



CIHR
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Institute of Neurosciences,
Mental Health and Addiction
Institut des neurosciences, de la
santé mentale et des toxicomanies

Discoveries for life

STRATEGIC PLAN

2020 - 2022



Canadian Institutes
of Health Research

Instituts de recherche
en santé du Canada

Canada

A Note on COVID-19

The INMHA Strategic Plan 2020-2022 was in the final stages of publication when the COVID-19 pandemic was declared. In addition to delaying publication of the plan, it also quickly became clear that Canadians were collectively experiencing a traumatic event and that there would be substantial mental health implications that required attention.

Therefore, to support the mental health of all Canadians and address the increase in needs during this unprecedented time, CIHR mobilized, with INMHA's leadership, a COVID-19 and Mental Health Initiative. This proactive response to provide urgent knowledge and evidence to support decision-making throughout the mental health responses to the pandemic is a collaboration with Health Canada (HC), the Public Health Agency of Canada (PHAC) and five additional CIHR Institutes.

More information can be found at: <https://cihr-irsc.gc.ca/e/52001.html>

Canadian Institutes of Health Research

At the Canadian Institutes of Health Research (CIHR), we know that research has the power to change lives. As Canada's health research investment agency, we collaborate with partners and researchers to support the discoveries and innovations that improve our health and strengthen our health care system.

CIHR Institute of Neurosciences, Mental Health and Addiction

The CIHR Institute of Neurosciences, Mental Health and Addiction (CIHR-INMHA) invests in fundamental and clinical research on the brain and spinal cord to enhance the understanding of cognitive, emotional and sensorimotor functions. Advances in these areas will ensure a brighter future for Canadians living with neurological and mental health conditions.

Canadian Institutes of Health Research
160 Elgin Street, 9th Floor
Address Locator 4809A
Ottawa, ON K1A 0W9
www.cihr-irsc.gc.ca

CIHR Institute of Neurosciences, Mental Health and Addiction
University of Calgary, Cumming School of Medicine
Heritage Medical Research Building, Room 172
3330 Hospital Drive NW
Calgary, AB T2N 4N1
www.cihr-irsc.gc.ca/e/8602.html

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Message from the Scientific Director

Canada boasts a strong and vibrant research community, with globally-recognized strengths in brain and mental health research and collaboration. Scientists from all corners of the country are uncovering the mysteries of the hundreds of billions of cells and trillions of connections that make up the human brain – and yet we still have much to learn.

Brain, mental health and addiction disorders touch the lives of loved ones in nearly every family across the country. In any given year, one in five Canadians will experience a mental illness or addiction disorder¹. Mental illness is a leading cause of disability in Canada², accounting for more than \$51 billion per year in direct and indirect costs³. It is estimated that 4,000 Canadians die each year by suicide⁴, and Indigenous youth have a suicide rate that is five to six times higher than non-Indigenous youth⁵. Furthermore, more than half of individuals receiving home care or living in long-term care facilities have a brain condition and over the next 20 years, the number of Canadians living with dementia (Alzheimer’s and related dementias) and Parkinson’s disease is expected to almost double – as are the total annual health costs for these conditions⁶.

As Canada’s health research investment agency, the Canadian Institutes of Health Research (CIHR) seeks to create and translate new knowledge into improved health for Canadians. And as one of CIHR’s 13 Institutes, the Institute of Neurosciences, Mental Health and Addiction (INMHA) contributes to this mandate by supporting research, and knowledge translation and exchange focused on the functioning and disorders of the brain, spinal cord, sensory systems and the mind.



Dr. Samuel Weiss
Scientific Director,
CIHR-INMHA

Broad Engagement to Inform INMHA’s Strategy

Since beginning my term as Scientific Director in 2017, INMHA has experienced rapid change and growth, with several factors directly influencing our activities and overall strategy. Our Institute Advisory Board (IAB) was officially convened in 2018, bringing valuable diversity and expertise to guide the development of our overarching principles and priorities. It has been through close consultation with our IAB, and in response to the brain and mental health needs of Canadians and our stakeholders, that we have developed and expanded several new priority research areas.

Importantly, our consultation process for developing this Strategic Plan also included an engagement tour in early 2019, involving researchers at eleven universities across Canada. We selected research universities with demonstrated strengths in neuroscience and held town hall meetings where INMHA’s draft strategy was presented and participants were given the opportunity to provide feedback. These events, together with complementary satellite meetings with local stakeholders including researchers, service providers, decision makers, and other key knowledge users, provided us with valuable input that we gathered and incorporated into this strategic plan.

One example to highlight the importance of these local meetings is the *Methamphetamine and Related Psychostimulant Use* funding opportunity that INMHA launched shortly after visiting the University of Western Ontario in London. While in London, I learned about the urgent need for new evidence related to methamphetamine use, which is highly prevalent in that region, and we were able to respond rapidly with funding for 13 grants to start filling this knowledge gap.

