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SCIENTIFIC DIRECTOR'S MESSAGE

CIHR-INMHA is a unique model worldwide, bringing together scientific communities with diverse approaches to improve knowledge of the brain and the mind. Over the past five years, CIHR-INMHA has worked successfully to narrow gaps and build bridges among these strong communities. Of all the CIHR institutes, CIHR-INMHA is the one with the largest number of active scientists. CIHR-INMHA also partners with a large number of voluntary organizations, most of which are small, with modest research capacity. On the one hand, this reality is the source of some challenges for CIHR-INMHA; on the other hand, it is the source of many opportunities for all of us.

Our first Strategic Plan, formulated during CIHR-INMHA's first year of existence, was the product of multiple consultations with scientists, non-governmental organizations (NGO)s and funding bodies across Canada and abroad. The final decisions were made by the Institute Advisory Board. The second Strategic Plan, presented here, is based on the recommendations of the report of the International Review Panel and the EKOS stakeholder report. This plan also incorporates perspectives from numerous meetings, formal and informal, held over the past five years. CIHR-INMHA staff and I organized or participated in many of these meetings with stakeholders, including researchers, representatives from NGOs and industry and decision makers at provincial, federal and international levels. We also launched two requests for input from stakeholders: the first on the *Unique Challenges in Mental Health and Addiction*, in response to the report from the Standing Senate Committee on Social Affairs, Science and Technology, and the second on *Unique Challenges in Sensory and Communication Disorders*. In the wake of the federal budget of March 2007, the government created a Canadian Mental Health Commission. The Commission will be led by retired Senator Michael Kirby who, as co-Chairman with Senator Keon of the Standing Senate Committee on Social Affairs, Science and Technology, produced *OUT OF THE SHADOWS AT LAST: Transforming Mental Health, Mental Illness and Addiction Services in Canada*.

The main message that emerged from our consultations is clear: we must stay on track. It is still too early for the first initiatives to have had a lasting impact on key research indicators or the health of Canadians. Given limited resources, we must keep our focus before launching new initiatives. It is essential, for example, for CIHR-INMHA to continue to invest in training the next generation of Canadian scientists. It is also fundamentally important to support the investigator-initiated grant programs, the cornerstone of our health research system. One big challenge, shared by the whole CIHR organization, is to support effective knowledge translation. This will be one of CIHR-INMHA's priorities. We will build on our accomplishments on the international stage, where small investments can have a very positive impact for Canadian scientists. Among all the emerging areas supported by the Institute, I am particularly proud of the leadership that CIHR-INMHA and Canada have shown on neuroethics, a new and fast growing area that is raising more and more interest in the public.

Throughout our work, the key to our success has been our partnerships with all stakeholders. They have allowed us to foster excellence in health research and to examine its implication for society on all topics relevant to our broad mandate.



Rémi Quirion, OC, Ph.D.
*Scientific Director
CIHR Institute of Neurosciences,
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I thank all stakeholders for their contribution to the development of CIHR-INMHA's second Strategic Plan. Your input and involvement are essential and appreciated.

EXECUTIVE SUMMARY

The Strategic Plan 2007-2011 that is presented in the following pages sets forth the framework that will help define and guide CIHR-INMHA's major research initiatives. Over the past years, discussions with stakeholders, researchers, scholars, trainees, universities, non governmental organizations (NGOs), private sector representatives and members of the Institute Advisory Board (IAB) have revealed a consensus that it is too early to change the priorities set out in the first strategic plan. Responding to the International Review Panel Report, however, CIHR-INMHA will place some more emphasis on knowledge translation (KT) and on the evaluation of funded programs.

CIHR-INMHA **vision** is that that innovative, ethically responsible research will lead to better health for all Canadians. Our **mission** is to foster excellence in innovative, ethically responsible research that increases knowledge of the functioning and disorders of the brain and the mind, the spinal cord, the sensory and motor systems and mental health, mental illness and all forms of addictions. CIHR-INMHA will foster cutting-edge research that incorporates the four pillars of CIHR: biomedical, clinical, health services and health systems and population health. The new knowledge will be translated into improved health outcomes and quality of life for all Canadians.

To ensure sustainability, we retain the four major strategic priorities developed in CIHR-INMHA's first Strategic Plan but we reorganize them into five items in order to emphasize the importance of strategic training and partnerships. The five strategic priorities are:

- **To increase the capacity of the Canadian health research community in neurosciences, sensory systems, mental health and addiction through innovative, transdisciplinary training program.**

We will strongly support the Strategic Training in Health Research Program.

- **To foster and develop excellence in transdisciplinary research in neurosciences, sensory systems, mental health and addiction.**

CIHR-INMHA will directly support three strategies to sustain capacity and excellence in research in the fields of neuroscience, sensory systems, mental health and addiction:

- We will support the four strategic research initiatives established in the first strategic plan: Addiction and Cross-Addiction; Regenerative Medicine and Nanomedicine; Early Life Events and First Episodes in Brain Disorders; Co-morbidity and Co-occurrence of Brain Disorders with other Health Problems.
- We will support the investigator-driven/open competition with Bridging Funding for the excellent but unfunded applications in the Operating Grant Competition.
- As the nature of research is such that opportunities for development of new research areas or the timely growth of existing ones may arise at any given time depending upon the evolution of research findings, methodology or technology, CIHR-INMHA will foster the emergence of new research areas.

➤ **To promote effective knowledge translation of innovative research findings and to improve best practices.**

We will engage in and actively support structured programs and networks aimed at fostering effective KT and we will evaluate outcomes of KT activities

➤ **To pursue and sustain creative partnerships.**

CIHR-INMHA proposes two strategies to sustain creative partnerships:

- We will collaborate and partner with NGOs and Voluntary Health Organizations (VHOs) in efforts aimed at advancing advocacy, information dissemination, KT and training and at leveraging funding and community support.
- We will also partner with other CIHR Institutes and government agencies at all levels to ensure support of targeted research initiatives.

