Tap</i> program, to produce high-quality, timely, and accessible evidence that is of immediate interest and use to provincial/territorial decision makers. ◆ Held a deputy ministers meeting with CIHR officials and Nobel laureates to discuss the research process, science and society. ◆ Revised and promoted commercialization and industry-partnered programs (Proof of Principle, Industry Partnered Collaborative Research). ◆ Developed and implemented CIHR Citizen Engagement Framework, handbook and implementation plan. ◆ Held over 125 Cafés Scientifiques that provided insight into health-related issues of popular interest to the general public. ◆ Implemented open access policy including the establishment of PubMed Central Canada. This policy will provide greater access to research publications and data, and will promote the ability of researchers in Canada and abroad to use and build on the knowledge needed to address significant health challenges. 	<p>Knowledge Translation and Commercialization</p>
Management Priorities	Type	Status	Linkages to Strategic Outcome(s)
<p>Strategic Direction #4 Achieve Organizational Excellence, foster ethics and demonstrate impact</p>	<p>On-going</p>	<p>Met All</p> <ul style="list-style-type: none"> ◆ Launched the <i>Health Research Roadmap</i> five-year strategic plan. ◆ CIHR named one of Canada's Top 100 Employers. ◆ Identified best practices to ensure research involving children and adolescents is conducted ethically. ◆ Completed two CIHR-led Inter-Agency program evaluations. ◆ Initiated planning for the second International Review of CIHR. 	<p>All</p>

Risk Analysis

CIHR takes a proactive approach to identifying, assessing and managing risks under the broad categories of strategic, operational and corporate risk. In 2009-2010, emphasis was placed on addressing key risks that were identified in its Corporate Risk Profile as well as continuously scanning its environment in order to rapidly identify and mitigate emerging risks.

One of the major risks for CIHR's commitment to improve the health of Canadians through the creation of new knowledge is that health research takes time and often requires sustained, long-term investments to produce its intended results. Meanwhile, CIHR is challenged by the need to provide funding opportunities for new, innovative projects while maintaining previously approved funding for existing projects. To meet this challenge, CIHR engaged in investment modeling to better forecast the future impacts of funding decisions, and to ensure relative stability in the number and proportion of applications funded over time.

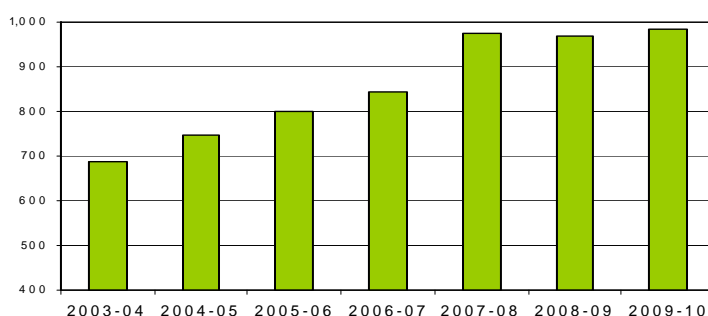
Maintaining the appropriate balance between strategic (i.e. targeted) and investigator-initiated (i.e. open) research is also critical to success in health research. Without the appropriate checks and balances in place, there is a risk that CIHR will either miss opportunities to support research addressing emergent or critical health issues; or, miss opportunities to explore new areas of health innovation. Although no single formula exists, CIHR worked to ensure that an appropriate balance was managed through its Governing Council. In 2009-10, Governing Council met numerous times during the year to discuss CIHR's budget, and how to best strategically allocate a portion of available grants to specific programs and priorities. CIHR also engaged a single management committee, chaired by the President of CIHR, to review the results of all grants and awards competitions and to review the proportion of funds allocated to these different competitions to ensure that CIHR's dual objectives of scientific excellence and balance were met.

CIHR supports the creation of new knowledge and its translation into effective health services and products. However, there is a risk that CIHR may not be able to adequately support the synthesis, dissemination, exchange and ethical application of knowledge at the levels required to optimally achieve the knowledge translation component of its mandate. This would result in a lost opportunity to capture the benefits of knowledge translation, which include better health for Canadians, improved health services and products, and economic growth. To meet this challenge, CIHR initiated the development of a knowledge translation strategy in 2009-10, which included objectives, actions and indicators to measure knowledge translation success. The strategy encourages researchers to synthesize and share their results, as well as work directly with other knowledge users to find innovative solutions. Recent changes in the organization have also helped CIHR take on the role of facilitator to promote the synthesis and dissemination of specific research results.

Finally, CIHR must ensure that its operating budget and human resources are allocated optimally to support the achievement of its strategic outcomes. Changes within the organization have helped CIHR take better advantage of its resources and provide the leadership required to successfully implement the strategic directions in the Health Research Road Map. In 2009-10, CIHR developed and launched a new integrated operational planning and budgeting process. This process requires managers to plan activities and identify resource requirements or issues on an annual basis, and reviews progress against these plans on a regular basis.

Expenditure Profile

CIHR Actual Spending Since 2003-04 (in \$ millions)⁵



CIHR's expenditures increased from \$686.2M in 2003-04 to \$983.7M in 2009-10, an increase of \$297.5M (or 43%) over the past six fiscal years. As illustrated in the table above, however, CIHR expenditures have remained fairly constant since 2007-08. CIHR expects that expenditures for 2010-11 will increase by approximately 2.0%.

⁵ The expenditure data contained in this chart is based on parliamentary appropriations used. A reconciliation between expenses and parliamentary appropriations used can be found in Note 3 to the CIHR Financial Statements.

Canada's Economic Action Plan (CEAP)

The Government of Canada's 2009 Budget, [Canada's Economic Action Plan](#), provided CIHR with funding to temporarily expand the Canada Graduate Scholarships (CGS) program, which provides financial support to the most outstanding eligible students pursuing Master's or doctoral studies at a Canadian university. Budget 2009 builds on investments made in previous budgets by providing an additional \$14 million for 2009-10. It provided for an additional 200 doctoral scholarships, valued at \$35,000 each and an additional 400 master's scholarships valued at \$17,500 each.

The CGS program is Sub-Program Activity 2.1.4 under Program Activity 2.1 Researchers and Trainees in CIHR's Program Activity Architecture. More information on the CGS program can be found in Section II.

Voted and Statutory Items

(In millions of dollars)

Vote # or Statutory Item (\$)	Truncated Vote or Statutory Wording	2007-08 Actual Spending	2008-09 Actual Spending	2009-10 Main Estimates	2009-10 Actual Spending
20	Operating expenditures	\$ 42.8	\$ 47.2	\$ 43.2	\$ 48.9
25	Grants	\$ 926.7	\$ 916.9	\$ 876.7	\$ 929.1
(S)	Contributions to employee benefit plans	\$ 4.6	\$ 5.3	\$ 4.4	\$ 5.7
Total		\$ 974.1	\$ 969.4	\$ 924.3	\$ 983.7

In 2009-10, Actual Spending exceeded the 2009-10 Main Estimates by \$59.4M, due in large part to funding announced for CIHR in the 2008 and 2009 federal budgets which were not included as part of the 2009-10 Main Estimates due to timing issues.

In Budget 2008, the government allocated CIHR a permanent base budget increase of \$34M. In Budget 2009, the federal government announced a temporary expansion of the Canada Graduate Scholarships (CGS) program. This expansion of the CGS program enabled CIHR to spend an additional \$14M on Canada Graduate Scholarships in 2009-10. CIHR funding approved in Budgets 2008 and 2009 was fully disbursed during the 2009-10 fiscal year.

Several new programs were launched in recent years which further increased CIHR's 2009-10 expenditures. Funding for new programs such as the Drug Safety and Effectiveness Network (\$2.1M) and the Business-Led Networks of Centres of Excellence program (\$1.7M) were approved as part of the 2009-10 Supplementary Estimates (since they were not included in Main Estimates). Funding for a second round of Centres of Excellence for Commercialization and Research (CECR) grants totalling \$4.4M was also approved via the 2009-10 Supplementary Estimates process.

In addition, transfers from other government departments (and other technical adjustments) included in the 2009-10 Supplementary Estimates totalled a net of approximately \$3.2M. CIHR often partners with other government departments (e.g. Public Health Agency of Canada, Health Canada) as it recognizes that effective health research needs the collective effort of the many people and organizations committed to making Canadians healthier and to building an effective health care system.

SECTION II: ANALYSIS OF PROGRAM ACTIVITIES BY STRATEGIC OUTCOME

Strategic Outcome #1: Advances in Health Knowledge

CIHR supports research that is likely to create knowledge to improve human health or the health system. For instance, this knowledge could be about the cause of a disease, a new preventive measure or better treatment procedures. CIHR uses a rigorous process called “peer review” to evaluate which research projects to fund. Depending on the program, projects are evaluated on the basis of their scientific excellence, their originality and potential impact, and their relevance to health research priorities.

Strategic Outcome	Program Activities	Sub-Program Activities
1. Advances in Health Knowledge	1.1 Open Research	1.1.1 Open Operating Grants Program
		1.1.2 Randomized Controlled Trials
		1.1.3 Team Grants Program
	1.2 Strategic Priority Research	1.2.1 Strategic Priority Operating Grants Program
		1.2.2 Large Strategic Initiatives
		1.2.3 HIV/AIDS Research Initiative
		1.2.4 Pandemic Preparedness Initiative
		1.2.5 Expensive Drugs for Rare Diseases
		1.2.6 National Anti-Drug Strategy Treatment Initiative

Program Activity Summary:

Open Research aims to advance health knowledge through an “open” competitive program designed to support the best ideas from Canada’s best researchers. It is an investigator-driven program that funds a full spectrum of health research. Strategic Priority Research, on the other hand, funds targeted research into critical priority areas.

Program Activity 1.1: Open Research					
2009–10 Financial Resources (\$ millions)			2009–10 Human Resources (FTEs)		
Planned Spending	Total Authorities	Actual Spending	Planned	Actual	Difference
\$ 455.8	\$ 455.6	\$ 473.8	113	108	5
Expected Results:					
Excellent health research conducted responding to best researcher ideas, through effective funding programs.					
Performance Indicator	Targets		Performance Status		
Success of CIHR research programs including results, awareness and satisfaction levels.	1. Evaluated programs demonstrate effectiveness and results.		1. Met All		
	2. Maintain or increase the number of applications submitted per \$1M of funding available.		2. Met All		
Performance Summary:					
1. Reports by researchers provide some evidence that the projects and individuals supported by CIHR’s programs demonstrate effectiveness and results. For example:					

- Dr. Tobias Kollmann has developed a vaccine based on a weakened strain of *Listeria* that appears to switch off the allergic response in newborn mice and prevent asthma for the rest of their lives. While the vaccine has only been tested on mice to date, it holds promise in preventing and possibly treating asthma.
- Dr. David Hess has found a way to stimulate the growth of new blood vessels, a breakthrough that could help long-time diabetics who have peripheral artery disease because of reduced blood flow in their limbs. Dr. Hess isolated three types of stem cells from human bone marrow that work together to form new blood vessels and injected them into mice to regenerate damaged leg capillaries.

The number of fundable⁶ applications is an indication of program effectiveness as well as the overall quality of proposals submitted. In 2009-10, CIHR noticed a 17.3% increase in the number of fundable applications, with 2,959 fundable applications received in 2009-10 compared to 2,522 fundable applications received in 2008-09.