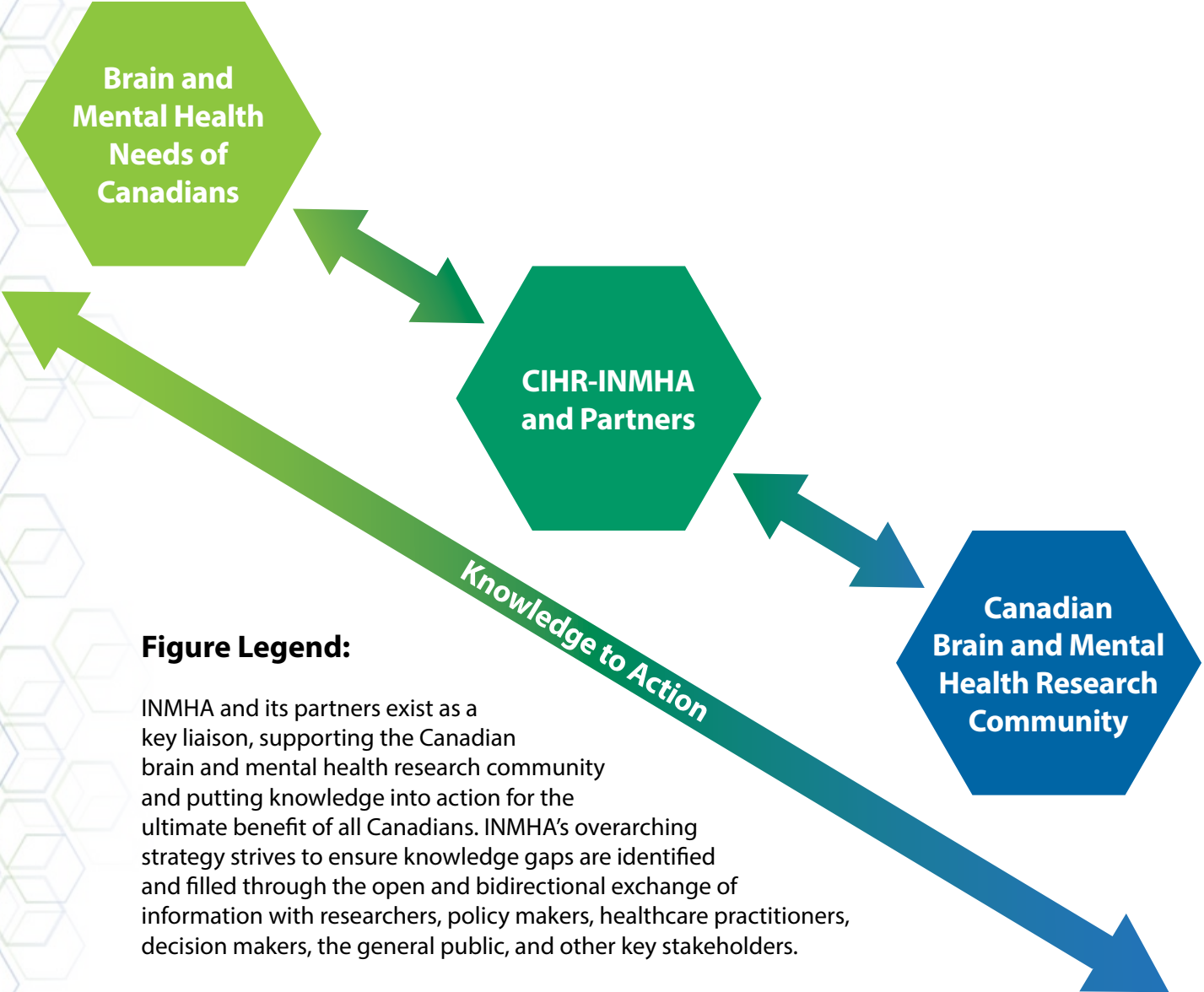


Figure Legend:

INMHA and its partners exist as a key liaison, supporting the Canadian brain and mental health research community and putting knowledge into action for the ultimate benefit of all Canadians. INMHA’s overarching strategy strives to ensure knowledge gaps are identified and filled through the open and bidirectional exchange of information with researchers, policy makers, healthcare practitioners, decision makers, the general public, and other key stakeholders.

About CIHR-INMHA

Aligning INMHA's Strategic Plan with CIHR's Developing Strategy

CIHR is also undergoing a period of transformation, including the appointment of a new president in October 2018, Dr. Michael Strong. The organization has subsequently begun its own strategic planning process, working towards launching a new CIHR Strategic Plan in 2020, coinciding with the organization's 20th anniversary and replacing the previous Strategic Plan, the Health Research Roadmap II.

With these recent and upcoming milestones in mind, INMHA's *Strategic Plan 2020-2022* has been created as a short-term document, intended to guide the Institute over the next two to three years. This plan will effectively bridge the gap between CIHR's Roadmap II and the new CIHR Strategic Plan in development, and will be revised in 2021/22 to maintain alignment with CIHR's overarching strategy.

In addition, it is important to note that INMHA works hand-in-hand with several branches at CIHR for all of its strategic activities, maintaining close partnerships and frequent communication with CIHR staff. We will continue to work closely with our colleagues at CIHR to ensure that our activities as outlined in this strategic plan remain feasible and are adequately supported.

INMHA's Strategic Plan 2020-2022

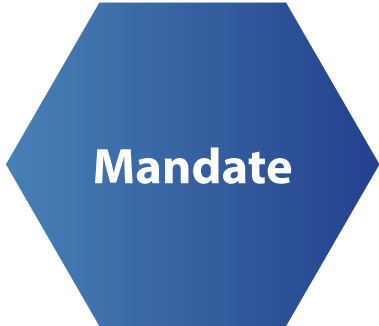
The following pages have been structured as two main sections. First and foremost, we have outlined a set of guiding principles that will influence and apply to all of our activities. These principles have been developed through consultations with our IAB and our community, and with consideration given to INMHA's previous Strategic Plan, CIHR's Roadmap II and the growing needs and values of our Institute and our stakeholders.

Second, we will outline our major research priorities, including specific research areas that are currently well-developed and others that are emerging. At INMHA, our core business is the strategic mobilization of new knowledge into action for the ultimate benefit of Canadians. To do this, we seek to strike a balance between meeting the Government of Canada's urgent needs for scientific evidence to inform policy and practice, and mobilizing the strengths and capabilities of the health research community to catalyze research opportunities in areas of emerging need.