➤ **To foster CIHR-INMHA's presence and impact of Canadian scientists on the international stage.**

We will:

- promote and encourage international networking and collaboration;
- initiate and develop joint initiatives and programs with funding organizations in other countries; and
- establish and support training programs at the international level.

INTRODUCTION AND BACKGROUND

The Canadian Institutes of Health Research (CIHR)

The Canadian Institutes of Health Research (CIHR) is the federal agency responsible for funding health research in Canada. It aims to excel in the creation of new health knowledge, and to translate that knowledge from the research setting into real world applications. The results are improved health for Canadians, more effective health services and products and a strengthened Canadian health care system.

CIHR was created under the *CIHR Act*, which came into force on June 7, 2000.

CIHR has identified five strategic directions that should guide the activities of its 13 institutes:

1. Strengthen Canada's health research communities
2. Address emerging health challenges and develop national research platforms and initiatives
3. Develop and support a balanced research agenda that includes research on disease mechanisms, disease prevention and cure and health promotion
4. Harness research to improve the health status of vulnerable populations
5. Support health innovations that contribute to a more productive health system and prosperous economy.

In pursuit of its mandate and vision, CIHR aims to achieve the following strategic outcomes:

- Outstanding research that advances health knowledge through excellent and ethical research across disciplines, sectors and geography.
- Outstanding researchers in innovative environments who develop and sustain Canada's health researchers in vibrant, innovative and stable research environments.
- Transformation of health research into action to catalyze health innovation and strengthen the health system and contribute to the growth of Canada's economy.

These strategic outcomes will be enabled by:

- Effective partnerships and public engagement through meaningful dialogue to establish effective partnerships with key stakeholders.
- Organizational excellence and outstanding staff, service delivery, systems and management.

CIHR is structured around 13 virtual geographically distributed institutes that each supports research in biomedical, clinical, health systems and services and population health. Each Institute is led by an internationally recognized Scientific Director (SD) who receives advice and support from an Institute Advisory Board (IAB).

Scientific excellence is the basis for all research supported by CIHR, investigator-initiated as well as strategic. Investigator-initiated refers to the regular operating grant competition which is essentially a continuation of one of the key programs offered by CIHR's predecessor, the Medical Research Council of Canada. What is often not realized or appreciated is that the largest proportion of today's CIHR budget is dedicated to investigator-initiated research. For example, in 2004-05, researchers who chose CIHR-INMHA as their primary institute received approximately \$80 million in operating grants. When one includes all the research relevant to CIHR-INMHA mandate across all CIHR Institutes, this amount almost doubles, reaching more than \$150 million (Table 1, figure 1). The remaining CIHR budget goes to research in strategic areas and is distributed through the Institutes and various other initiatives such as the clinical research initiative, etc. All Institutes have similar strategic budgets and the funding available to CIHR-INMHA is modest relative to its broad mandate and the large scientific community. Therefore, CIHR-INMHA strategic initiative budget accounts for less than 10% of the total amount allocated through operating grants related to its mandate (Figure 2).

Table 1

CIHR Investment in Neurosciences, Mental Health and Addiction, 2000-06, by research theme

Fiscal year	Biomedical	Clinical	Health Systems and Services	Population Health	Undefined	NA	Total
2000-01	\$ 10 174 198	\$ 3 632 564	\$ 27 354	\$ 389 012	\$ 6 976 874	\$ 423 924	\$ 21 623 926
2001-02	26 277 139	7 010 401	1 210 775	1 648 114	7 680 575	1 191 261	45 018 265
2002-03	51 487 931	14 743 516	3 012 618	5 684 872	10 028 148	2 116 369	87 073 454
2003-04	72 867 285	16 484 570	4 990 351	10 626 830	13 794 831	2 140 436	120 904 303
2004-05	93 783 117	25 513 856	4 989 478	16 154 583	13 247 058	2 625 793	156 313 885
2005-06	91 216 436	21 733 511	3 870 629	15 237 671	9 142 532	2 048 275	143 249 054

Figure 1

CIHR Investment in Neuroscience, Mental Health and Addiction from 2000 to 2006 per research theme

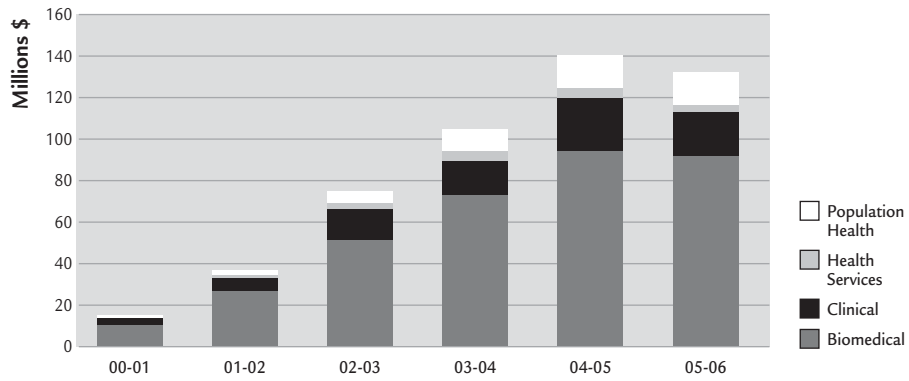
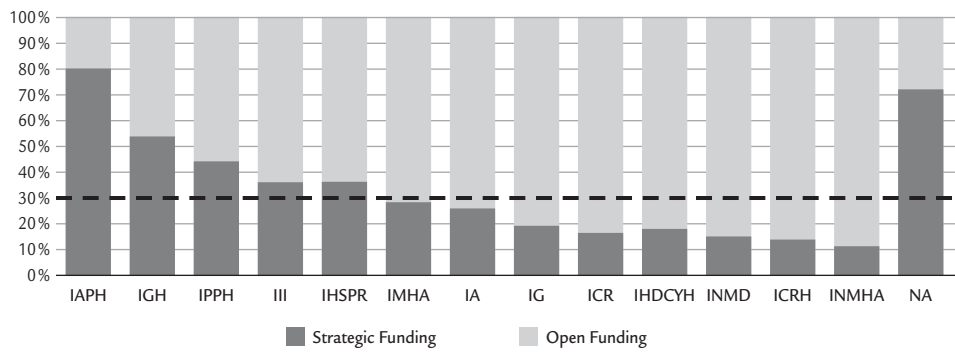


Figure 2

Open versus Strategic Funding 2005-06 By Self-Selected Institute Affiliation



The Institute of Neurosciences, Mental Health and Addiction (CIHR-INMHA)

Vision

The Institute of Neurosciences, Mental Health and Addiction believes that innovative, ethically responsible research will lead to better health for all Canadians.