2. The number of applications received for this Program Activity is an indication of awareness and satisfaction levels. In 2009-10, CIHR noticed an increase in the number of applications received from 3,813 applications in 2008-09 to 4,597 applications. Specifically, 9.9 applications were submitted per \$1M of funding available which increased by 1.7 applications per \$1M of funding compared to last year.

Performance Indicator	Target	Performance Status
Proportion of overall expenditures from CIHR grants budget.	45% of overall grants budget.	Exceeded
Performance Summary		
In 2009-10, 49.7% of the overall grants budget supported Open Research compared to a target of 45%.		
Performance Indicator	Target	Performance Status
Proportion of fundable applications that are funded.	30% of fundable applications are funded.	Mostly Met
Performance Summary		
In 2009-10, 27.3% of fundable applications were funded, which is slightly lower than the target of 30%.		
Performance Indicator	Target	Performance Status
Diversity of research supported (by theme and Institute).	Maintain diversity of health research support (proportions by theme and Institute).	Met All
Performance Summary		
In 2009-10, CIHR continued to fund all areas of health research by theme, and Institute-specific research area.		
Performance Indicator	Target	Performance Status
Total number, \$ value and duration of grants.	Maintain or increase #, \$ and duration of grants.	Met All
Performance Summary		
In 2009-10, CIHR funded 4,015 awards with an average annual value of \$115,106 for an average duration of 4.21 years. Compared with 2008-09 levels, the number and dollar value of grants remained virtually unchanged, while the average duration increased slightly. This increase in the total value of the grants explains the negative variance in the number of fundable applications funded and the decision to re-allocate funding.		

⁶ **Note:** Fundable applications are those which have met the exacting standard of scientific excellence, and have been recommended for funding by peers.

Program Activity 1.2: Strategic Priority Research					
2009–10 Financial Resources (\$ millions)			2009–10 Human Resources (FTEs)		
Planned Spending	Total Authorities	Actual Spending	Planned	Actual	Difference
\$ 135.8	\$ 139.2	\$128.4	29	29	-
Expected Results:					
Excellent health research conducted responding to research priorities, through effective funding programs.					
Performance Indicator	Targets		Performance Status		
Success of CIHR research programs including results, awareness, satisfaction levels, and appropriateness of priorities.	1.	Evaluated programs demonstrate effectiveness and results.	1. Met All		
	2.	Maintain or increase number of applications submitted per \$ of funding available.	2. Met All		
Performance Summary:					
<p>1. Evaluated programs demonstrate effectiveness and results through the following examples:</p> <ul style="list-style-type: none"> Using resources from the Pandemic Preparedness Strategic Research Initiative (PPSRI), CIHR worked in partnership with the Public Health Agency of Canada to swiftly mobilize highly dedicated researchers to respond to H1N1 influenza. A midterm evaluation led by the Public Health Agency of Canada (PHAC) found the program was successful in developing solid and productive partnerships, developing consensus on research priorities, implementing tools to address these priorities and providing a solid foundation for future success. CIHR is an active partner in the PHAC pandemic evaluation, which is anticipated to begin July 2010. A major evaluation of the HIV/AIDS Community-based Research Program commissioned by CIHR's Institute of Infection and Immunity was completed in 2009-10. The evaluation concluded that the program was helping communities and academia respond to the HIV/AIDS epidemic by building research capacity at the community level and in academic circles. <p>The number of fundable applications is an indication of program effectiveness and research capacity. In 2009-10, CIHR noticed an 8.8% increase in the number of fundable applications, with 1,078 fundable applications received in 2009-10 compared to 991 fundable applications received in 2008-09.</p> <p>2. The number of applications received for this Program Activity is an indication of awareness and satisfaction levels. In 2009-10, CIHR observed an increase in the number of applications received, with 1,705 applications in 2009-10 received compared to 1,359 last year. Specifically, 13.9 applications were submitted per \$1M of funding available, which increased by 3.0 applications per \$1M of funding compared to last year.</p>					
Performance Indicator	Target		Performance Status		
Proportion of overall expenditures from CIHR grants budget.	9% of overall grants budget.		Exceeded		
Performance Summary					
In 2009-10, 13.2% of the overall grants budget supported Strategic Priority Research compared to a target of 9%.					

Performance Indicator	Target	Performance Status
Proportion of fundable applications that are funded.	55% of fundable applications are funded.	Mostly Met
Performance Summary		
In 2009-10, 54% of fundable applications were funded, which is essentially on the target of 55%.		
Performance Indicator	Target	Performance Status
Diversity of research supported (by theme and Institute).	Maintain diversity of health research support (proportions by theme and Institute).	Met All
Performance Summary		
In 2009-10, CIHR continued to fund all areas of health research by theme, and Institute-specific research area.		
Performance Indicator	Target	Performance Status
Total number, \$ value and duration of grants.	Maintain or increase #, \$ and duration of grants.	Mostly Met
Performance Summary		
In 2009-10, CIHR funded 999 awards with an average annual value of \$122,421 for an average duration of 2.44 years. Compared to 2008-09 levels the number of projects funded decreased by 7%, the average annual value of grants increased by more than 5%, and the average duration of grants increased by 8%.		

Benefits for Canadians

CIHR invests heavily in health research to produce new knowledge with the potential to inform better health policies, programs, services and use of health products. Initiatives such as the [Canadian Longitudinal Study on Aging](#) and the [Regenerative Medicine and Nanotechnology Initiative](#) provide information on emerging population health issues and support the development of techniques that will help protect Canadians from disease, enhance quality-of-life and lower overall health costs. In addition, by supporting individual and institutional skills development, CIHR stimulates the economy by providing high-quality jobs for Canadians.

Performance Analysis

In 2009-10, both the Open Research and Strategic Priority Research program activities successfully supported advances in health research knowledge in Canada, and contributed towards improving the health of Canadians. CIHR supported research across the mandates of all 13 Institutes, with the majority of support going towards biomedical research. Given the number of applications received, the research community was aware of, and satisfied with, CIHR's services and program offerings. The targets, in relation to expenditures and number of applications, ranged from mostly met to exceeded. On the other hand, we know that the research community is not satisfied with the large proportion of fundable applications that cannot be funded, despite the fact that actual spending for the Open Operating Grants Program was \$7.4M more than originally planned due to the high quality of applications received during the year.

Lessons Learned

Excellence in peer review is essential to fulfilling CIHR's mandate. At its core, the peer review system depends on fair and rigorous evaluations; however, steady growth in CIHR programming and applications from researchers are straining resources in CIHR's peer review system. Peer review has been identified as a priority in its new five-year strategic plan. As a result, CIHR is taking measures to increase the efficiency of peer review and to streamline and standardize its programming.

Strategic Outcome #2: People and Research Capacity

CIHR's second strategic outcome is a strong and talented health research community in Canada that is among the best and most innovative and productive in the world. CIHR's funding does this in part by helping Canadian institutions to attract and retain the "best and the brightest".

Strategic Outcome	Program Activities	Sub-Program Activities
2. A strong and talented health research community with the capacity to undertake health research	2.1 Researchers and Trainees	2.1.1 Salary Support Programs
		2.1.2 Training Support Programs
		2.1.3 Canada Research Chairs Grants
		2.1.4 Canada Graduate Scholarships
		2.1.5 Strategic Salary Support Programs
		2.1.6 Strategic Training Support Programs
	2.2 Research Resources and Collaboration	
	2.3 National and International Partnerships	2.3.1 Institute Support Grants
		2.3.2 Partnership Programs
	2.4 Ethical, Legal and Social Issues	

Program Activity Summary:

The main instruments used by CIHR to develop a community of outstanding health researchers include salary and training awards for researchers and trainees, Canada Graduate Scholarships for students, and the Canada Research Chair grants for proven investigators. Other programming is designed to foster collaborations and partnerships and research into ethical, legal and social issues.

Program Activity 2.1: Researchers and Trainees					
2009–10 Financial Resources (\$ millions)			2009–10 Human Resources (FTEs)		
Planned Spending	Total Authorities	Actual Spending	Planned	Actual	Difference
\$ 214.9	\$ 214.6	\$ 192.0	50	44	6
Expected Results:					
A supply of highly qualified health researchers and trainees is available to conduct excellent research in areas of strength or need as a result of effective funding programs.					
Performance Indicator	Targets			Performance Status	
Success of CIHR-funded salary and training programs including results, awareness, satisfaction levels and appropriateness of funding opportunities developed for capacity development.	1. Evaluated programs demonstrate effectiveness and results.			1. Met All	
	2. Maintain or increase number of applications submitted per \$ of funding available.			2. Met All	

Performance Summary:

1. Evaluated programs demonstrate effectiveness and results through the following examples:
 - A recent evaluation of [Canada Graduate Scholarships](#) (CGS) program award generally supported the continued need for CGS and related programs and made recommendations to improve the program which included: reducing the gap in value between CGS and regular awards at the doctorate level; extending the duration of a Master's award to two years and Doctoral award to four years; not restricting the international mobility of students; and, developing an integrated external communication plan to brand CGS as an exceptional award.
 - An evaluation of the [Strategic Training Initiatives in Health Research](#) (STIHR) Program concluded that it performed well in terms of trainees' disciplinary background, early scholarly productivity, and perceptions of the training environment and trainee experience. Additionally, the program appears to be increasing the number of research training opportunities for health systems and services and clinical trainees.

The number of fundable applications is an indication of program effectiveness as well as satisfaction levels. In 2009-10, CIHR noticed a 4.7% increase in the number of fundable applications, with 3,736 fundable applications received in 2009-10 compared to 3,568 fundable applications received in 2008-09.
2. The number of applications received for this Program Activity is an indication of awareness and satisfaction levels. In 2009-10, CIHR observed an increase in the number of applications received, with 4,075 applications received in 2009-10 compared to 3,803 last year. Specifically, 21.7 applications were submitted per \$1M of funding available which was substantially the same as in 2008-2009.

Performance Indicator	Target	Performance Status
Proportion of overall expenditures from CIHR grants budget.	19% of overall grants budget.	Exceeded

Performance Summary

In 2009-10, 20.2% of the overall grants budget directly supported Researchers and Trainees, compared to a target of 19%.

Performance Indicator	Target	Performance Status
Proportion of fundable applications that are funded.	15% of fundable applications are funded.	Exceeded

Performance Summary

In 2009-10, 30.4% of fundable applications were funded, which is significantly higher than the target of 15%.

Performance Indicator	Target	Performance Status
Diversity of research supported (by theme and Institute).	Maintain diversity of health research support (proportions by theme and Institute).	Met All

Performance Summary

In 2009-10, CIHR continued to [fund all areas of health research by theme, and Institute-specific research area](#).

Performance Indicator	Target	Performance Status
Total number, \$ value and duration of grants.	Maintain or increase #, \$ and duration of grants.	Mostly Met

Performance Summary

CIHR funded 3,548 awards with an average annual value of \$52,864 for an average duration of 3.34 years. Compared to 2008-09 levels, the number of projects funded increased by 13.1%, the average annual value decreased by 6.8% and the average duration of grants decreased by 7.2%.