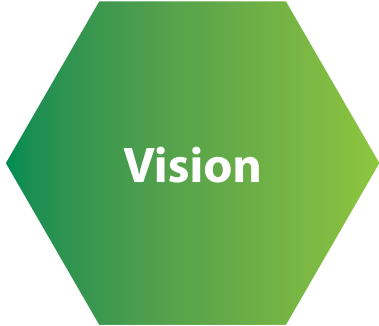
It is clear that there is a substantial need for new knowledge in order to address some of our most pressing brain and mental health challenges. Fortunately, Canada has some of the world's best facilities, scientists and trainees, and an enthusiastic, supportive stakeholder community. With this strong foundation, INMHA is poised to thoughtfully and strategically align its resources – supporting policy development, health care practice, and the research community – ultimately striving for the best possible brain and mental health for all Canadians.



Dr. Samuel Weiss, PhD, FRSC, FCAHS
Scientific Director, CIHR Institute of Neurosciences, Mental Health and Addiction



INMHA supports research that enhances knowledge of the brain – mental health, neurological health, vision, hearing and cognitive functioning. Our goal is to reduce the burden of brain illness through prevention strategies, screening, diagnosis, treatment, support system and palliation. We will improve understanding of human thought and emotion, behaviour, sensation (sight, hearing, touch, taste, smell) perception, learning, and memory.



Well-supported, excellent, innovative and ethically responsible discovery science, encompassing all aspects of nervous system and mental health research and clinical translation that results in quality healthcare, and respects the diversity of culture and values of all Canadians.



To enable cutting-edge Canadian-led research, clinical translation, innovation, and engagement that leads to new knowledge about the biological and sociocultural processes underlying neurologic, mental health and addiction disorders, and promotes optimal quality of life, health care, and outcomes.

The Ethical, Legal and Social Implications (ELSI) of our work

INMHA strives to anticipate and address the ethical, legal and social implications (ELSI) of our work at all stages, including in the selection of priority topics, conduct of research, and knowledge translation.

The ELSI lens is central to the responsible conduct of research in INMHA's mandate area, and attention to the social and human welfare consequences of brain and mental health disorders helps to guide the selection of the Institute's priority research areas. Furthermore, brain and mental health needs arise from the complex interplay of biological, social and environmental factors, and understanding and responding to those needs is most effective when appropriate attention is paid to this complexity. Successful translation of research into policy is also supported by a strategy that takes into consideration the opportunities for policy impact through public, stakeholder, and policy maker involvement and communication.

INMHA's Institute Advisory Board (IAB)

Officially constituted in 2018, INMHA's Institute Advisory Board (IAB) serves a key role in supporting the Institute. Although priorities and financial decisions are determined by the Institute's leadership, the IAB's advice is critical to maximizing the benefits of INMHA's operations.

Through quarterly meetings alternating between face-to-face and teleconference calls, the IAB offers advice on potential partnership opportunities and provides expert feedback on Institute activities. Subcommittees are created on an ad-hoc basis in order to deliver direct, timely input for specific Institute needs. Past subcommittees have been responsible for priority setting, revising the Institute's vision and mission statements, and contributing to the development of this strategic plan.

Two IAB subcommittees were formed in 2019 and have been tasked with:

- Identifying performance measurement indicators to assess and monitor the success of INMHA's strategic activities; and
- Providing advice and recommendations to assist the Institute in developing conflict of interest (COI) guidelines, which will then be discussed with Science Council and CIHR senior leadership to ensure alignment with broader CIHR and Government of Canada activities around COI.

In the future, INMHA will further utilize the expertise on its IAB in partnership with other CIHR IABs to seek and promote areas of overlap. Working collaboratively with other CIHR Institutes will allow INMHA to support opportunities beyond those that have been identified as priority initiatives, maximizing our collective support for Canadian brain and mental health research and knowledge translation.

A full list of IAB members at time of publication can be found at the back of this document. Current IAB membership lists are maintained on the Institute's website.

Principles

INMHA's activities will be guided by six overarching principles:

Champion Scientific Excellence



The CIHR Act states that Canada should be an internationally acknowledged leader in contributing to the global advancement of health research and that excellence in health research is fundamental to improving the health of Canadians and of the wider global community.

INMHA is therefore committed to supporting the highest-quality science and advanced methodologies, and championing scientific rigour in Canadian neuroscience, mental health and addiction research as a means to promote optimal neurological health and mental wellness for all Canadians.

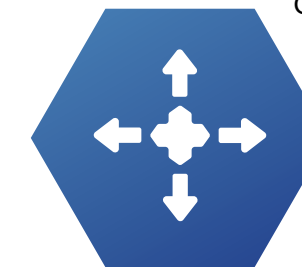
Foster Meaningful Collaborations and Partnerships



INMHA places tremendous value on establishing and fostering positive relationships – both internal to CIHR and external – in order to successfully deliver on its mandate. INMHA will therefore continue to develop and enhance current and emerging opportunities for collaborations and partnerships, as well as to emphasize a collaborative approach in all of its activities.

Collaborations may include, but are not necessarily limited to: CIHR Institutes, provinces, territories and municipalities, Government of Canada department and agencies, international organizations, non-governmental organizations (NGOs), First Nations, Inuit and Métis communities and organizations, charities, foundations, and communities, patients and individual Canadians.

Be Responsive and Flexible



Canada is currently facing a critical need for new knowledge in several areas of neuroscience, mental health and addiction research. In addition, scientists across the country are making groundbreaking discoveries in their fields, uncovering new gaps in knowledge, and developing technologies at a rapid pace.

INMHA has a broad mandate and therefore commits to remaining nimble and responsive, both to the current and emerging health concerns and priorities of Canadians, as well as to the needs of brain and mental health researchers across the country.

Optimize Impact



With limited financial and human resources, it is critical for INMHA to invest in areas that have the potential to make a measurable impact on the improvement of Canadian health outcomes.

The Institute will therefore invest in areas with sufficient capacity within Canada, and that are in scope and feasible for the Institute, with consideration given to projects that carry the potential to increase the global impact of Canadian brain and mental health research.