Mission

To foster excellence in innovative, ethically responsible research that increases knowledge of the functioning and disorders of the brain and the mind, the spinal cord, the sensory and motor systems and mental health, mental illness and all forms of addictions.

To foster cutting-edge research that incorporates the four pillars of CIHR: biomedical, clinical, health services and health systems and population health.

To translate new knowledge into improved health outcomes and quality of life for all Canadians.

Mandate

To support research to enhance mental health, neurological health, vision, hearing and cognitive functioning and to reduce the burden of related disorders through prevention strategies, screening, diagnosis, treatment, support systems and palliation.

Values

The Institute of Neurosciences, Mental Health and Addiction:

- **Commits** to the support of excellence, scientific integrity and ethics in research that meets the highest international standards.
- **Cultivates** an understanding of the diversity of the disciplines covered by the CIHR-INMHA mandate in order to expand beyond traditional approaches to research.
- **Affirms** the importance of innovative research and knowledge translation as means of making a difference in the lives of people who are experiencing or who are at risk for the disorders and illnesses of concern to CIHR-INMHA.
- **Respects** ethical, transparent and effective governance and management processes that ensure CIHR-INMHA's credibility and strengthen its organizational capacity.
- **Acknowledges** its accountability to the Governing Council of CIHR, the Government of Canada and Canadians for the accomplishment of its mission.

Strategic Goals

- **To promote** and **support** excellence in peer-reviewed, internationally recognized and ethically responsible research in the domains of the Institute.
- **To encourage** innovative, transdisciplinary research to advance knowledge and improve health systems and outcomes.
- **To incorporate** knowledge translation, as appropriate, into all its strategic initiatives.
- **To ensure** the training and support of the next generation of Canadian scientists in all the domains of the Institute.
- **To reduce** the discrimination and stigma associated with neurological and sensory disorders, mental illnesses and addictions.
- **To promote** its unique mandate through effective communication with all sectors of civil society.
- **To interact** with all stakeholders to identify research priorities, undertake collaborative activities and ensure access to adequate human and financial resources.

Environmental Scan

According to the International Review Panel Report on the first five years of CIHR's existence, the performance of the Institute is excellent.

Perceived Strengths:

- Integration of research across pillars and content areas (e.g., neuroethics)
- Delivery across diverse societal and cultural groups
- Excellence and quantity of research productivity
- Commercialization of scientific discovery

Perceived Weakness

- Inability to fully realize strategic opportunities, attributed to:
 - Insufficient funds (imbalance between research capacity and resources)
 - Dropout of mid-career scientists/support of young investigators
 - Potential fragmentation of integrated programs

Future Opportunities

- Expanded integration among biomedical, clinical, health services and population health research programs
- Involvement with consumer community
- Outreach and interaction with the international community
- Partnerships with industry

STRATEGIC PRIORITIES

In CIHR-INMHA's first Strategic Plan, four major strategic priorities were developed and used to guide our initiatives. To ensure sustainability, we will retain these strategic priorities in the current strategic plan but have reorganized them in order to emphasize the importance of strategic training and partnerships. The five strategic priorities are:

- Increase the capacity of the Canadian health research community in neurosciences, sensory systems, mental health and addiction through innovative, transdisciplinary training programs.
- Foster and develop excellence in transdisciplinary research in neurosciences, sensory systems, mental health and addiction.
- Promote effective knowledge translation of innovative research findings and to improve best practices.
- Pursue and sustain creative partnerships.
- Foster CIHR-INMHA's presence and the impact of Canadian scientists on the international stage.

FIRST PRIORITY

Increase the capacity of the Canadian health research community in neurosciences, the sensory systems, mental health and addiction through innovative, transdisciplinary training program

Strategic Training Initiative in Health Research (STIHR)

Health research is undergoing a revolution characterized by the convergence of mathematics, humanities and the physical, social, biological, behavioural and clinical sciences. To truly be competitive in this revolution, Canada needs to meet the growing demand for skilled and adaptable individuals.

To achieve this objective CIHR created the Strategic Training Initiative in Health Research (STIHR) Program. The purpose of STIHR Grants is to build capacity within Canada's health research community through the training and development of researchers and to foster the development and ongoing support of careers in health research.

Training future generations of researchers is a major strategic goal of CIHR-INMHA. In 2004-05, approximately one-third of CIHR-INMHA's budget was invested in STIHR grants. As a result of the first two STIHR competitions, 18 STIHR programs are associated with CIHR-INMHA, the largest number of any of the 13 CIHR Institutes (<http://www.cihrrisc.gc.ca/e/25248.html#13>).

According to the International Review Panel report¹ "training in this area is a very good model of integration across pillars and Institutes and on the whole, no changes are recommended. The training systems are diverse within this Institute and appear to be robust.

On November 28-29, 2005, CIHR-INMHA organized a consultation workshop for the 18 STIHRs associated with its mandate.