Canada's Economic Action Plan (CEAP)

The Government of Canada's 2009 Budget, [Canada's Economic Action Plan](#) (CEAP), provided CIHR with \$14 million in funding for 2009-10 to temporarily expand Sub-Program Activity 2.1.4; the Canada Graduate Scholarships (CGS) program. The CGS program supports Canada's top graduate students to help ensure a reliable supply of highly skilled personnel to meet the needs of Canada's knowledge economy. In 2009-10, CIHR created 200 additional Doctoral scholarships, valued at \$35,000, and an additional 400 Master's scholarships, valued at \$17,500, with the first set of payments to be distributed in 2010-11. This support will help Canada retain its best health researchers and indirectly helps renew and support faculty at Canadian universities.

Program Activity 2.2: Research Resources and Collaboration

2009–10 Financial Resources (\$ millions)			2009–10 Human Resources (FTEs)		
Planned Spending	Total Authorities	Actual Spending	Planned	Actual	Difference
\$ 49.5	\$ 47.9	\$ 60.3	12	14	-2

Expected Results:

High quality research resources are available for excellent health research as a result of effective funding programs.

Performance Indicator	Targets	Performance Status
Success of CIHR-funded research resources and collaboration programs including results, awareness, satisfaction levels and appropriateness of funding opportunities for research resources.	1. Evaluated programs demonstrate effectiveness and results.	1. Met All
	2. Maintain or increase the number of applications submitted per \$ of funding available.	2. Met All

Performance Summary:

- The [Structural Genomics Consortium](#) (SGC) was reviewed by an International Review Committee to evaluate the progress during Phase II of its operations and to provide on their scientific merits of their proposal for continued work in Phase III. The Committee was unanimous in its praise for the SGC's work in advancing structural biology, and its efforts in developing the right collaborations that led to high-quality publications. Overall, the Committee was highly supportive of the SGC's future plans regarding its core structural biology mission, and agrees that it deserves recognition as a good model for bringing together industry and academic scientists.

For other Research Resource and Collaboration programs, reports from program managers, researchers and partners for projects, such as the [Canadian Light Source](#), are positive.

The number of fundable applications is an indication of program effectiveness as well as the depth of the research field. In 2009-10, CIHR noticed a 60.6% increase in the number of fundable applications, with 745 fundable applications received in 2009-10 compared to 464 fundable applications received in 2008-09.

- The number of applications received for this Program Activity is an indication of awareness and satisfaction levels. In 2009-10, CIHR noticed almost a doubling in the number of applications received, with 1,052 applications received in 2009-10, compared to 558 applications last year. Specifically, 17.7 applications were submitted per \$1M of funding available which was an increase of 7.7 applications per \$1M from last year.

Performance Indicator	Target	Performance Status
Types of support by area of health research (by theme and Institute).	Maintain diversity of health research support (proportions by theme and Institute).	Met All
Performance Summary:		
In 2009-10, CIHR continued to fund all areas of health research by theme, and Institute-specific research area.		
Expected Result:		
Appropriate resources available that enable adequate research resources for health research.		
Performance Indicator	Target	Performance Status
Proportion of fundable applications received by CIHR that are funded.	90% of fundable applications are funded.	Exceeded
Performance Summary:		
In 2009-10, 91.7% of fundable applications were funded, which is higher than the target of 90%.		
Performance Indicator	Target	Performance Status
Proportion of overall expenditures from CIHR grants budget.	5% of overall grants budget.	Exceeded
Performance Summary:		
In 2009-10, 6.4% of the overall grants budget supported Research Resources and Collaboration, compared to a target of 5%.		

Program Activity 2.3: National and International Partnerships					
2009–10 Financial Resources (\$ millions)			2009–10 Human Resources (FTEs)		
Planned Spending	Total Authorities	Actual Spending	Planned	Actual	Difference
\$ 24.7	\$ 24.9	\$ 24.9	6	6	-
Expected Results:					
National and international health research agendas are formulated and implemented, and increased relevance and quantity of research is achieved as a result of strong alliances and partnerships.					
Performance Indicator	Targets		Performance Status		
Success of CIHR-funded partnership research programs including results, awareness and satisfaction levels.	1. Evaluated programs demonstrate effectiveness and results.		1. Mostly Met		
	2. Maintain or increase the number of applications submitted per \$ of funding available.		2. Met All		

Performance Summary:		
<p>1. Evaluations of the program are scheduled to begin in fiscal year 2010-11. Preliminary reports from program managers, researchers and partners for the Human Frontier Science Program (HFSP), the Regional Partnership Program and the Small Health Organizations Partnership Program are positive.</p> <p>The number of fundable applications is an indication of program effectiveness as well as the depth of the research field. In 2009-10, CIHR noticed a 196.6% increase in the number of fundable applications, with 172 fundable applications received in 2009-10 compared to 58 fundable applications received in 2008-09.</p>		
<p>2. The number of applications received for this Program Activity is an indication of awareness and satisfaction levels. In 2009-10, CIHR noted that the number of applications received increased more than two-fold, with 267 applications received in 2009-10 compared to 103 last year. Specifically, 11.2 applications were submitted per \$1M of funding available which was an increase of 5.2 applications per \$1M of funding compared to last year.</p>		
Performance Indicator	Target	Performance Status
Proportion of overall expenditures from CIHR grants budget.	2% of overall grants budget.	Exceeded
Performance Summary		
In 2009-10, 2.6% of the overall grants budget supported National and International Partnerships, compared to a target of 2%.		
Performance Indicator	Target	Performance Status
Proportion of fundable applications that are funded.	65% of fundable applications are funded.	Mostly Met
Performance Summary		
In 2009-10, 59.9% of fundable applications were funded, which was lower than the intended target of 65%.		
Performance Indicator	Target	Performance Status
Diversity of research supported (by theme and Institute).	Maintain diversity of health research support (proportions by theme and Institute).	Met All
Performance Summary		
CIHR continued to fund all areas of health research by theme, and Institute-specific research area .		
Performance Indicator	Target	Performance Status
Total number, \$ value and duration of grants.	Maintain or increase #, \$ and duration of grants.	Mostly Met
Performance Summary		
In 2009-10, CIHR funded 331 awards with an average annual value of \$72,207 for an average duration of 2.58 years. Compared to 2008-09, the number of projects funded increased by 13.7%, while the average annual value decreased by 5.7% and the average duration decreased by 9.7%.		

Program Activity 2.4: Ethical, Legal and Social Issues (ELSI)					
2009–10 Financial Resources (\$ millions)			2009–10 Human Resources (FTEs)		
Planned Spending	Total Authorities	Actual Spending	Planned	Actual	Difference
\$ 2.8	\$ 2.9	\$ 3.5	8	8	-
Expected Results:					
Health research conducted more ethically as result of effective funding programs.					
Performance Indicator	Targets		Performance Status		
Success of CIHR-funded ELSI programs including results, awareness and satisfaction levels.	1. Evaluated programs demonstrate effectiveness and results.		1. Mostly Met		
	2. Maintain or increase the number of applications submitted per \$ of funding available		2. Met All		
Performance Summary					
<p>1. There has not been a recent evaluation of the program. However, reports from program managers, researchers and partners are positive.</p> <p>The number of fundable applications is an indication of program effectiveness as well as the depth of the research field. In 2009-10, CIHR noticed an 88.5% increase in the number of fundable applications, with 49 fundable applications received in 2009-10 compared to 26 fundable applications received in 2008-09.</p> <p>2. The number of applications received for this Program Activity is an indication of awareness and satisfaction levels. In 2009-10, CIHR noticed that the number of applications received significantly increased to 72 applications received, from 38 applications received last year. Specifically, 30.2 applications were submitted per \$1M of funding available which was an increase of 12.9 applications per \$1M of funding from 2008-09.</p>					
Performance Indicator	Target		Performance Status		
Proportion of overall expenditures for research targeted to strategic areas pertaining to ethical, legal and social issues in the context of health and health research.	0.2% of overall grants budget.		Exceeded		
Performance Summary					
In 2009-10, 0.3% of the overall grants budget supported Ethical, Legal and Social Issues research, compared to a target of 0.2%.					
Performance Indicator	Target		Performance Status		
Proportion of fundable applications that are funded.	70% of fundable applications are funded.		Mostly Met		
Performance Summary					
In 2009-10, 63.3% of fundable applications were funded, which is lower than the intended target of 70%.					

Performance Indicator	Target	Performance Status
Total number, \$ value and duration of grants.	Maintain or increase #, \$ and duration of grants.	Met All
Performance Summary		
In 2009-10, CIHR funded 70 awards with an average annual value of \$34,060 for an average duration of 1.96 years. Compared to 2008-09, the number of grants funded increased by 9.4%, the average annual value remained virtually unchanged, and the average duration increased slightly by 2.6%.		

Benefits for Canadians

With support from [Canada's Economic Action Plan](#), CIHR's investments helped strengthen the economy by attracting, retaining and developing a highly-skilled work force. On average, five paid staff positions have been created per grant⁷; and, 79% of awardees have been employed⁸. CIHR's programs also ensure that researchers have the up-to-date resources they need to deliver on the research outcomes promised. As health research moves towards the clinical and public domain, CIHR's work in research ethics and safety will contribute to the ethical soundness of resulting health products and services developed, and will foster public trust in future health care improvements.

Performance Analysis

Results from Program Activities show that CIHR's support of highly qualified researchers enabled high quality research resources to be available for health research in Canada. Targets in relation to expenditures and number of applications ranged from mostly met to exceeded. CIHR funded a wide array of health research projects (by theme and Institute), with a dominant focus on biomedical, clinical; and, social, cultural, environmental and population health research. Program evaluations or reports from program managers, researchers or partners show that CIHR mostly met the intended program targets. Scheduled program evaluations in the coming years will provide more up to date information on how to enhance programs or redirect funds.

Lessons Learned

As part of the implementation of the *Health Research Roadmap*, CIHR recognizes the need to continue to strengthen and maintain sustainable support for postdoctoral trainees and early career researchers. Through the regular evaluation and updating of its programs, CIHR will strive to provide graduate students and young investigators with the financial support they require for continued success throughout their research careers.

Strategic Outcome #3: Knowledge Translation and Commercialization

Knowledge translation, a main component of CIHR's mandate, is a dynamic and iterative process that includes synthesis, dissemination, exchange and ethically-sound application of knowledge to improve the health of Canadians, provide more effective health services and products and strengthen the health care system. CIHR supports and facilitates knowledge translation by funding knowledge translation research, knowledge synthesis and dissemination of findings, exchange and application activities and by building knowledge translation networks. Through its commercialization programs, CIHR supports research and knowledge translation activities that can lead to commercial applications to improve health and the Canadian economy.

⁷ Source: CIHR Research Reporting System survey, 2009.

⁸ Source: CIHR career survey of past awardees, 2009.

Strategic Outcome	Program Activities	Sub-Program Activities
3. Knowledge Translation & Commercialization	3.1 Knowledge Translation of Health Research	3.1.1 Knowledge Translation Programs
		3.1.2 Networks of Centres of Excellence Grants Program
	3.2 Commercialization of Health Research	

Program Activity Summary:

Knowledge Translation and Health Research funds knowledge translation research and activities, and supports partnerships that can accelerate knowledge translation. CIHR also develops measurement, analysis and evaluation policies, frameworks and tools to assess the outcomes and impacts of CIHR-funded research aimed at knowledge translation. Commercialization of Health Research funds a number of programs that work closely with industry to facilitate the commercialization of research.