Attend to Inequalities and Potential Biases



It is imperative that all Canadians have the opportunity to benefit equitably from neuroscience, mental health and addiction research. To do this, INMHA will include a diversity lens in our understanding of brain health, and prioritize initiatives that bring more balance to current inequalities in health research and knowledge. This includes but is not limited to fostering the integration of sex and gender perspectives into our strategic activities, and investing in research, knowledge translation and capacity building initiatives that will meaningfully engage and promote the brain and mental wellness of First Nations, Inuit and Métis Peoples in Canada.

Emphasize a Wellness Approach

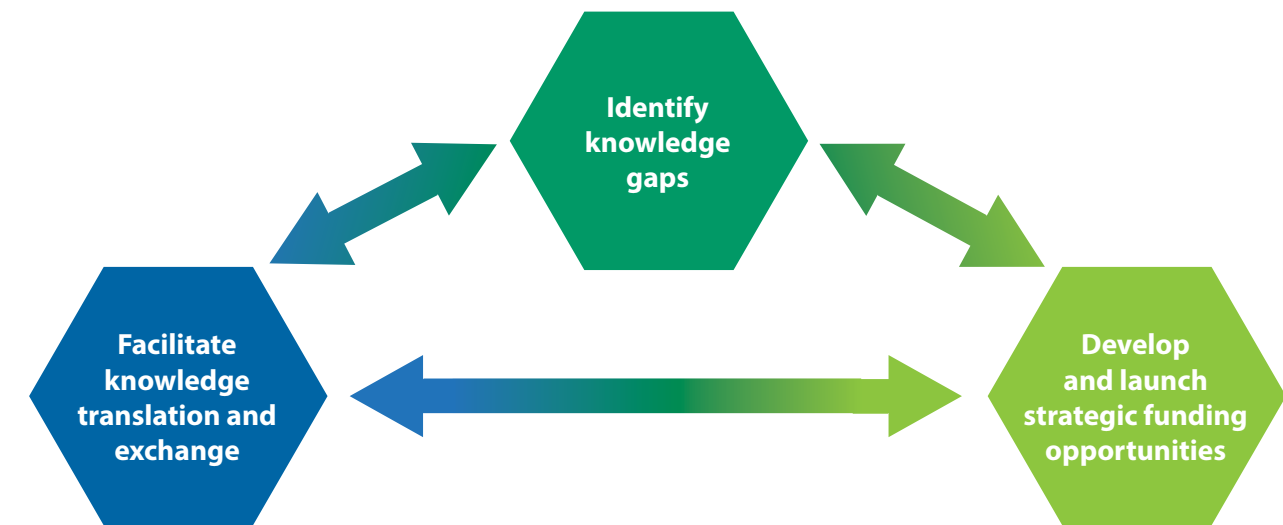


INMHA believes that there should be a paradigm shift in how health research is defined and approached, focusing on wellness over illness and promoting healthy living and optimal quality of life for all Canadians. The Institute will seek to support approaches that aim to enhance prediction, prevention and early intervention in brain and mental health conditions, support strategies and tools to reduce stigma and improve literacy around brain illness, and maximize the cultural, social and environmental determinants of health.

Objectives

CIHR is mandated to continually align health research funding with changes in the manner in which health problems and opportunities are identified, understood and addressed. For INMHA, this translates into the mobilization of strategic funding in order to meet some of the most urgent brain and mental health needs of Canadians, and building a solid, sustainable foundation for researchers so that they can respond to knowledge gaps and ensure the greatest global impact of Canadian neuroscience.

This Strategic Plan will outline how INMHA will support its research priorities through an iterative process:



INMHA strives to integrate three elements into the design of all strategic funding opportunities:

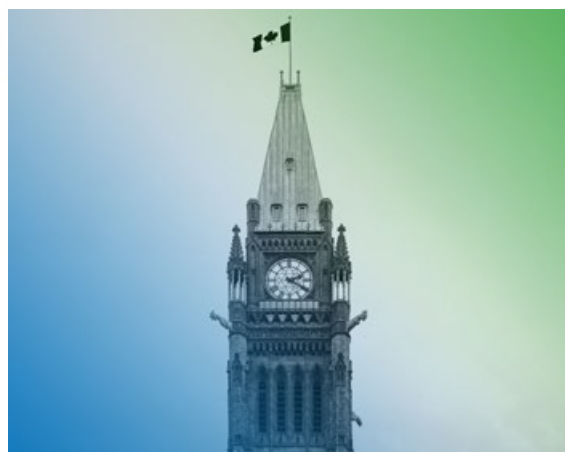
- **Teams:** Encouraging teamwork and collaboration among researchers, knowledge users and stakeholders
- **Open science:** Making new knowledge available to all and incorporating open science principles into new funding opportunities
- **Knowledge translation and exchange:** Ensuring data is effectively shared among researchers and knowledge users, and translated into tools that can be used by decision makers, policy makers, healthcare practitioners and the general public

This Strategic Plan organizes the priorities of the Institute by stating two primary objectives:

1. Respond to the brain and mental health needs of Canadians by supporting Government of Canada health research priorities and catalyzing research opportunities in areas of emerging need; and
2. Support the Canadian brain and mental health research community by facilitating networking and interdisciplinary platforms, and enhancing career development and trainee mobility

Objective 1: Respond to the Brain and Mental Health Needs of Canadians

Supporting Government of Canada Health Research Priorities



INMHA is proud of its previous and current investments in world-class research, and is committed to continuing to tackle the brain and mental health challenges facing our country by supporting initiatives that ensure maximum impact. By addressing the Government of Canada's need for knowledge in areas that fall squarely within our mandate, INMHA will effectively inform evidence-based policies and healthcare practices for the ultimate benefit of all Canadians.

Three Government of Canada health research priorities that fall within INMHA's mandate are: opioids and substance use, cannabis and post-traumatic stress.