Objectives

CIHR-INMHA has committed to support the major recommendations of the CIHR-INMHA STIHR workshop:²

- The STIHR program will be continued as a major strategic program of CIHR.
- Existing STIHRs will be allowed to apply for renewal in future STIHR funding competitions, because training of coming generations of researchers is an ongoing need of CIHR and Canada.
- The diversity of STIHRs, a major strength of the program, will be encouraged and fostered through the application and evaluation process.
- A central clearinghouse or web-based portal for the STIHRs will be developed. The portal will be a site for posting information about successful and unsuccessful elements of STIHRs and made accessible so that STIHRs can develop iteratively rather than each "reinventing the wheel". The web-based portal will be managed and updated continuously to keep the site dynamic.
- STIHRs associated with CIHR-INMHA will meet every two years.

Approximately 25% of CIHR-INMHA's strategic budget will be devoted to future STIHR competitions.

1. Year 5 - International Review Panel Report, 2000-2005 (<http://www.irsc.gc.ca/e/31464.html>)

2. <http://www.cihrrisc.gc.ca/e/32153.html>

Brain Star Award

Launched in March 2001, the Brain Star Award is one of the very first and most popular initiatives launched by CIHR-INMHA. A new award is given every two weeks to scientists-in-training who have published their research findings as first author in prominent scientific journals. Publications span the entire spectrum of the Institute's mandate. The award recognizes the unique contribution of scientists-in-training to Canadian scientific life. By the end of August 2006, there were 133 awardees. The award and the research findings are summarized every year in a booklet featuring the award recipients.

Since 2003, the IAB's Training & Education Focus Group has selected the highest-ranked Brain Star from the previous 12-month period and presents the Brain Star Award of the Year at the CIHR-INMHA Annual Meeting. In 2006, this special recognition was renamed the Marlene Reimer Brain Star of the Year Award to honour the memory of Dr Marlene Reimer, a member of the inaugural IAB, the first chair of its focus group on training and education and a strong supporter of the Brain Star Award. She passed away in 2005.

SECOND PRIORITY

Foster and develop excellence in transdisciplinary research in neurosciences, sensory systems, mental health and addiction

CIHR-INMHA directly supports three strategies to sustain capacity and excellence in research in the fields of neuroscience, sensory systems, mental health, and addiction

- A. Strategic Research Initiatives
- B. Bridging Funding for the Operating Grant Competition
- C. Emerging Areas

A. Strategic Research Initiatives

CIHR-INMHA, in its original Strategic Plan, adopted criteria for strategic research priorities. These criteria required that priorities:

- represent a national competitive advantage/niche
- are emergent topics and tackle new problems/knowledge/methods
- have the potential for significant scientific advances
- have partner/stakeholder support or enthusiasm
- bridge institutes and themes
- contribute to capacity-building
- support new economic development
- are unlikely to be initiated by investigators

Based on these criteria, the Institute established four strategic research priorities:

- Addiction and Cross-Addiction
- Regenerative Medicine and Nanomedicine
- Early Life Events and First Episodes in Brain Disorders
- Co-morbidity and Co-occurrence of Brain Disorders with other Health Problems

The SD and IAB, after agreeing to retain the criteria used to decide on these priorities, also agreed to stay on track with these four priorities. Each of these research priorities has been the subject of priority-setting workshops. Reports have been posted on the Web and used as the basis of Requests for Applications (RFAs). The first two research priorities have been through many competition cycles. The third has had only one competition cycle, while the first competition for the last of the four priorities was to be launched in June 2007.

While CIHR-INMHA considers that it is too early to change the priorities, an Evaluation Focus Group (see Governance section, below) will set criteria to make an informed decision about the fate of these priorities before engaging resources in additional ones.

Addiction and Cross-Addiction

According to a recent study published by the Canadian Centre on Substance Abuse (CCSA),³ the overall social costs of substance abuse in Canada in 2002 are estimated to be \$40 billion. Tobacco accounts for about \$17 billion, alcohol for about \$14.6 billion and illicit drugs for about \$8.2 billion.

3. Rehm J., Baliunas D., Brochu S., Fischer B., Gnam W., Patra J., Popova S., Sarnocinska-Hart A., Taylor B. The Costs of Substance Abuse in Canada 2002 Highlights. CCSA

In the first strategic plan, addiction research focused on nicotine addiction and tobacco use.⁵ In 2002, the Canadian Tobacco Control Research Initiative (CTCRI) and CIHR organised a national summit in Ottawa on tobacco control. Eight research priorities were established and form the basis of an RFA on “advancing the science to understand nicotine addiction and tobacco abuse”, launched in collaboration with the CIHR Institute of Cancer Research (CIHR-ICR) and many external partners under the umbrella of the CTCRI.

In October 2003, CIHR-INMHA organised a priority-setting workshop on alcohol and illicit drugs in collaboration with the CCSA, Health Canada and other CIHR Institutes. Nine research priorities were established and were included in the subsequent RFA on Research in Addiction, launched in December 2005. The priorities included not only nicotine addiction and tobacco use, but also alcohol and illicit drugs and co-occurrence of tobacco smoking or alcohol drinking with gambling. The partners included CIHR institutes – of Aboriginal Peoples’ Health (CIHR-IAPH), Human Development, Child and Youth Health (CIHR-IHDCYH), Gender and Health (CIHR-IGH) and CIHR-ICRas co-lead – and four external partners: CCSA, CTCRI, Health Canada and the Ontario Problem Gambling Research Centre.

In 2005, CIHR-INMHA participated with CIHR-IAPH and CIHR-IHDCYH in a workshop organized by the National Institute on Drug Abuse and the Fogarty International Center of the NIH on *Inhalant Abuse among Children and Adolescents*. In 2006, CIHR-INMHA participated in a workshop organized by Health Canada on *Preventing the Problematic Use of Psychotropic Pharmaceuticals*.

Objectives

- This research initiative will contribute to the understanding of addiction and cross-addictions in order to better understand the key mechanisms and modalities of the neurobiology of addiction and to inform the intervention strategies of health professionals and policy makers.
- CIHR-INMHA is planning to re-launch an RFA for this initiative biennially. It will include studies on inhalants, psychotropic pharmaceuticals and gambling.
- In order to achieve these objectives, CIHR-INMHA will:
 - Support multidisciplinary, innovative research programs designed to reduce the burden of addiction
 - Support the creation of teams of researchers undertaking action-oriented multidisciplinary research leading to better treatment for addiction
 - Build capacity for research in the area of addiction
 - Foster the development, testing and evaluation of innovative policy and program interventions and identification of best practices
 - Facilitate the effective translation of knowledge gained from the research into better practices for addiction treatment.