Program Activity 3.1: Knowledge Translation and Health Research					
2009–10 Financial Resources (\$ millions)			2009–10 Human Resources (FTEs)		
Planned Spending	Total Authorities	Actual Spending	Planned	Actual	Difference
\$ 44.1	\$ 44.0	\$ 45.8	10	10	-
Expected Results:					
Health research is translated more effectively as result of funding programs.					
Performance Indicator	Targets		Performance Status		
Success of CIHR research programs including results, awareness and satisfaction levels.	1. Evaluated programs demonstrate effectiveness and results.		1. Met All		
	2. Maintain or increase the number of applications submitted per \$ of funding.		2. Met All		
Performance Summary					
<p>1. There has not been a recent comprehensive evaluation of these programs, however:</p> <ul style="list-style-type: none"> The <i>Best Brains Exchange</i> is the first CIHR program to officially bring CIHR to the provincial policymaking table. This Program supports provinces in their efforts to integrate research knowledge into policies that affect health and the health system. Evaluations to date demonstrate that the <i>Best Brains Exchange</i> has been an effective mechanism for building sustainable relationships between CIHR and provincial policy makers, for increasing policy makers' awareness of and demand for research evidence and for contributing directly to evidence-informed provincial health policy making. In 2007-08, CIHR's Networks for Centres of Excellence (NCE) program conducted an evaluation from both a program effectiveness/efficiency standpoint, as well as from a relevance and "niche" standpoint. Both evaluations were positive, and identified the program's direct contributions to Government S&T priorities. <p>The number of fundable applications is an indication of program effectiveness as well as the depth of the research field. In 2009-10, CIHR had a 21.9% increase in the number of fundable applications, with 373 fundable applications received in 2009-10 compared to 306 fundable applications received in 2008-09.</p> <p>2. The number of applications received for this Program Activity is an indication of awareness and satisfaction levels. In 2009-10, CIHR had an increase in the number of applications received, with 478 applications received in 2009-10 compared to 409 last year. Specifically, 11.1 applications were submitted per \$1M of funding available which represented a slight increase from 2008-2009.</p>					

Performance Indicator	Target	Performance Status
Number, scope and diversity of knowledge translation activities supported by CIHR (and its partners, where relevant) or resulting from CIHR activities.	Maintain or increase the number, scope and diversity of KT activities.	Met All
Performance Summary		
CIHR continued to fund all areas of health research by theme, and Institute-specific research area .		
Performance Indicator	Target	Performance Status
Number and types of stakeholders as well as types of knowledge translation activities during the research process.	Maintain or increase number and types of stakeholders involved in KT.	Met All
Performance Summary		
Reports from program managers indicate that the number and diversity of stakeholders involved in KT have been maintained.		
Performance Indicator	Target	Performance Status
Proportion of overall expenditures from CIHR grants budget.	4% of overall grants budget.	Exceeded
Performance Summary		
In 2009-10, 4.6% of the overall grants budget supported Knowledge Translation and Health Research, compared to a target of 4%.		
Performance Indicator	Target	Performance Status
Proportion of fundable applications that are funded	70% of fundable applications are funded.	Somewhat Met
Performance Summary		
In 2009-10, 50.1% of fundable applications were funded, which is lower than the intended target of 70%. Although there was a 21.9% increase in the number of fundable applications, CIHR was not able to fund all fundable applications due to funding constraints.		
Performance Indicator	Target	Performance Status
Total number, \$ value and duration of grants	Maintain or increase #, \$ and duration of grants	Met All
Performance Summary		
In 2009-10, CIHR funded 328 awards with an average annual value of \$131,523 for an average duration of 1.6 years. Compared to 2008-09, the number of projects funded increased by 4.1%, the average annual value increased by 5.9%, and the average duration remained virtually unchanged.		
Performance Indicator	Target	Performance Status
Number of researchers and trainees working in KT	Maintain or increase # of researchers and trainees working in KT areas	Mostly Met

Performance Summary

In 2009-10, 939 researchers and trainees working in KT areas were supported by CIHR, 110 less than in 2008-09 due to variable changes in Institute strategic priorities.

Program Activity 3.2: Commercialization of Health Research

2009–10 Financial Resources (\$ millions)			2009–10 Human Resources (FTEs)		
Planned Spending	Total Authorities	Actual Spending	Planned	Actual	Difference
\$ 32.0	\$ 32.2	\$ 29.2	6	7	-1

Expected Results:

Health research is commercialized more effectively as a result of funding programs.

Performance Indicator	Targets	Performance Status
Success of CIHR-funded commercialization programs including results, awareness and satisfaction levels.	1. Evaluated programs demonstrate effectiveness and results.	1. Mostly met
	2. Maintain or increase the number of applications per \$ of funding available.	2. Exceeded

Performance Summary

- There has not been a recent comprehensive evaluation of these programs however:

A recent analysis of the Proof-of-Principle (PoP) Program, which supports researchers in demonstrating the commercial potential of their intellectual property (IP), found that 76% of funded grants resulted in new patents; 26% resulted in the licensing of IP; and 14% resulted in the creation of new companies.

The number of fundable applications is an indication of program effectiveness as well as the depth of the research field. In 2009-10, CIHR noticed a 187.4% increase in the number of fundable applications, with 457 fundable applications received in 2009-10 compared to 159 fundable applications received in 2008-09.
- The number of applications received for this Program Activity is an indication of awareness and satisfaction levels. In 2009-10, 674 applications were received compared to 210 last year. Specifically, 23.8 applications were submitted per \$1M of funding available, a significant increase of 16.1 applications per \$1M of funding compared to 2008-09.

Expected Results:

Appropriate resources available that enable commercialization of health research.

Performance Indicator	Target	Performance Status
Proportion of fundable applications received by CIHR that are funded.	55% of fundable applications are funded.	Mostly Met

Performance Summary

In 2009-10, 52.7% of fundable applications were funded, which is slightly lower than the target of 55%.

Performance Indicator	Target	Performance Status
Proportion of overall expenditures from CIHR grants budget.	3% of overall grants budget.	Met All

Performance Summary

In 2009-10, 3.0% of the overall grants budget supported the commercialization of health research, which is the same as the target.

Benefits for Canadians

CIHR's knowledge translation function supports the intensive process of turning information obtained from health research into effective health policies, practices, products and services. It fosters collaboration between governments, industry, voluntary sector and international partners to find innovative ways of creating both health and economic value from research. The development of new health products, programs and technologies not only contributes to the growth of Canada's economy; but, improves the health system by helping it adapt to the evolving health needs of Canadians.

Performance Analysis

Evaluations and reports from program managers, researchers and partners provide evidence that the Knowledge Translation of Health Research Program and the Commercialization Program are effective. The number of applications per dollar of funding available and the percentage of fundable applications indicate that the research community is becoming more aware of CIHR's programs and is interested in pursuing real-world application of their research findings. KT program research was supported across the mandates of all 13 Institutes, with the majority of support going towards health systems and services research. The number and types of stakeholders, as well as the type of knowledge translation activities during the research process were maintained. Both programs met their proportion of overall grant expenditures targets.

Lessons Learned

To bridge the gap between researchers and knowledge users, CIHR recognizes the need to support knowledge translation activities that partner the private, voluntary and public sectors. In 2009-10, CIHR began work on an updated knowledge translation strategic plan, which will compliment strategic initiatives outlined in the *Health Research Roadmap*. One such initiative is improved citizen engagement, where CIHR will begin efforts to integrate key stakeholders into knowledge translation priority setting and decision-making processes.

Program Activity 4.1: Internal Services

Program Activity Summary:

Internal Services includes support services which assist program delivery in the areas of Finance, Procurement, Planning, Human Resources, Informatics, Security, Information Management, Internal Audit, Evaluation and Analysis, Marketing and Communications, and Corporate Governance. Internal Services only includes activities and resources that apply across the organization, and not those provided to a program.

Program Activity 4.1: Internal Services					
2009–10 Financial Resources (\$ millions)			2009–10 Human Resources (FTEs)		
Planned Spending	Total Authorities	Actual Spending	Planned	Actual	Difference
\$ 20.7	\$ 26.4	\$ 25.8	176	170	6
Performance Summary					
<p>CIHR strives to continually strengthen its operations and programming while fostering a dedicated, well-informed workforce. In 2009-10, CIHR's Internal Services met and exceeded expectations in its commitments to improve program delivery, strengthen its ability to demonstrate the impact of health research, improve information management for effective decision making, and fostering a motivated, committed and productive workforce.</p> <p>In 2009-10, CIHR implemented a streamlined and standardized competition management process used by all program delivery staff. This new process allowed CIHR to maximize operational efficiency and program delivery. For instance, a 10 day process for 50 people was reduced to a 3 day process which translated into a significant cost reduction in both time and salary.</p> <p>CIHR's ability to demonstrate the impact of health research is a critical component of CIHR's Knowledge Translation mandate. In 2009-10, CIHR launched a pilot of its Research Reporting System to capture and communicate the results of CIHR-funded research. The System provided researchers with a standardized electronic tool which enables them to provide progress reports and end of grant reports to CIHR. The Research Reporting System allowed CIHR to better capture current information about health research findings, publications produced, people trained and other outputs and impacts of CIHR-funded health research.</p> <p>In addition to improved research reporting, CIHR successfully revamped an integrated operational planning process to improve information management for effective decision making. This new process required managers to report on planned activities, resource requirements and issues on an annual basis; and, to review progress against these plans on a regular basis. It embedded a new integrated risk management framework, which considered risk at all levels in the organization from all angles, and attempted to manage these risks by creating key governance structures to track and report on the status of the identified risks periodically. Both the new integrated operational planning and risk management processes provided senior management with enhanced decision support by increasing the transparency and accountability of the relevant corporate information collected.</p> <p>In 2006, CIHR approved the <i>Human Resources Strategic Plan</i>, which identified key issues affecting the sustainability of CIHR's workforce and workplace. The Strategy expressed CIHR's commitment to making the organization as attractive a workplace as any of those of the <i>Top 100 Employers in Canada</i> and focused on the following five priority areas: Recruitment, Learning and Development, Diversity, Workplace Wellbeing, Performance Management and Compensation. As a result, in 2009-10, CIHR was named as one of Canada's Top 100 Employers.</p>					

SECTION III: SUPPLEMENTARY INFORMATION

Financial Highlights

(\$ thousands)

Condensed Statement of Financial Position At March 31, 2010	% Change	2010	2009
ASSETS			
Financial Assets	1.0%	16,397	16,236
Non-Financial Assets	9.0%	4,254	3,903
TOTAL ASSETS	2.5%	20,651	20,139
LIABILITIES			
EQUITY	32.9%	(5,566)	(4,188)
TOTAL LIABILITIES & EQUITY	2.5%	20,651	20,139

(\$ thousands)