Research and Knowledge Translation Priority 1: Opioids & Substance Use

Canada is in the midst of an unprecedented public health crisis: Between January and March 2020, there were 1,018 apparent opioid-related deaths and more than 16,364 lives were lost between January 2016 and March 2020 related to opioids⁷. The Government of Canada has made addressing the national opioid crisis a top priority, committing to protecting the health and safety of all Canadians through a comprehensive, compassionate, collaborative and evidence-based approach to addressing problematic substance use.

Drugs and substances and their associated effects, such as dependence, related disorders and other harms, is an increasingly pressing issue for Canadians. Understanding the effects of these substances on individuals and on society is essential to helping people recover from substance use disorders and to develop appropriate regulations and controls related to drugs and substances.

INMHA is leading CIHR's Opioids and Substance Use initiative to support the national mandate to address the opioid crisis and inform the Government of Canada about drug use and associated impacts.

Identifying Knowledge Gaps

The Government of Canada is committed to tackling the opioid crisis and has emphasized the need for a strong evidence base through the Canadian Drugs and Substances Strategy (CDSS), and the Joint Statement of Action to Address the Opioid Crisis. This includes data related to harm reduction policies, programs and interventions that will enable the Government to better identify trends, target interventions, monitor impacts and support evidence-based decisions to promote safety and better health outcomes for Canadians.

In close partnership with Health Canada's Controlled Substances and Cannabis Branch, INMHA is currently and will continue to work with broad stakeholder groups, participating on working groups and in meetings where knowledge gaps are identified. These include federal, provincial, territorial and intergovernmental working groups, advocacy groups and participation in meetings and workshops including service providers, policy makers and people with lived and living experience.



Strategic Funding

Canadian Research Initiative in Substance Misuse (CRISM)

Developed by INMHA and established in 2015, CRISM is a national network of researchers, service providers, policy makers and people who use drugs that aims to translate evidence-based interventions into clinical practice, community-based prevention, harm reduction and health system changes.

CRISM consists of four large regional teams referred to individually as nodes, that can function independently and/or in concert on studies related to substance use. CRISM's objectives are to: identify and/or develop the most appropriate clinical and community-based interventions for substance use disorders, provide evidence to support the enhancement of prevention and treatment services regarding substance use to decision makers and service providers; and support improvement in the quality of care and quality of life for Canadians living with substance use.

Rapid-Response Funding Opportunities

The urgency of the opioid crisis has highlighted the need for a rapid infusion of knowledge to inform policies and practices nationwide. In response, INMHA has developed and launched short-term funding opportunities to expedite knowledge synthesis and translation, and to assess interventions and practices that have been put in place to address the most urgent elements of the crisis.

- In 2018, CIHR funded 22 *Opioid Crisis Knowledge Synthesis* projects that connect researchers directly with knowledge users on the front lines to identify knowledge gaps and synthesize the literature in order to rapidly enable evidence-informed policies.
- In 2019, CIHR funded 15 projects in the *Evaluation of Interventions to Address the Opioid Crisis* operating grants competition that will allow healthcare practitioners and policy makers to gain evidence on the effectiveness of opioid crisis-related interventions, including interventions aimed at addressing unrelieved pain, which is a major driver of the opioid crisis.

Knowledge Translation and Exchange

CRISM Implementation Research Program

In response to the emerging health threat posed by the opioid crisis, CIHR funded CRISM's national research program in implementation science, which will focus on how best to integrate evidence-based interventions into practical settings, including treatment, harm reduction and targeted prevention. The program is organized around twelve project/theme areas across four regional teams and will integrate biological and social determinants of substance misuse and sub-populations (e.g., those with severe opioid use disorder, youth, Indigenous Peoples, rural, inner-urban, pregnant women and correctional populations) where appropriate in study design.

Integrating Knowledge Translation and Exchange into Funding Opportunities

It is vital that the knowledge gained through funded research projects on opioids and substance use is successfully and rapidly translated into policies and practices that can help address Canada's opioid crisis. To do this, INMHA is integrating knowledge translation and exchange into its strategic funding opportunities, and is ensuring the active involvement of policy makers and people with lived experience in opioid and substance use research.

As an example, the Institute is hosting end-of-grant knowledge translation workshops for all of its strategic funding opportunities. The *Opioid Crisis Knowledge Synthesis* end of grant workshop, held in January 2019, brought 70 participants together, including knowledge users, people with lived experience and researchers from 12 universities across Canada representing each of the 22 research teams. The workshop successfully provided a venue for information sharing and networking, and served to highlight knowledge gaps focused on chronic pain management, learning from people with lived experience, and barriers and facilitators to implementation.

An end-of-grant knowledge translation workshop will be held for the 15 research teams funded in 2019 through the *Evaluation of Interventions to Address the Opioid Crisis* funding opportunity.



Looking forward

INMHA is actively engaged in a number of activities that will contribute to advancing research in opioids and substance use going forward.

Canadian Drugs and Substances Strategy (CDSS) Refresh

The Institute is actively engaged with Health Canada's Controlled Substances and Cannabis Branch, currently tasked with updating the CDSS to more effectively and compassionately address substance use in Canada. INMHA's contributions in this area will help to ensure that innovative research initiatives are supported in the refreshed strategy and that interventions, models of care, and policies are effective and scalable across jurisdictions, and for key populations.

CRISM 2.0

With its initial funding coming to an end, CIHR is looking to renew and refresh CRISM's operational strategy. Originally intended as a clinical trials network, CRISM has evolved to take on a much greater role, including offering guidance to policymakers and knowledge users across the country. The rapidly evolving scientific landscape and funding environment in the area of substance use further supports the need to carefully consider the future design of the network. INMHA is leading this process in order to ensure maximum scientific impact and alignment with the new CDSS and federal priorities.

Expanding Substance Use Research

Although Canada remains in the midst of an opioid crisis, there is a need to expand the scope of substance use research to include other substances. For example, concerns around methamphetamine use in Canada have been growing and there is a relative lack of high-quality data on the scale of the issue and its impacts on healthcare and the health service system.