Responses to the RFA will be required to include plans to translate new knowledge for health care providers, decision makers and/or the general public.

Ten per cent of CIHR-INMHA's strategic budget will be devoted to this strategic research initiative.

Regenerative Medicine and Nanomedicine

Regenerative medicine and nanomedicine are considered the new frontiers of health research. Together, these two areas of research have the potential to dramatically transform the prevention, diagnosis and treatment of disease. Regenerative medicine encompasses a wide range of health research fields that share the goal of stimulating the renewal of bodily tissues and organs or the restoration of function. Nanomedicine is the broad application of nanotechnology to health research and includes specialized biomedical measurements or interventions at a molecular scale for diagnosis and treatment of diseases or restoration of function to damaged tissues or organs. The potential for impact from research advances in these two fields goes beyond the health care system: rapid and effective transfer of technology may result in commercialization and spur economic growth as well as have major regulatory impacts.

The Regenerative Medicine and Nanomedicine Initiative is one of the four major strategic initiatives of CIHR. This very successful funding program took shape from CIHR-INMHA's first Strategic Plan and has developed into one of our most highly leveraged investments. Co-led with the Institute of Genetics (CIHR-IG), the initiative includes six other CIHR Institutes and a large and growing number of external partners including the Canadian Space Agency, the National Research Council of Canada, the Natural Sciences and Engineering Research Council of Canada, the Canadian Stroke Network, the Stem Cell Network, the ALS Society of Canada, the Foundation Fighting Blindness, the Heart and Stroke Foundation, Jacob's Ladder, the Juvenile Diabetes Research Foundation International, NeuroScience Canada and the Ontario Neurotrauma Foundation. Partnerships allow CIHR-INMHA to leverage its contribution.

This research initiative includes support for innovative Team Grants and New Discoveries: High-Risk Seed Grants. Requests for Applications have been launched on a yearly basis with six general thematic headings:

- Nanomedicine and Technology Development
- Gene Therapy
- Stem Cells
- Tissue Engineering
- Rehabilitation Sciences
- Ethics and Law – Regulatory Affairs

Objectives

This initiative is most timely in the context of Canada's future competitiveness in the world economy as well as in the context of the new Science and Technology strategy.

- Our objective is that multidisciplinary research on this topic will have a direct impact on Canada's position as a world leader in Regenerative Medicine and Nanomedicine.
- CIHR and CIHR-INMHA will re-launch this RFA in collaboration with its partners on a yearly basis
- Specific goals include:
 - to support multidisciplinary, innovative research programs into the fields of regenerative medicine and nanomedicine;
 - to support the creation of teams of researchers undertaking action-oriented multidisciplinary research leading to improved health for Canadians;
 - to build capacity for research in the area of regenerative medicine and nanomedicine; and
 - to develop innovative and socially validated treatment approaches based on the science of regenerative medicine and nanomedicine that will ultimately result in improved quality of life for afflicted individuals, populations and their families.

Responses to the RFAs will be required to include plans to translate new knowledge for health care providers, decision makers and/or the general public.

Ten per cent of CIHR-INMHA's strategic budget will be devoted to this initiative.

Early Life Events and First Episodes in Brain Disorders

Early life events have a profound influence on the development of the nervous system and may manifest themselves over the long term as neurological and sensory disorders, mental illness and addictive behaviours. This is viewed as an extremely important theme for CIHR-INMHA, and is, therefore, one of the four strategic priorities originally adopted by CIHR-INMHA.

During the first New Emerging Team (NET) competition in 2002, four teams were funded in the field of Early Life Events and Neurodevelopment

In February 2004, the Institute hosted a priority-setting workshop where six research priorities were established and formed the basis for an RFA announced in December 2004 in partnership with CIHR-IHDCYH. The initiative offered NET Grants and High-Risk Seed Grants.

Objectives

This initiative will contribute to a better understanding of the aetiology of brain disorders, including key interactions between genes and environment, and to the development of more appropriate diagnosis, individualized therapies, improved quality of care, better health services and population health strategies based on detailed information as to the role and relevance of early life events on brain diseases. CIHR-INMHA will re-launch this RFA, in collaboration with its partners on a biennial basis to:

- support multidisciplinary, innovative research programs designed to improve knowledge on early life events and first episodes of brain disorders
- support the creation of teams of researchers undertaking action-oriented multidisciplinary research leading to better treatment of first episodes of brain disorders
- build capacity for research in the area of early life events and first episodes of brain disorders
- facilitate the effective translation of knowledge gained from the research into better practices for early treatments first episodes of brain disorders

Responses to the RFA will be required to include plans to translate new knowledge for health care providers, decision makers and/or the general public.

Ten per cent of CIHR-INMHA's strategic budget will be devoted to this initiative.

Co-morbidity and co-occurrence of brain disorders with other health problems

This is the fourth research priority of the inaugural strategic plan to be implemented. The inaugural IAB saw co-morbidity of mental illness with addiction problems as well as co-occurrence of brain disorders with other health problems (e.g., diabetes, obesity, cancer, cardio-respiratory diseases, etc.) as important research priorities. These are still insufficiently addressed by research and the challenge remains difficult. Nonetheless, because co-morbidity and co-occurrence are the norm and not the exception, the development of appropriate health care services is needed. A priority setting workshop was held in Ottawa in September 2005 (report available at <http://www.cihr-irsc.gc.ca/e/27131.html>). The following research priorities were identified:

- Aetiology and Developmental Pathways
- Improving Delivery of Integrated Services and Treatment
- Knowledge Translation
- Longitudinal Population-based Studies of Cause, Course and Outcome
- Measurement Tools for Screening and Diagnosis of Co-morbidity.