Condensed Statement of Operations At March 31, 2010	% Change	2010	2009
Grants and awards expenses	1.2%	938,282	927,238
Refund of previous years' grants and awards	87.3%	(5,434)	(2,901)
Operations and administration expenses	5.9%	62,335	58,868
Total Expenses	1.2%	995,183	983,205
Total Revenues	(11.8%)	9,140	10,365
NET COST OF OPERATIONS	1.4%	986,043	972,840

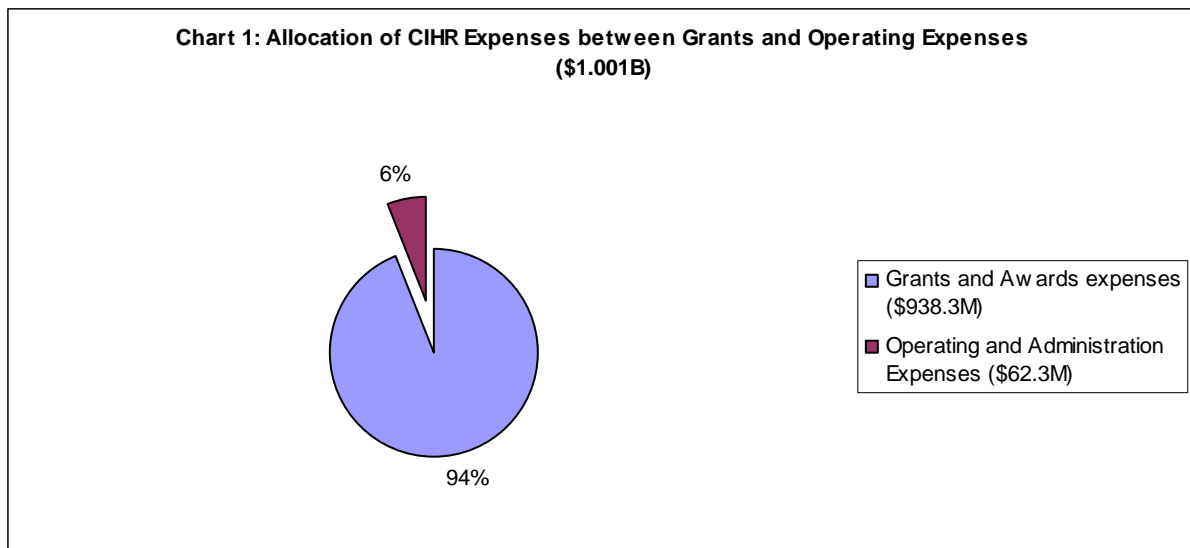
Condensed Statement of Financial Position:

Total Assets and Total Liabilities increased by approximately \$500K and \$1.9M, respectively, compared to 2008-09. The increase in total assets is primarily due to the increase in tangible capital assets, whereas the increase in the total liabilities is mainly affected by an increase to vacation pay and compensatory leave accruals resulting from higher employee salaries.

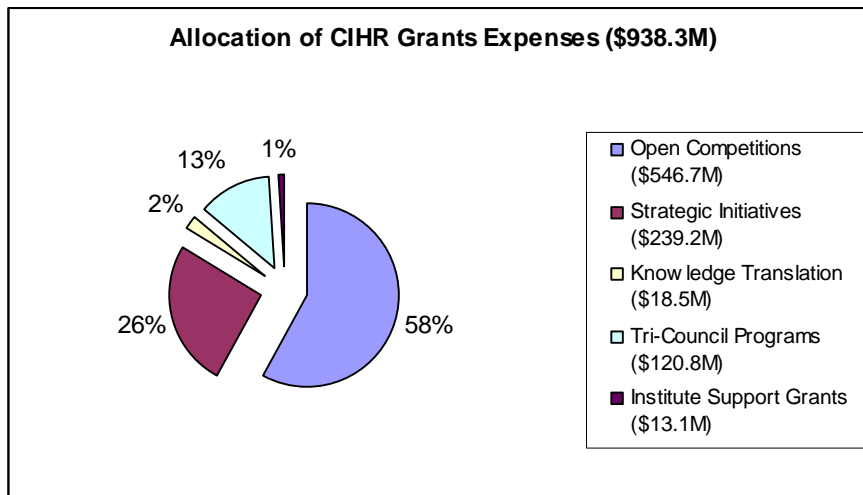
Condensed Statement of Operations:

Grants and awards expenses increased by \$11.0M (or 1.2%) in 2009-10 compared to 2008-09. The primary reason for this increase is CIHR received additional parliamentary authorities in order to spend on programs such as the Canada Graduate Scholarships (CGS) program, the second phase of the Centres of Excellence for Commercialization and Research program, and the Business-Led Networks Centres of Excellence program. The operating and administrative expenses increased by \$3.5M in 2009-10 as a result of higher employee salaries and higher contributions to employee benefit plans.

Financial Highlights Chart



The Financial Highlights Chart above illustrates that CIHR allocates 94% of its available budget directly to fund health research, health researchers and knowledge translation initiatives across Canada. CIHR's primary goals are to fund excellent scientific research, to help fund the next generation of Canadian health researchers to ensure Canada has sufficient health research capacity moving forward, and to focus on key knowledge translation activities to ensure that results of research are transformed into improved policies, practices, products and services, resulting in improved health for all Canadians. CIHR efficiently administers an annual operating budget of approximately 6%, ensuring that 94 cents of every dollar is disbursed directly to fund outstanding Canadian health research and health researchers.



The majority (58%) of CIHR's grants and awards expenses are used to fund Open competitions. CIHR recognizes that the creativity, skill, and insight of individuals and self-assembled teams lie at the heart of the research enterprise. The pursuit of excellence in research, as evaluated through the peer review process, inspires ideas that drive progress and ensures a continuous flow of fresh insights. As such, open competition programs enable individual researchers or groups of investigators to identify research opportunities in any area of health research that peers agree with.

Strategic initiatives comprise the second largest portion of CIHR grants and awards investments (26%). These investments target high priority research areas identified by CIHR's Institutes after broad consultations with stakeholders and partners. These strategic initiatives address emerging health threats and other important health issues of concern to Canadians including areas of health research such as obesity, cancer, vulnerable populations such as youth and aboriginals, pandemic preparedness, HIV/AIDS, or measures to improve the effectiveness of the Canadian health care system.

Knowledge Translation (KT) is a critical and growing part of CIHR's mandate focused on the synthesis, exchange and ethically-sound application of knowledge to accelerate the capture of the benefits of research for Canadians through improved health, more effective services and products and a strengthened health care system. In 2009-10, grants and awards expenses related directly to Knowledge Translation increased by 93% over the prior year to \$18.5M.

CIHR incurred 13% (\$120.8M) of its 2009-10 grants and awards expenses on various tri-council initiatives – key Government of Canada flagship programs which are jointly administered by CIHR, Natural Sciences and Engineering Research Council (NSERC) and Social Sciences and Humanities Research Council (SSHRC). CIHR incurred expenses totalling \$87.2M on the Canada Research Chairs (CRC) Program. The CRC Program awards key research professorships at post-secondary institutions across Canada to attract and retain some of the world's most accomplished and promising individuals. CIHR also spent \$29.2M on the Networks of Centres of Excellence (NCE) Program (including the new Business-Led Centres of Excellence program), which brings together partners from the academic, industry, public and non-public centres to conduct leading edge research and knowledge translation activities in areas of strategic growth and opportunity for Canada. CIHR incurred further expenses totalling \$4.4M on the Centres of Excellence for Research and Commercialization (CECR) Program. The CECR Program supports the operation of commercialization and/or research centres that bring together people, services, and infrastructure to maximize the benefits of the government's investments in skills and research and to encourage greater private sector investment in science and technology.

CIHR has 13 "virtual" institutes that represent the full spectrum of health science research. Each institute brings together research funders, researchers and research users, including policy-makers and practitioners, to set strategic priorities for research. Each host institution which houses a CIHR institute administers a \$1M Institute Support Grant to be used to meet the expenses of housing and running the institutes.

Financial Statements

All of CIHR's 2009-10 Audited Financial Statements can be found on the CIHR website at: <http://www.cihr-irsc.gc.ca/e/22978.html>

List of Supplementary Information Tables

All electronic supplementary information tables found in the 2009–10 Departmental Performance Report can be found on the Treasury Board of Canada Secretariat's website at: <http://www.tbs-sct.gc.ca/dpr-rmr/2009-2010/index-eng.asp>.

[Sources of Respendable and Non-Respendable Revenue](#)
[Transfer Payment Programs](#)
[Internal Audit and Evaluations](#)
[Green Procurement](#)

WebLinks:

Section I: Departmental Overview

Raison d'être & responsibilities:

[CIHR](http://www.cihr-irsc.gc.ca/e/193.html): <http://www.cihr-irsc.gc.ca/e/193.html>

[13 institutes](http://www.cihr-irsc.gc.ca/e/9466.html): <http://www.cihr-irsc.gc.ca/e/9466.html>

[Minister of Health](http://hc-sc.gc.ca/ahc-asc/minist/index-eng.php): <http://hc-sc.gc.ca/ahc-asc/minist/index-eng.php>

[Natural Sciences and Engineering Research Council](http://www.nserc-crsng.gc.ca/index_eng.asp): http://www.nserc-crsng.gc.ca/index_eng.asp

[Social Sciences and Humanities Research Council](http://www.sshrc.gc.ca/site/home-accueil-eng.aspx): <http://www.sshrc.gc.ca/site/home-accueil-eng.aspx>

[Science & Technology Strategy](http://www.ic.gc.ca/eic/site/ic1.nsf/eng/h_00231.html): http://www.ic.gc.ca/eic/site/ic1.nsf/eng/h_00231.html

Strategic Outcome #1:

[International Tobacco Control Policy Evaluation Project](http://www.itcproject.org/): <http://www.itcproject.org/>

Strategic Outcome #3:

[Human Development Index](http://hdr.undp.org/en/statistics/): <http://hdr.undp.org/en/statistics/>

[Euro-Canada Health Consumer Index](http://www.fcpp.org/files/1/10-05-10-Euro-Canada_Index_2010_FINAL.pdf): http://www.fcpp.org/files/1/10-05-10-Euro-Canada_Index_2010_FINAL.pdf

Financial Summary: Strategic Outcomes #1, 2, 3:

[An Innovative and Knowledge-Based Economy; Healthy Canadians](http://publiservice.tbs-sct.gc.ca/ppg-cpr/framework-cadre-eng.aspx?Rt=1039):

<http://publiservice.tbs-sct.gc.ca/ppg-cpr/framework-cadre-eng.aspx?Rt=1039>

[Mobilizing Science and Technology to Canada's Advantage](http://www.fptpftt.gc.ca/eng/resources/articles/2007/07/MobilizingScienceandTechnologytoCanadasAdvantage.html):

<http://www.fptpftt.gc.ca/eng/resources/articles/2007/07/MobilizingScienceandTechnologytoCanadasAdvantage.html>

[Centres of Excellence for Commercialization and Research \(CECR\) program](http://www.nce-rce.gc.ca/ReportsPublications-RapportsPublications/CECR/Program-Guide-Programme_eng.asp):

http://www.nce-rce.gc.ca/ReportsPublications-RapportsPublications/CECR/Program-Guide-Programme_eng.asp