In response, CIHR-INMHA launched a *Methamphetamine and Related Psychostimulant Use* funding opportunity in 2019 in order to lay the groundwork for successful interventions at all levels. With seven grants awarded in early 2020, this funding opportunity will focus on data collection, knowledge syntheses and implementation science studies focused at any level, including community, organizational or municipal.

Additional funding opportunities are in development, to support research in other areas of substance use, such as alcohol.

Research and Knowledge Translation Priority 2: Cannabis

On October 17, 2018, Bill C-45, *An Act respecting cannabis and to amend the Controlled Drugs and Substances Act, the Criminal Code and other Acts (the Cannabis Act)* came into force. This bill legalizes, strictly regulates and restricts access to cannabis products for non-medical purposes and the legal sale of edible and topical formulations followed in October 2019.

In close partnership with Health Canada's Controlled Substances and Cannabis Branch, INMHA has led the development of the Integrated Cannabis Research Strategy (ICRS) on behalf of CIHR, to support the advancement and translation of scientific knowledge on cannabis in Canada. At its core, the ICRS is a collaborative strategy, bringing together diverse funding partners and knowledge users to inform policy, therapeutic practice, harm reduction, and prevention efforts.

The ICRS was developed in collaboration with the Institutes of Cancer Research (ICR); Circulatory and Respiratory Health (ICRH); Human Development, Child and Youth Health (IHDCYH); Indigenous Peoples' Health (IIPH); and Musculoskeletal Health and Arthritis (IMHA). To date, the ICRS has established partnerships with the Canadian Centre on Substance Use and Addiction (CCSA), the Mental Health Commission of Canada (MHCC), Veterans Affairs Canada (VAC), and health charities including: The Arthritis Society, the Canadian Cancer Society, and the MS Society of Canada. Additional partnerships and collaborations are in development.

Identifying Knowledge Gaps

There remain many unknowns about the use of cannabis, both medical and non-medical, its health and safety effects, and the behavioural, social, cultural, ethical and economic implications of legalization both nationally and across jurisdictions. New knowledge is urgently needed to support federal, provincial, territorial and municipal regulatory models, policies and programs.

In 2017 and 2018, CIHR formally convened cannabis researchers from across the country, as well as selected stakeholders from federal departments, regulatory bodies and other relevant organizations to participate in priority-setting exercises and inform the development of a number of immediate near-term ICRS research priority areas.

In addition, the Institute is actively participating on task forces and in meetings where knowledge gaps are identified, and can be used to further refine the ICRS. Examples include: Federal, provincial/territorial and intergovernmental working groups, and meetings with: non-governmental organizations (NGOs), health charities, third-party research organizations and relevant pan-Canadian health organizations.



Strategic Funding

Rapid-Response Funding Opportunities

Beginning in 2018, under the ICRS, INMHA has led the rapid development of research funding opportunities to fill knowledge gaps on cannabis.

In 2018, CIHR funded:

- 14 projects through the *Population Health Intervention Research on Legalization of Cannabis* catalyst funding opportunity that focused on how the legalization and regulation of non-medical cannabis could directly or indirectly impact population health and health equity in Canada.
- 26 projects through the *Cannabis Research in Urgent Priority Areas* catalyst funding opportunity to further build cannabis research capacity and fill evidence needs in identified priority areas.

In 2019, CIHR launched:

- Three priority announcements as part of the Spring 2019 Project Grant competition, offering funding for additional project grants in the following research areas:
 - Cannabis edible products and concentrates
 - Cannabis use and driving safety
 - Cannabis for therapeutic uses in military personnel and veterans
- A funding opportunity for *Team Grants in Cannabis Research Priority Areas*, supporting specific defined priority areas of interest to patients, families and others.
- The *Partnerships for Cannabis Policy Evaluation* funding opportunity, supporting research to evaluate federal, provincial and territorial cannabis-related policies and programs in order to provide evidence on the effectiveness of policies/programs.

Knowledge Translation and Exchange

There is a critical need for new knowledge regarding the use of cannabis – both medical and non-medical – in order to inform the implementation of policies and programs at all levels of government. Addressing these knowledge gaps, as well as building research capacity and collaboration, and ensuring data sharing are key objectives of the ICRS.

There are several mechanisms by which INMHA is ensuring successful knowledge translation and exchange of its targeted funding opportunities in cannabis research, including:

- Actively integrating knowledge users in funding opportunity design, for example by including people with lived experience into research projects looking at medical cannabis in certain neurological conditions, such as multiple sclerosis.
- Hosting knowledge translation and exchange workshops in order to bring CIHR and relevant stakeholders to the table to share data, discuss results and provide context to findings. The first of these workshops was held in June 2019 in collaboration with CCSA. The workshop included presentations from each of the 14 projects that were funded through CIHR's *Population Health Intervention Research on Legalization of Cannabis* catalyst grant competition and brought researchers together with decision-

makers and knowledge users with an interest in the impacts of cannabis legalization. Knowledge gained from this and future workshops will be disseminated to researchers, policy makers and the general public through various tactics and communications products.



Looking forward

INMHA is continuing to work with its partners to develop and launch funding opportunities for cannabis research. Proposed funding opportunities that are currently in development include:

- A program that will leverage existing longitudinal studies to collect data and/or biological samples in order to subsequently establish patterns of cannabis use, to identify the impacts of cannabis use on specific populations, and to inform future interventions.
- Grants to help assess the impact of cannabis use on the mental health of Canadians and expand cannabis research related to mental health, emphasizing the meaningful inclusion of people with lived experience.

In addition, INMHA is prioritizing additional opportunities for knowledge translation, exchange and dissemination through workshops, meetings and communications products. This includes knowledge exchange end-of-grant workshops for one-year funding opportunities and annual meetings as part of multi-year team grants. The Institute is committed to producing communications materials including workshop reports and lay-friendly summaries in order to disseminate key findings resulting from CIHR-funded cannabis research.