Objectives

- This initiative is aimed to provide a better understanding of a poorly studied though prevalent and often pervasive phenomenon, namely: the existence of co-morbid conditions in a given individual.
- CIHR-INMHA will launch this RFA in June 2007, in collaboration with its partners, and plans to re-launch it on a biennial basis. It will:
 - support multidisciplinary, innovative research programs designed to improve knowledge on co-morbidity and co-occurrence of brain disorders with other health problems
 - support the creation of teams of researchers undertaking action-oriented multidisciplinary research leading to better treatment of co-morbidity and co-occurrence of brain disorders with other health problems
 - build capacity for research in the area of co-morbidity and co-occurrence of brain disorders with other health problems
 - facilitate the effective translation of knowledge gained from the research into better practices for co-morbidity and co-occurrence of brain disorders with other health problems.

Responses to the RFA will be required to include plans to translate new knowledge for health care providers, decision makers or the general public.

Ten per cent of CIHR-INMHA's strategic budget will be devoted to this initiative.

B. Bridging funding for the Operating Grant Open Competition

Support for the investigator-driven/open competition is a key priority for CIHR-INMHA, which is the Institute with the largest contingent of scientists and trainees. Obtaining an operating grant is, however, a highly competitive process. The operating grant priority announcements represent additional funding opportunities in areas of research related to CIHR-INMHA's mandate. When excellent research applications in the open competition are rated highly through peer review but are not funded due to competition-specific financial constraints, they may be eligible for partial support through CIHR-INMHA's priority announcement process. The program is highly effective: approximately 70% of the 39 investigators who received bridge funding between 2002 and 2006 were successful in subsequent open grant competitions.

Objectives

- To support current capacity in neurosciences, sensory systems, mental health and addiction research

Ten per cent of CIHR-INMHA's strategic budget will be devoted to this important program.

C. Emerging areas

The nature of research is such that opportunities for development of new research areas or the timely growth of existing ones may arise at any given time depending upon the evolution of research findings, methodology or technology. During its first five years, CIHR-INMHA launched, alone or with partners, many initiatives on emerging areas such as Computational Neurosciences and Artificial Intelligence (two teams funded), Understanding the Placebo Effect (one team funded), Post-Traumatic Stress Disorders (two teams funded), Suicide Prevention Targeted to Aboriginal Peoples (four teams funded), Violence, Gender and Health across the Lifespan (two teams funded) and Stigma and Discrimination (x teams funded). In addition, we targeted neuroethics as a novel niche area for Canadian experts.

Neuroethics is a recent discipline bringing together philosophy, ethics and neurosciences. CIHR-INMHA organized an expert workshop on the topic in 2002 in Toronto and two cycles of RFAs were launched, with one team funded in each competition. CIHR-INMHA also created a Chair in Neuroethics whose first titular will be announced in spring 2007. Support by CIHR-INMHA is critical in this highly innovative area since other sources of funding are scarce. CIHR-INMHA is also leading an international group of research funders from Asia, Europe and North America. We plan to provide funding to expert teams in this area as CIHR-INMHA and Canada are now seen as the world leaders in Neuroethics.

Emerging Topics (Proposed and/or activated)

Mental Health in the Workplace: CIHR-INMHA and CIHR Institute of Population and Public Health (CIHR-IPPH) and CIHR-IGH and their partners launched an initiative entitled *Mental Health and the Workplace: Delivering Evidence for Action* in April 2005. This initiative is based on a workshop convened in April 2004 to develop workplace mental health research priorities, an area of great concern costing billions every year in terms of loss of productivity, as well as huge societal losses. The purpose of this RFA is to support the creation of new or emerging teams of researchers undertaking action-oriented multidisciplinary research in collaboration with workplace stakeholders leading to improved mental health in the workplace. Teams are expected to undertake a program of research geared toward developing and testing policy and program interventions

with regard to promotion, prevention, treatment, return to work, disability management and/or stigma/discrimination in the workplace. Research must be relevant to workplaces and conducted in partnership with workplace partners from the public or private sectors. Partnerships at regional, provincial/territorial and/or national levels with workplace stakeholders will ensure greater relevance of the research and increase the transfer and uptake of knowledge, ultimately leading to a healthier workplace, greater productivity and greater quality of life. With its partners, CIHR-INMHA hopes to be able to re-launch this call on a regular basis.

Psychiatric Epigenomics: A National Strategy for Research in Mental Health in Canada

has been proposed in the context of the CIHR-INMHA request for input known as the *Unique Challenge in Mental Health and Addiction*.

Sensory Disorders: In the summer of 2006, CIHR-INMHA launched a request for input to its stakeholders on the Unique Challenges in Sensory and Communication Disorders. CIHR-INMHA would like to build capacity and strengthen research in this field across Canada. Sixteen proposals in total were submitted from academics and NGOs from across Canada. The proposals were reviewed by an expert panel for potential impact and innovation. The three proposals deemed most exciting with respect to potential are:

➤ **National Strategy for Research on Communication Disorders**

*Submitted by Dr. Shari Baum, School of Communication Sciences & Disorders,
Centre for Research on Language, Mind & Brain, McGill University*

➤ **Sense and Sensibility. A proposal for enhancing awareness, research and partnership in combating sensory and communication disorders**

Submitted by Dr. Bin Hu, Department of Clinical Neurosciences and Hotchkiss Brain Institute, University of Calgary

➤ **Challenges in Vision Health Research for the Next Ten Years**

Submitted by Dr. Lachapelle for the FRSQ VISION RESEARCH NETWORK

Depending upon budgetary availability, CIHR-INMHA expects to be able to launch an RFA targeting the creation of team grants focusing on key challenges in research in sensory disorders.

Other topics: Other topics suggested by our many stakeholders over the years include stigma and discrimination, anxiety-related disorders, neurogenetics, autism spectrum disorders, orphan diseases, art and dementia and meditation and consciousness. Stakeholders are invited to propose to CIHR-INMHA topics for future consideration, as we are hopeful that some could be the focus of relevant programs in the coming years.