[Business-Led Centres of Excellence \(BL-NCE\) program](http://nce.nserc.ca/Competitions-Competitions/PreviousCompetitions-ConcoursAnterieurs/BLNCE-RCEE-2009/Classic-Classiques_eng.asp):

http://nce.nserc.ca/Competitions-Competitions/PreviousCompetitions-ConcoursAnterieurs/BLNCE-RCEE-2009/Classic-Classiques_eng.asp

Contribution of Priorities to Strategic Outcomes; Risk Analysis:

[Health Research Roadmap; Strategic Plan](http://www.cihr-irsc.gc.ca/e/40490.html): <http://www.cihr-irsc.gc.ca/e/40490.html>

Expenditure Profile; Section II, SO2:

[Canada's Economic Action Plan](http://www.actionplan.gc.ca/eng/index.asp): <http://www.actionplan.gc.ca/eng/index.asp>

Section II: Analysis of Program Activities by Strategic Outcome

Strategic Outcome #1:

[Pandemic Preparedness Strategic Research Initiative \(PPSRI\)](http://www.cihr.ca/e/38935.html): <http://www.cihr.ca/e/38935.html>

[HIV/AIDS Community-based Research Program](http://www.cihr.ca/e/25835.html): <http://www.cihr.ca/e/25835.html>

[Canadian Longitudinal Study on Aging](http://www.cihr-irsc.gc.ca/e/22982.html): <http://www.cihr-irsc.gc.ca/e/22982.html>

[Regenerative Medicine and Nanotechnology Initiative](http://www.cihr-irsc.gc.ca/e/39144.html): <http://www.cihr-irsc.gc.ca/e/39144.html>

Strategic Outcome #2:

[Canada Graduate Scholarships](http://www.cihr-irsc.gc.ca/e/39996.html): <http://www.cihr-irsc.gc.ca/e/39996.html>

[Strategic Training Initiatives in Health Research](http://www.cihr-irsc.gc.ca/e/37630.html): <http://www.cihr-irsc.gc.ca/e/37630.html>

[Structural Genomics Consortium](http://www.thesgc.org/): <http://www.thesgc.org/>

[Canadian Light Source](http://www.lightsource.ca/): <http://www.lightsource.ca/>

[Human Frontier Science Program \(HFSP\)](http://www.hfsp.org/pubs/Pubs_reports_top.php): http://www.hfsp.org/pubs/Pubs_reports_top.php

[Regional Partnership Program](http://www.cihr-irsc.gc.ca/e/31389.html): <http://www.cihr-irsc.gc.ca/e/31389.html>

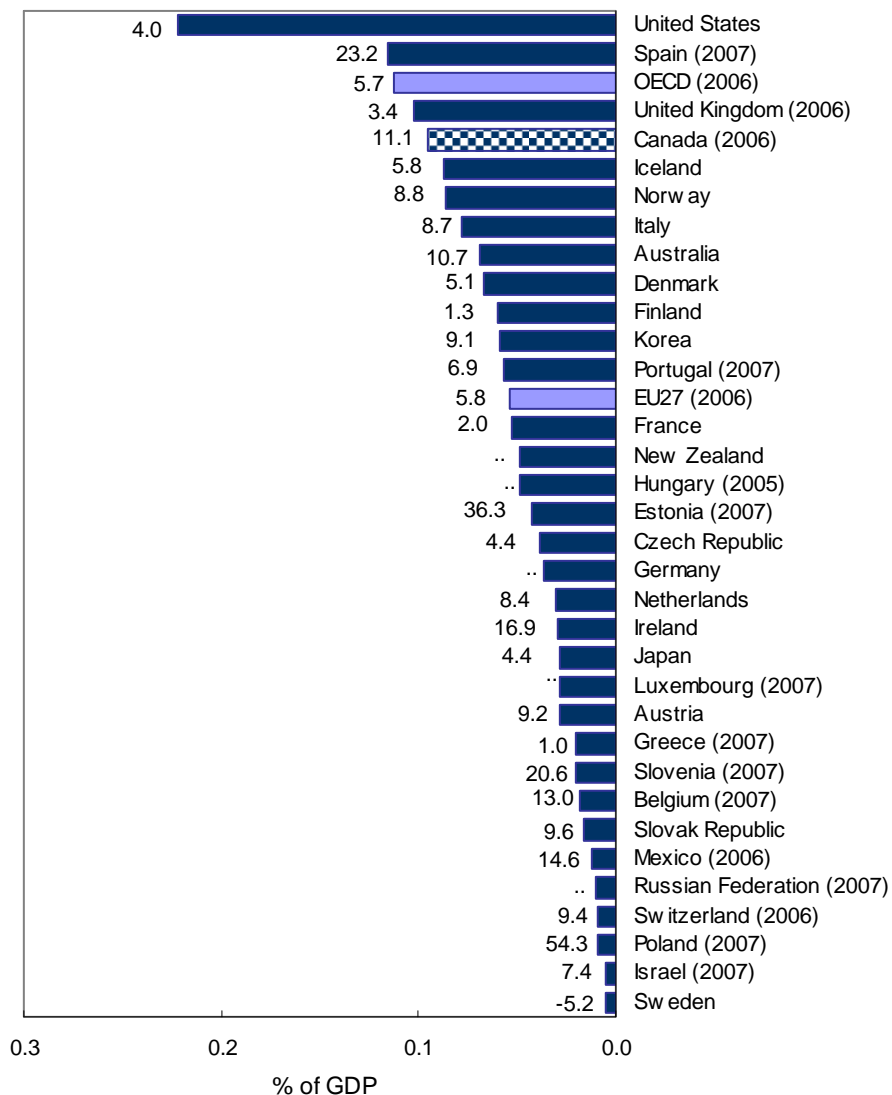
[Small Health Organizations Partnership Program](http://www.cihr-irsc.gc.ca/e/32755.html): <http://www.cihr-irsc.gc.ca/e/32755.html>

Annex A – Health-Related R&D Budget in Canada in 2008

Canada maintains its international ranking in the top four of 33 Organisation for Economic Co-operation and Development (OECD) countries in “health-related research and development in government budgets as a percentage of the Gross Domestic Product (GDP)”.

Note: These statistics for health-related R&D expenditures comprise data from both public and private sources.

Health-Related R&D Budget as a Percentage of GDP, in 2008⁹



Note: The numbers to the left of the bars represent the average annual growth rates for the above countries: Growth rate from 2000-07 for Spain, Portugal, Greece, Slovenia, Belgium and Israel; 2000-06 for OECD, United Kingdom, Canada, EU27, Mexico and Switzerland; 2001-08 for Denmark; 2002-07 for Estonia; 2002-08 for the Czech Republic; 2004-07 for Poland; 2005-08 for Norway.

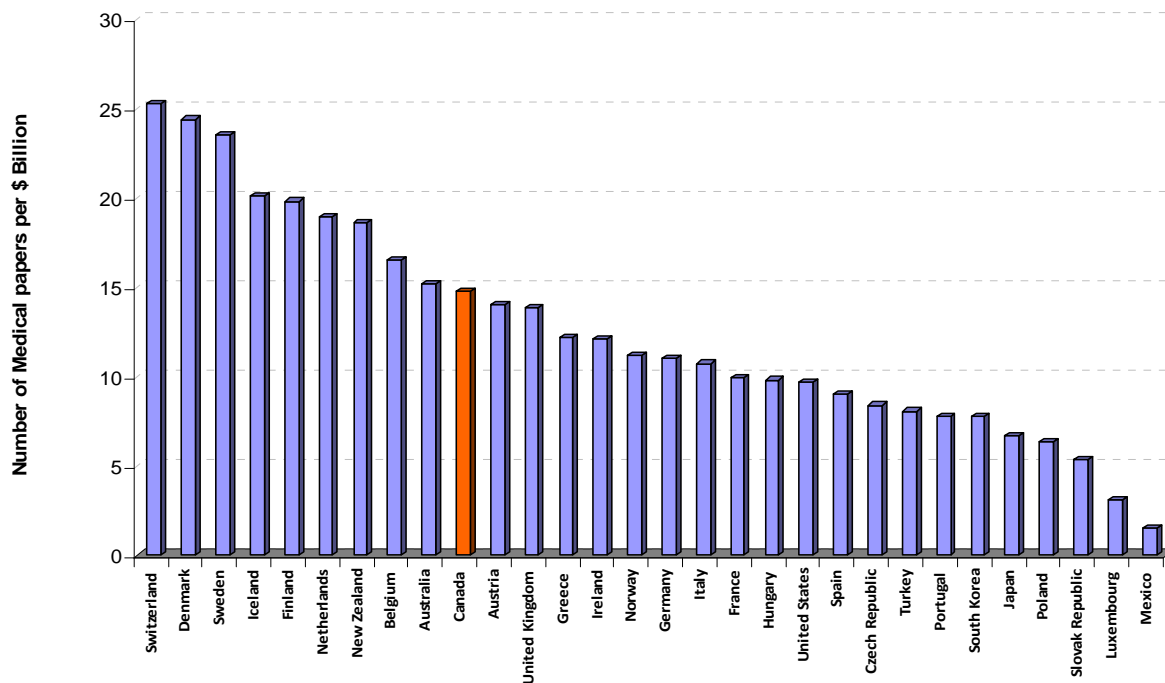
⁹ OECD Science, Technology and Industry Scoreboard 2009

Annex B – Number of Canadian Publications in Medical Research and World Share

The number of publications is one of the key output indicators that show how well scientific research is performing. It measures the scientific productivity of researchers and is one of the methods by which the results of research are disseminated.

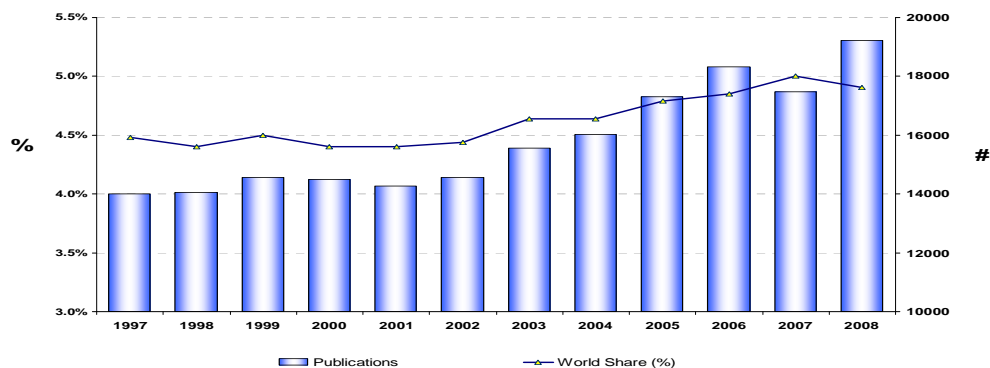
Canada is ranked tenth out of 30 OECD countries in 2008 in terms of number of papers in medical research per Billion dollars of Gross Domestic Product (GDP)^{10,11}.

Number of Medical Papers per \$ Billion of GDP in the OECD Countries in 2008



The volume of published papers has significantly increased between 2002 and 2007. The Canadian share of total medical publications produced in the world increased slowly to 5% in 2007, and remained substantially the same in 2008¹¹.