INMHA is developing the next phase of activities for the ICRS. Knowledge generated by ICRS funding opportunities, and gaps identified through knowledge translation activities will serve to build the evidence base for the benefits and harms of cannabis use and support decision making for federal, provincial, territorial and municipal regulatory models, policies and programs. Clinical trials for the therapeutic use of cannabis in areas where there is evidence for a beneficial effect are needed in the long-term. Furthermore, INMHA is exploring multi-sectoral collaborations for the ICRS to promote evidence-based policy and decision making across the federal government, in priority areas relevant to multiple departments.

Research and Knowledge Translation Priority 3: Post-Traumatic Stress

Trauma- and stressor-related disorders including post-traumatic stress disorder (PTSD) are prevalent in multiple sectors of the Canadian population. It is estimated that PTSD affects approximately 9% of Canadians at some point in their lives. The impacts of post-traumatic stress (PTS) extend beyond the individual, and can be long-lasting – affecting families, workplaces, and entire communities. PTS is best understood for its prevalence among military personnel and veterans, though it has also been recognized as a significant burden among public safety personnel (PSP), as well as among other key populations.

Budget 2018 committed \$20 million over five years to support a new joint initiative between CIHR and the Canadian Institute for Public Safety Research and Treatment (CIPSRT) to address post-traumatic stress injuries (PTSI) among public safety personnel (PSP). As part of The National Research Consortium for PTSI among PSP, CIPSRT will act as a knowledge exchange hub, bringing together researchers funded through CIHR competitions with relevant stakeholders in order to coordinate activities and move the knowledge created into active use. To fulfil this federal commitment, INMHA has launched funding opportunities and organized knowledge translation activities to further our understanding of PTSI among PSP.

This initiative, in partnership with CIPSRT and Public Safety Canada, together with other activities and emerging partnerships, has subsequently fueled the development of a much broader strategy that aims to use research and knowledge translation to improve mental health outcomes across settings, contexts, and populations. This major initiative addresses PTS from the perspectives of seven distinct communities, actively involves diverse partner and stakeholder groups, and is being directly informed by people with lived and living experience.



Identifying Knowledge Gaps

In late 2018, INMHA brought together a multidisciplinary group of 14 experts in PTSD and related conditions for a scientific roundtable on PTS research in Canada. The goal of this meeting was to share knowledge and stimulate dialogue, and to ultimately inform CIHR's PTS research initiative by defining key communities in Canada that are most affected by PTS, and identifying specific research priorities.

Following the roundtable and through additional meetings, seven groups were identified as those significantly impacted by PTS:

- Chronic disease patients (e.g. cancer survivors)
- Communities recovering from natural or human-made disasters
- Front line workers including public safety and medical personnel
- Indigenous Peoples surviving inter-generational trauma and abuse
- Military personnel and veterans
- Refugees and immigrants
- Women, children and youth survivors of abuse

Additional outcomes from the 2018 expert roundtable included achieving a preliminary consensus on near-, mid-, and long-term priority research areas and the creation of a comprehensive meeting report, that will be made available to the public on INMHA's website.

In addition to Government of Canada departments and agencies, and CIHR Institutes, INMHA is partnering and/or in discussion with relevant groups that have an interest in supporting efforts to expand the knowledge base and treatment of PTS and related conditions, including health charities, foundations and NGOs.

Strategic Funding

INMHA is leading the development of research funding opportunities to fill knowledge gaps on PTS. In particular, the Institute is working on a number of funding opportunities to support the creation of new knowledge to address existing and emerging gaps in PTS as it relates to PSP in Canada.

- In January 2019, CIHR launched the *Mental Wellness in Public Safety Team Grants* to support four-year projects designed to develop new research evidence and tools to address knowledge gaps in PTSI among PSP in Canada.
- In March 2019, CIHR funded 22 grants through the *Catalyst Grants in Post-Traumatic Stress Injuries (PTSI) among Public Safety Personnel* funding opportunity. These projects primarily focus on understanding, identifying, mitigating and/or preventing PTSI and adverse mental health outcomes among PSP.
- Additional funding opportunities are currently in development as INMHA continues to deliver on the federal commitment to support research on PTS among PSP. Furthermore, through the PTS research initiative and developing partnerships, the Institute will also launch additional funding opportunities to support research relating to PTS in other key groups, settings and contexts.

Knowledge Translation and Exchange

There is an urgent need to move PTS research findings into practice in order to support Canadians affected by PTS and their families and caregivers. INMHA is therefore integrating knowledge translation and exchange into all strategic funding opportunities and is actively engaging people with lived or living experience in both identifying knowledge gaps and guiding the dissemination of new knowledge.

Teams that receive funding as part of Budget 2018's investment for research on PTSI among PSP will work with CIHR, CIPSRT and with CIPSRT's Public Safety Steering Committee (PSSC), which includes representation from Canada's many public safety organizations, to facilitate knowledge exchange.

In addition, INMHA is developing all strategic funding opportunities in PTS so they explicitly incorporate interdisciplinarity, open science, and knowledge translation elements. This includes ensuring that data is to be openly and rapidly shared between researchers and knowledge users, and requiring funded researchers to participate in an annual knowledge translation activity, to further encourage collaboration and ensure the rapid translation of research findings into practice.

Looking forward

INMHA is looking to build upon the foundation that has been successfully established by research activities for PTS in PSP and expand funding opportunities to include other key populations. Ultimately, the Institute aims to develop a comprehensive national research initiative on PTS through a collaborative effort that involves multiple stakeholders.

As an initial step and in collaboration with its partners, INMHA held a PTS Knowledge Gaps Consensus workshop in January, 2020. This meeting brought together multiple Government of Canada departments and agencies, CIHR Institutes and external stakeholders to discuss knowledge gaps that need to be addressed through research. The primary focus of the workshop was to learn from the expertise of people with lived and living experience, ensuring that CIHR's PTS research initiative is driven by the voices of those directly impacted by PTS.