Objectives

To meet the needs of research in emerging areas identified above, CIHR-INMHA will:

- support multidisciplinary, innovative research programs designed to increase knowledge in emerging areas
- support the creation of teams of researchers undertaking action-oriented multidisciplinary research in collaboration
- build capacity for research in emerging areas
- foster the development, testing and evaluation of innovative policy and program interventions and identification of best practices that address the emerging areas

Programs to be initiated will depend on budgetary availability.

THIRD PRIORITY

Promote effective knowledge translation of innovative research findings and improve best practices

Knowledge translation (KT) is part of the CIHR mandate and one important distinguishing feature of the organization. CIHR defines KT as follows: *"Knowledge translation is the exchange, synthesis and ethically sound application of knowledge — within a complex system of interactions among researchers and users — 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"*. As noted by the International Review Panel, most institutes, including CIHR-INMHA, are just now beginning to contribute to the KT agenda.

CIHR-INMHA has recently adopted two strategies to improve its record on KT. We will:

- engage in and actively support structured programs and networks aimed at fostering effective KT
- evaluate outcomes of KT activities

Engage in and actively support structured programs and networks aimed at fostering effective KT

In response to the report on mental health and addiction published by the *Standing Senate Committee on Social Affairs, Science and Technology*, co-chaired by Senators Kirby and Keon, CIHR-INMHA has launched a Request for Input from its stakeholders on *Unique Challenges in Mental Health and Addiction Research: The Next Ten Years*. More than 40 submissions were received, and a recurring theme in many of them, including three of the top four ranked submissions, was a need for improved KT.

In a separate consultation in March 2006, all CIHR-INMHA partner organizations were polled for their ideas on needs in the specific area of KT in mental health and addictions. Among the recommendations were the importance of involving consumers and families in the translation of knowledge and the need to ensure that knowledge gained by patients, families and caregivers is transmitted to researchers to ensure that research programs are relevant to real needs.

In June 2006, CIHR-INMHA launched a strategic initiative on *Meeting the National Challenge: Putting Mental Health and Addiction Knowledge into Practice*. The purpose of this RFA is to strengthen the knowledge base in mental health and addiction and to fund intervention research to improve the transfer and uptake of this knowledge among a broad range of relevant stakeholders. Through this RFA, we hope to build and strengthen teams (emerging or already established) engaged in KT at the local, regional or national level. This investment is expected to position the teams to accelerate the translation of knowledge to strengthen Canada's health care system and/or improve the health of Canadians. Funding for this initiative will start in 2008.

The **Outreach Initiative** is a unique initiative developed by CIHR-INMHA to enlist NGOs in partnerships to help bridge the communications gap between science and the general public. The program offers awards of up to \$10,000 for innovative promotional ideas that take a message to the public or targeted organizations. The program was launched in 2003, 2005 and 2006 and will be sustained over the coming years, as it has been highly successful.

The Brain from Top to Bottom is a McGill University-hosted web site that brings the brain's workings within the reach of everyone. Sponsored by CIHR-INMHA, it is quite successful in both French and English. In October 2006, the site received 2,000 hits in English and 3,200 in French. The site has also won many national and international awards. CIHR-INMHA will continue to sustain this initiative in the future years.

Objectives

- CIHR-INMHA will launch an RFA on Knowledge Translation on Mental Health and Addiction, as well as on other topics relevant to its mandate, in collaboration with its partners, on a biennial basis
- CIHR-INMHA will pursue the Outreach Initiative on Knowledge Translation for NGOs with its partners on an annual basis.
- Each RFA launched by CIHR-INMHA will require a dissemination and KT plan.
- The Knowledge Translation Focus Group of CIHR-INMHA's IAB (see Governance section, below) will:
 - Develop sound KT criteria and procedures for assessing KT in research funded by CIHR-INMHA
 - Participate in KT-relevant planning and implementation activities at CIHR

Ten per cent of CIHR-INMHA's strategic budget will be devoted to knowledge translation.

FOURTH PRIORITY

Pursue and sustain creative partnerships

From the very beginning, partnerships have been key to CIHR-INMHA, as highlighted in our stakeholder report. Partnerships can provide additional funds for research but their importance goes far beyond money. Key elements include advocacy, visibility in the general public and knowledge translation.

From the beginning, CIHR-INMHA has worked in collaboration with the numerous NGOs and VHOs related to its mandate. These organizations actively participate in the Institute's Annual Meetings and priority-setting events. Two partnership workshops have been held (June 2001 in Ottawa and January 2002 in Calgary) and partner organizations are consulted on an on-going basis.

CIHR-INMHA proposes two strategies to sustain creative partnerships:

- Collaborate and partner with NGOs and VHOs in efforts aimed at advancing advocacy, information dissemination, KT and training and leveraging funding and community support.
- Partner with other CIHR Institutes and government agencies at all levels to ensure support of targeted research initiatives.

Objectives

- To inform and involve all relevant partners in identifying research priorities and in the subsequent development of relevant funding programs (RFAs, program announcements, etc.).
- To organize priority-setting workshops and to participate in similar events organized by NGOs and other federal agencies, provincial organizations, etc.
- To hold an annual competition for the Outreach Initiative to assist NGOs and VHOs in their KT activities.
- To organize an Annual Meeting of all stakeholders of the Institute. In May 2007, the annual meeting was to be held in Toronto, in conjunction with the inaugural meeting of the Canadian Association for Neuroscience.
- To publish a quarterly e-newsletter (Brain Brief) and distribute it widely to all stakeholders.