Number of Papers in Medical Research Published by Canadian Investigators



¹⁰ Source GDP : <http://stats.oecd.org/Index.aspx>

¹¹ Observatoire des sciences and technologies (OST), 2010.

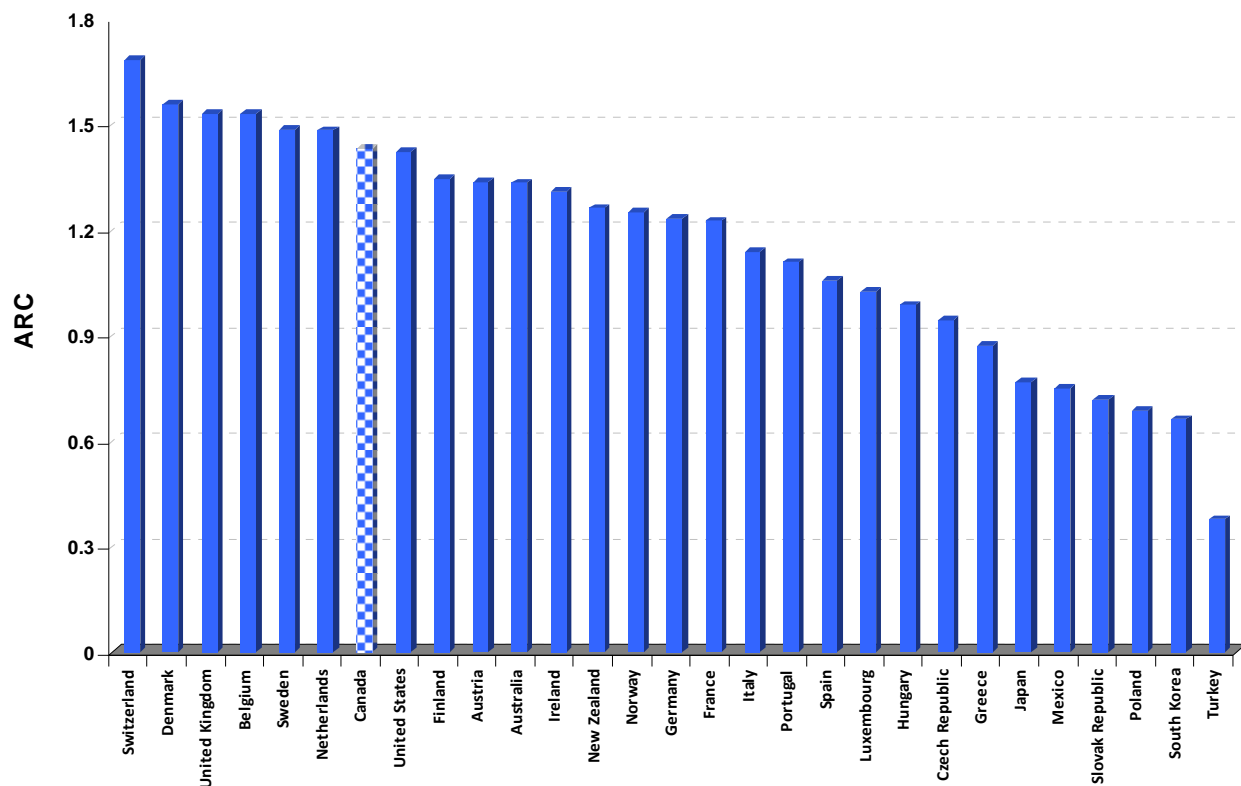
Annex C – Average Relative Citation Factor (ARC) in Health Research, 2008

One of CIHR's performance indicators for Strategic Outcome #1 is that research or research agendas are informed by CIHR-funded research. A useful measure to determine this is the impact and quality of research that is funded by CIHR. In other words, the degree to which CIHR informs research agendas is the degree to which research publications are cited (because they have been found useful). Citations are a measure of the potential use of a researcher's work by fellow researchers and colleagues and so the more their work is cited, the greater the likelihood that there is a higher value to the work.

A standardized measure of citations used internationally is called the Average Relative Citation Factor (ARC). The ARC score is calculated for every country in a particular field (in this case, medical research) and then normalized to 1.0. An ARC value above 1.0 for a country means that, on average, the country's publications in that field are cited more often than the world average. An ARC value below 1.0 would mean that a country's publications in a field are not cited as often as the world average.

The ARC value for Canadian publications in medical research is 1.43 when compared to the world average, with the result that Canada ranks 7th worldwide in 2008¹². In 2007, Canada's ARC ranking in medical research was 7th, with an ARC of 1.34.

Average Relative Citation Factor



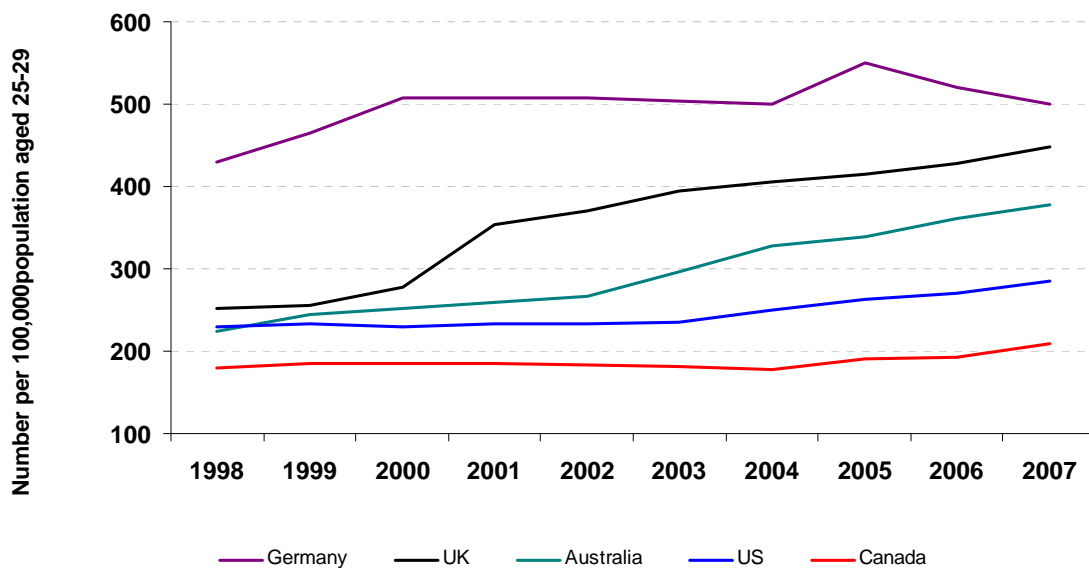
¹² Observatoire des sciences and technologies (OST), 2010.

Annex D – PhD Graduates in Canada

Highly educated people are trained to conduct research and to be the vital resource for innovation. With their knowledge and skills acquired for long training years, individuals with doctorate degrees are in a position to contribute significantly to Canada's economy and society. CIHR has different programs supporting the students and most of its PhD awards are three years in length.

Although CIHR is contributing to train approximately 60% of all health-related PhD candidates in Canada, a recent study shows that Canada consistently demonstrated a poor performance in the number of graduated PhD compared to OECD countries. According to the Conference Board of Canada, it ranked next to last in 1998; and, last from 2005 to 2007¹³.

PhD Graduates in Canada

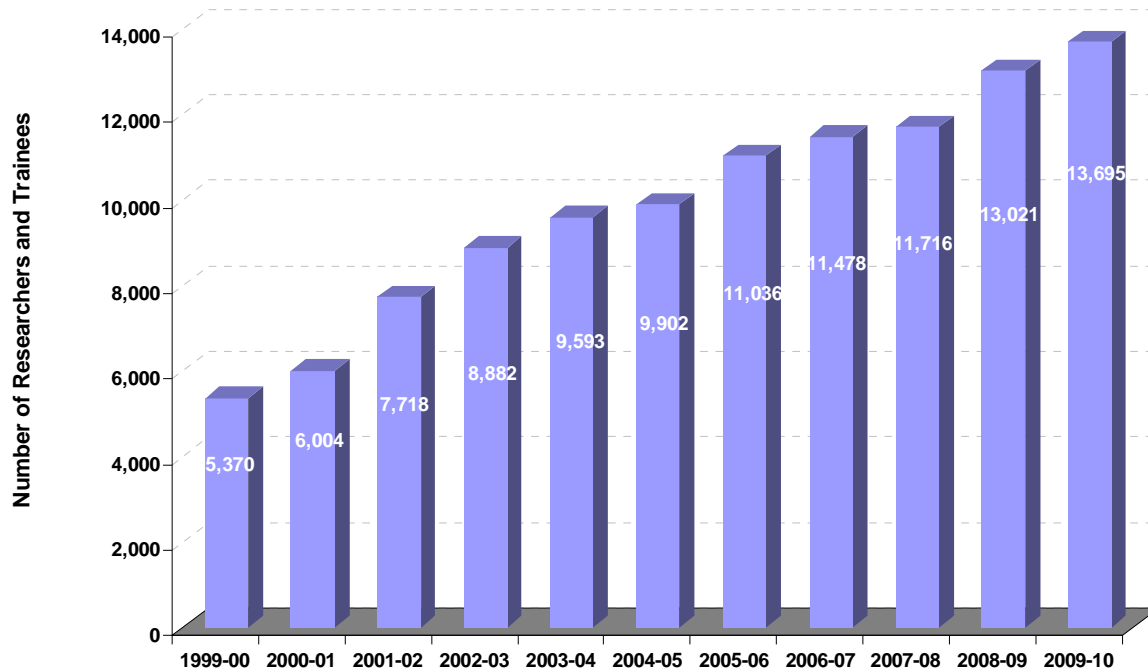


¹³ Conference Board (2010): <http://www.conferenceboard.ca/hcp/Details/education/Phd-graduates.aspx>

Annex E – Number of Health Researchers and Trainees Supported by CIHR

Since the inception of CIHR in 2000, the number of CIHR-supported health researchers and trainees has grown from approximately 6,000 in 2000-01 to over 13,600 in 2009-10, and showing an increase of 5.2% from the previous year.

Number of Health Researchers and Trainees Supported by CIHR



Annex F - Diversity of Investigators Funded by CIHR under Strategic Outcome #2

Primary Institute	Number of Grants/Awards Funded		CIHR Grants and Awards Expenditures (in Thousands \$)	
	2009-10	2008-09	2009-10	2008-09
Aboriginal Peoples' Health	76	39	3,826	3,304
Aging	223	191	7,672	6,058
Cancer Research	405	352	18,875	17,956
Circulatory and Respiratory Health	377	243	11,344	10,884
Gender and Health	117	78	5,688	6,177
Genetics	282	246	12,599	10,992
Health Services and Policy Research	300	260	14,603	11,440
Human Development, Child and Youth Health	261	250	9,619	8,472
Infection and Immunity	353	313	19,866	18,177
Musculoskeletal Health and Arthritis	189	157	10,869	11,049
Neurosciences, Mental Health and Addiction	613	517	22,335	20,426
Nutrition, Metabolism and Diabetes	216	196	11,125	10,526
Population and Public Health	262	235	16,815	13,929
Undeclared by researchers	552	573	20,819	21,250
Total	4,226	3,650	\$186,055	\$170,639

Primary Theme	Number of Grants/Awards Funded		CIHR Grants and Awards Expenditures (in Thousands \$)	
	2009-10	2008-09	2009-10	2008-09
Biomedical	1799	1584	69,762	65,492
Clinical	629	502	31,957	29,871
Health Systems/Services	350	309	23,082	18,041
Social/Cultural/Environmental/Population Health	497	458	28,098	26,153
Undeclared by researchers	951	797	33,158	31,082
Total	4,226	3,650	\$186,055	\$170,639

Note: The primary institute and primary theme are selected by the applicant at the time that they apply for CIHR funding.