FIFTH PRIORITY

Foster CIHR-INMHA's presence and impact of Canadian scientists on the international stage

There are many opportunities for international collaborations. The presence of CIHR-INMHA on the international stage is essential to benefit from today's context for scientific research and training in the domains covered by the Institute's mandate. CIHR-INMHA is supporting Canadian scientists by promoting and developing joint research and training initiatives with funding organizations in other countries. CIHR-INMHA has led the development of several CIHR-wide international collaborations and is the coordinating body for two major funding initiatives, the Japan-Canada Joint Health Research Program and the China-Canada Joint Health Research

Initiative. The Institute has also established collaborations with the National Institutes of Health and non-governmental funding organizations in the United States. Another key partner is Finland. CIHR-INMHA has also led the development of international consortia such as the International Partnership for Mental Health Research and the International Network on Neuroethics.

CIHR-INMHA also sponsors the International Brain Research Organization (IBRO) Neuroscience School Program, a series of advanced courses designed to encourage former graduates and others in developing countries to take up careers in neuroscience. CIHR-INMHA co-funds two neuroscience schools every year, in Africa and South America. CIHR-INMHA also assists with the recruitment of Canadian researchers who participate as part of the faculty. The investment is relatively modest but it has major impact for developing countries. CIHR-INMHA will continue to fund two schools per year in developing countries in collaboration with IBRO.

Strategies

CIHR-INMHA proposes three strategies for international collaboration:

- Promote and encourage international networking and collaboration.
- Initiate and develop joint initiatives and programs with funding organizations in other countries.
- Establish and support training programs at the international level.

Objectives

- To foster and sustain the international links created so far with the USA, Japan, China and Finland.
- To link with various international organizations and continuously seize new opportunities for collaboration.
- To support, in collaboration with IBRO, two neuroscience schools in developing countries each year.
- To lead the International Network on Neuroethics.
- To explore opportunities for novel international partnerships with clear added value for our stakeholders.

Seven-to-ten per cent of CIHR-INMHA's strategic budget will be devoted to international partnerships.

GOVERNANCE AND MANAGEMENT

CIHR-INMHA's IAB members reflect the diversity of our community. Each member of the IAB participates in at least one of the CIHR-INMHA Focus Groups. The number and focus of these committees vary and take into account the interest of the Board. Two committees were created recently to answer the concerns of the International Review Panel on performance evaluation and knowledge translation issues.

The original focus groups are:

- › Governance and Budget
- › Government Affairs, NGOs and Partnerships
- › International Relations
- › Industry and Biotechnology
- › Training and Education
- › Ethics and Law

The two newly created focus groups are:

› **Performance Evaluation**

The aim of the Performance and Evaluation Focus Group is to improve programs and determine their worth or merit based on a series of concrete criteria that it will define and develop in collaboration with the Evaluation Branch at CIHR. It will provide the IAB with information aimed at deciding if a program is sufficiently effective to be continued or replicated. Some of the criteria to be used are the accomplishment of the program's objective, the added value of interdisciplinary research and the added value of collaborative projects.

› **Knowledge Translation**

The aim of the Knowledge Translation Focus Group is to provide guidance and define principles for CIHR-INMHA's KT activities. It will look for opportunities within past, present and future research initiatives to put the knowledge that has been created through research into action. Partnerships will be central to such KT activities. CIHR-INMHA can build on the relationships that it has with researchers, health professionals, policy makers, the private sector and the general public to identify information needs and to ensure that relevant knowledge in the appropriate format reach the correct targets.

STRATEGIC PLANNING METHODOLOGY

The strategic planning process draws on contributions of a large section of the scientific community associated with the Institute, stakeholders and the IAB. CIHR-INMHA organized numerous priority-setting workshops and attended others organized by its partners, such as Health Canada. IAB members met with researchers from across Canada during meetings held at Canadian universities. Two requests for input from the stakeholders were posted on the Web.

- CIHR-INMHA-CIHR STIHRs Workshop, Montreal, October 28-29, 2005 (www.cihr-irsc.gc.ca/e/27131.html)
- CIHR-INMHA-CIHR Sponsored Translational Research Think Tank: Facilitating the Development of Therapeutics for Mental Illness – An Industry Perspective, Vancouver, October 28-29, 2005 (www.cihr-irsc.gc.ca/e/27131.html)
- Key in the context of the second Strategic Plan are our two “Unique Challenges Calls” – one in Mental Health and Addiction, the other on Sensory and Communicative Disorders.

CIHR-INMHA worked closely with Senators Kirby and Keon and their Committee and was challenged to come up with a ten-year research agenda for mental health and addiction for inclusion in the Commission’s final report. CIHR-INMHA challenged stakeholders to provide input into the establishment of a long-term research agenda through a unique and very successful open call on “Unique Challenges in Mental Health and Addictions. The call resulted in more than 40 briefs from across Canada. Submissions came from academics, NGOs, VHOs, provincial governments and industry, and resulted in an impressive collection of imaginative recommendations. Although no funding was available, the four top-ranked proposals were:

- Canadian Collaborative Mental Health Initiative (CCMHI, Executive Director Scott Dudgeon, Mississauga, Ontario).
- Canadian Mental Health Services Knowledge Translation Network (Paula Goering, University of Toronto; Elliot Goldner, Simon Fraser University; and Alain Lesage, Université de Montréal).
- A National Strategy for Research in Mental Health and Addictions: Focus on Children and Youth (Terry Russell, Victoria, B.C.)
- Psychiatric Epigenomics: A National Strategy for Research in Mental Health in Canada (Arturas Petronis, University of Toronto)

Following this successful model, CIHR-INMHA launched a second request for input for unique challenges in sensory and communication disorders in 2006. Sensory research includes not only normal functions and disorders related to vision and hearing but also to smell, taste, touch, heat, balance, pain and proprioception. Communication research includes research on processes and impairments related to voice, speech and language. Sixteen proposals have been received. The proposals were reviewed by an expert panel for potential impact and innovation. Three proposals were deemed most exciting with respect to potential (see page 20).

In December 2006 and February 2007, CIHR-INMHA launched, on its Web page, in its e-newsletter and by e-mail, two open calls requesting feedbacks on the draft Strategic Plan 2007-2011.