Figures exclude flow through funds, namely PSA 2.1.3 – Canada Research Chairs.

Totals may not agree due to rounding.

Annex G - Diversity of Open Research Grants

Primary Institute	Number of Grants/Awards Funded		CIHR Grants and Awards Expenditures (in Thousands \$)	
	2009-10	2008-09	2009-10	2008-09
Aboriginal Peoples' Health	23	24	2,800	3,070
Aging	168	173	17,167	16,513
Cancer Research	487	490	53,124	52,302
Circulatory and Respiratory Health	469	503	58,291	60,227
Gender and Health	67	72	6,025	6,039
Genetics	457	451	59,490	60,140
Health Services and Policy Research	148	150	12,748	14,163
Human Development, Child and Youth Health	267	272	35,840	36,468
Infection and Immunity	452	435	53,264	51,423
Musculoskeletal Health and Arthritis	257	258	25,997	27,271
Neurosciences, Mental Health and Addiction	753	771	83,551	84,706
Nutrition, Metabolism and Diabetes	319	321	35,778	35,466
Population and Public Health	120	133	17,921	19,757
Undeclared by researchers	1	1	156	156
Total	4,015	4,054	\$462,153	\$467,701

Primary Theme	Number of Grants/Awards Funded		CIHR Grants and Awards Expenditures (in Thousands \$)	
	2009-10	2008-09	2009-10	2008-09
Biomedical	3,063	3,082	341,345	348,287
Clinical	460	456	67,055	64,775
Health Systems/Services	181	188	16,935	17,544
Social/Cultural/Environmental/Population Health	291	310	34,245	34,747
Undeclared by researchers	20	18	2,573	2,348
Total	4,015	4,054	\$462,153	\$467,701

Note: The primary institute and primary theme are selected by the applicant at the time that they apply for CIHR funding.
Totals may not agree due to rounding.

Annex H - Diversity of Strategic Priority Research Grants

Primary Institute	Number of Grants/Awards Funded		CIHR Grants and Awards Expenditures (in Thousands \$)	
	2009-10	2008-09	2009-10	2008-09
Aboriginal Peoples' Health	42	46	8,508	7,837
Aging	88	83	5,254	5,076
Cancer Research	45	37	5,470	3,694
Circulatory and Respiratory Health	47	41	8,775	7,247
Gender and Health	48	32	3,309	2,615
Genetics	56	60	7,537	19,277
Health Services and Policy Research	51	36	3,155	1,897
Human Development, Child and Youth Health	66	58	8,362	7,518
Infection and Immunity	242	276	31,691	26,080
Musculoskeletal Health and Arthritis	44	66	3,870	6,085
Neurosciences, Mental Health and Addiction	73	103	7,478	8,460
Nutrition, Metabolism and Diabetes	38	54	2,937	4,671
Population and Public Health	71	76	3,890	4,141
Undeclared by researchers	88	108	22,063	20,107
Total	999	1,076	\$122,299	\$124,706

Primary Theme	Number of Grants/Awards Funded		CIHR Grants and Awards Expenditures (in Thousands \$)	
	2009-10	2008-09	2009-10	2008-09
Biomedical	390	494	46,830	52,292
Clinical	153	129	19,345	10,128
Health Systems/Services	117	87	8,599	7,203
Social/Cultural/Environmental/Population Health	244	226	25,156	21,733
Undeclared by researchers	95	140	22,369	33,350
Total	999	1,076	\$122,299	\$124,706

Note: The primary institute and primary theme are selected by the applicant at the time that they apply for CIHR funding.
Totals may not agree due to rounding.

Annex I - Diversity of Researchers and Trainees Grants

Primary Institute	Number of Grants/Awards Funded		CIHR Grants and Awards Expenditures (in Thousands \$)	
	2009-10	2008-09	2009-10	2008-09
Aboriginal Peoples' Health	30	21	\$767	425
Aging	171	127	\$5,452	4,234
Cancer Research	355	298	\$11,939	10,957
Circulatory and Respiratory Health	212	179	\$7,811	7,308
Gender and Health	65	63	\$2,664	3,673
Genetics	202	182	\$7,396	6,352
Health Services and Policy Research	184	156	\$7,550	6,187
Human Development, Child and Youth Health	171	150	\$6,815	5,904
Infection and Immunity	290	255	\$10,108	8,651
Musculoskeletal Health and Arthritis	116	104	\$5,053	4,785
Neurosciences, Mental Health and Addiction	506	406	\$16,246	14,449
Nutrition, Metabolism and Diabetes	167	128	\$5,317	4,788
Population and Public Health	225	200	\$10,080	8,701
Undeclared by researchers	182	187	\$3,143	3,744
Total	2876	2456	\$100,340	\$90,159

Primary Theme	Number of Grants/Awards Funded		CIHR Grants and Awards Expenditures (in Thousands \$)	
	2009-10	2008-09	2009-10	2008-09
Biomedical	1469	1263	\$51,372	47,746
Clinical	563	429	\$18,569	16,199
Health Systems/Services	242	205	\$10,194	8,291
Social/Cultural/Environmental/Population Health	407	364	\$16,397	14,211
Undeclared by researchers	195	195	\$3,809	3,712
Total	2876	2456	\$100,340	\$90,159

Note: The primary institute and primary theme are selected by the applicant at the time that they apply for CIHR funding.

Figures exclude flow through funds, namely PSA 2.1.3 – Canada Research Chairs.

Totals may not agree due to rounding.

Annex J – Diversity of Research Resources and Collaboration Grants

Primary Institute	Number of Grants/Awards Funded		CIHR Grants and Awards Expenditures (in Thousands \$)	
	2009-10	2008-09	2009-10	2008-09
Aboriginal Peoples' Health	39	10	1,894	1,786
Aging	38	54	894	637
Cancer Research	25	33	5,412	5,511
Circulatory and Respiratory Health	133	31	1,886	1,813
Gender and Health	47	12	1,926	1,411
Genetics	54	46	3,769	3,190
Health Services and Policy Research	52	44	3,566	2,504
Human Development, Child and Youth Health	66	76	1,246	1,027
Infection and Immunity	28	26	7,560	7,409
Musculoskeletal Health and Arthritis	55	34	4,410	4,765
Neurosciences, Mental Health and Addiction	62	58	3,882	3,805
Nutrition, Metabolism and Diabetes	23	44	4,131	4,186
Population and Public Health	22	22	5,125	3,870
Undeclared by researchers	311	358	13,728	14,083
Total	955	848	\$59,430	\$55,997

Primary Theme	Number of Grants/Awards Funded		CIHR Grants and Awards Expenditures (in Thousands \$)	
	2009-10	2008-09	2009-10	2008-09
Biomedical	158	158	12,043	11,530
Clinical	32	42	12,512	12,924
Health Systems/Services	34	37	8,124	6,018
Social/Cultural/Environmental/Population Health	49	56	10,544	9,465
Undeclared by researchers	682	555	16,206	16,060
Total	955	848	\$59,430	\$55,997

Note: The primary institute and primary theme are selected by the applicant at the time that they apply for CIHR funding.

Totals may not agree due to rounding.

Annex K - Diversity of National and International Partnership Grants

Primary Institute	Number of Grants/Awards Funded		CIHR Grants and Awards Expenditures (in Thousands \$)	
	2009-10	2008-09	2009-10	2008-09
Aboriginal Peoples' Health	7	8	1,164	1,093
Aging	13	10	1,271	1,186
Cancer Research	23	19	1,430	1,443
Circulatory and Respiratory Health	33	33	1,647	1,763
Gender and Health	5	3	1,098	1,093
Genetics	20	13	1,369	1,362
Health Services and Policy Research	45	47	2,671	2,245
Human Development, Child and Youth Health	20	20	1,358	1,383
Infection and Immunity	34	29	2,073	1,842
Musculoskeletal Health and Arthritis	18	19	1,406	1,498
Neurosciences, Mental Health and Addiction	42	48	2,129	1,946
Nutrition, Metabolism and Diabetes	26	24	1,677	1,551
Population and Public Health	9	8	1,308	1,108
Undeclared by researchers	36	10	3,300	2,777
Total	331	291	\$23,901	\$22,291

Primary Theme	Number of Grants/Awards Funded		CIHR Grants and Awards Expenditures (in Thousands \$)	
	2009-10	2008-09	2009-10	2008-09
Biomedical	169	162	6,172	6,209
Clinical	28	25	527	444
Health Systems/Services	59	59	4,176	3,462
Social/Cultural/Environmental/Population Health	24	20	530	1,580
Undeclared by researchers	51	25	12,495	10,596
Total	331	291	\$23,901	\$22,291

Note: The primary institute and primary theme are selected by the applicant at the time that they apply for CIHR funding.

Totals may not agree due to rounding.

Annex L - Diversity of Knowledge Translation and Health Research Grants

Primary Institute	Number of Grants/Awards Funded		CIHR Grants and Awards Expenditures (in Thousands \$)	
	2009-10	2008-09	2009-10	2008-09
Aboriginal Peoples' Health	5	6	341	355
Aging	6	4	419	255
Cancer Research	5	2	248	134
Circulatory and Respiratory Health	2	3	189	126
Gender and Health	1	0	58	0
Genetics	0	0	0	0
Health Services and Policy Research	64	81	5,230	5,176
Human Development, Child and Youth Health	6	7	609	553
Infection and Immunity	2	0	115	0
Musculoskeletal Health and Arthritis	6	2	504	62
Neurosciences, Mental Health and Addiction	8	7	520	441
Nutrition, Metabolism and Diabetes	5	3	460	192
Population and Public Health	15	13	1,367	670
Undeclared by researchers	188	173	3,843	3,311
Total	313	301	\$13,903	\$11,274

Primary Theme	Number of Grants/Awards Funded		CIHR Grants and Awards Expenditures (in Thousands \$)	
	2009-10	2008-09	2009-10	2008-09
Biomedical	1	0	28	0
Clinical	12	13	1,878	1,771
Health Systems/Services	83	89	5,552	4,727
Social/Cultural/Environmental/Population Health	28	25	2,588	1,464
Undeclared by researchers	189	174	3,856	3,311
Total	313	301	\$13,903	\$11,274

Note: The primary institute and primary theme are selected by the applicant at the time that they apply for CIHR funding.

Figures exclude flow through funds, namely PSA 3.1.2 – Networks of Centres of Excellence.

Totals may not agree due to rounding.

Annex M - Number and Diversity of Stakeholders in KT

The results of CIHR-funded research can be commercialized, or used to make changes to current health care practices and policies. A representative sample of Knowledge Translation (KT) users has been compiled based on reports from program managers, researchers and partners. Of the approximate 770 knowledge users identified, 75% worked in the federal public sector, provincial public sector and hospitals.