Catalyzing Research and Knowledge Translation Opportunities in Areas of Emerging Need

While INMHA's three primary research priorities are critically important and will require the majority of the Institute's resources over the next two years and likely beyond, there is also a need to support high-quality brain and mental health research, regardless of the specific subject area and to catalyze research opportunities in areas of emerging need.

INMHA will therefore be responsive to opportunities that may come from any stakeholder, including grassroots initiatives from the community, recommendations from our Institute Advisory Board or members of CIHR Science Council, or emerging gaps identified from departments or agencies within the Government of Canada.

Over the next two to three years, INMHA will seek to catalyze research support in areas of demonstrated strength that have been identified as emerging priorities and that have the potential to make a measurable impact on the improvement of Canadian health outcomes.

Ensuring that potential new opportunities are assessed within the context of the Institute's six guiding principles, these emerging areas of need may eventually lead to long-term funding and knowledge translation opportunities that ultimately could grow to become Institute priorities.

Emerging Priority 1: Concussion

Concussion is an emerging priority area for the Institute, with a national strategy currently in the concept phase.

The Government of Canada has declared concussion a priority, mandating the Minister of Health and the Minister of Canadian Heritage to work together to implement a pan-Canadian concussion strategy and to raise awareness for parents, coaches, and athletes on concussion treatment. This has resulted in the publication of the Canadian Guideline on Concussion in Sport⁸, which was developed to ensure that athletes with a suspected concussion receive timely and appropriate care, and proper management to allow them to return to their sport.

INMHA recognizes that new knowledge is needed to inform policies and practices on concussion, and the Institute is therefore developing a concussion research strategy that is designed around where Canada's competitive advantage meets the areas of greatest need – for example, pediatric or sport concussion. As a first step towards strategically funding research in this area, INMHA has partnered with the National Institute of Neurological Disorders and Stroke in the United States to support a funding opportunity: *Biomarkers for*



Prognosing and Monitoring of Persistent Concussive Symptoms in Early and Middle Adolescents: Centre Without Walls (CWOW). It is estimated that the Institute will fund one Canada-based pediatric concussion research team as part of this funding opportunity.

Additional funding opportunities for concussion research may be developed subject to availability of funds. INMHA is currently reaching out to other CIHR Institutes, such as the Institute of Aging and the Institute of Human Development, Child and Youth Health, for their input on this emerging priority.

Emerging Priority 2: Mental Health Services



One in five people in Canada experiences a mental health challenge at some point in their life, but only about 30% seek help. The reasons for this are complex, including stigma and fear of discrimination, lack of understanding about mental illness, and for many Canadians, difficulty accessing mental health services. The Government of Canada has declared mental health services a priority, mandating the Minister of Health to set national standards for access to mental health services so Canadians can get fast access to the support they need, when they need it.

INMHA is committed to improving mental health services in Canada, through partnerships that will enable the creation and dissemination of new knowledge. The Institute intends to do this in part through the PTS research initiative, informing and enhancing mental health services for those affected by PTS, but also more broadly and across the diverse mental health spectrum.

Previous investments in mental health services have demonstrated a positive effect on the mental health of Canadians. In June 2014, through CIHR's Strategy for Patient-Oriented Research (SPOR), an innovative pan-Canadian network was launched that is improving youth mental health research and care. With \$25 million in funding, provided by a 1:1 match from CIHR and The Graham Boeckh Foundation, this program, called ACCESS Open Minds, is generating new knowledge about youth mental health services in diverse contexts and ensuring that Canadian youth receive the right care, at the right time, in the right place.

Building on successes in youth mental health, INMHA is currently engaging with the CIHR Institute of Health Services and Policy Research (IHSPR) to explore areas of joint interest in mental health services research. Possible collaborations include training programs to equip trainees and early career researchers with the skills to succeed in diverse careers, and digital health initiatives, in collaboration with other established partners such as the Mental Health Commission of Canada (MHCC).

This emerging priority is currently in the early concept phase, however INMHA expects that these collaborative new projects will begin to take shape thorough 2020 and 2021.

Objective 2: Support the Canadian Brain and Mental Health Research Community

In alignment with the Canadian Brain Research Strategy (CBRS), INMHA will support competitions for research funding that are aimed at building a solid foundation for research and bringing researchers together to become greater than the sum of their parts.

We believe that this is where INMHA can have the most impact and generate the greatest return on investment in the near term, while simultaneously establishing a firm base of support for Canadian neuroscience to grow and contribute internationally.

INMHA has identified two areas of need that require targeted support. The Institute will work towards addressing these needs as part of the INMHA Strategic Plan 2020-2022, and will further develop its strategy for supporting the Canadian neuroscience research community following the release of CIHR's Strategic Plan.



Facilitating Networking and Interdisciplinary Platforms

Although the Institute's primary objective is to support the need for new knowledge in strategically-defined areas of need, support for researchers in all areas relevant to INMHA's mandate and across all four pillars of health research (biomedical, clinical, health systems services, and population health) can also be provided through funding for networking and interdisciplinary platforms. In this way, INMHA is able to maintain its strategic focus, while complementing CIHR's Project Grant Program.

Networking

Effectively connecting the neuroscience research community is essential to bring individual scientists, laboratories and institutions together for maximum impact. Adequately-funded, well-coordinated networks facilitate the exchange and dispersion of scientific knowledge, which is fundamental to scientific progress.

INMHA will seek to design and/or support funding opportunities aimed at developing or enhancing networks of researchers in any area within our mandate. For example:

- **ERA-NET NEURON:** CIHR, in partnership with the Fonds de recherche du Québec – Santé (FRQS) is supporting Canadian researchers in diverse fields of disease-related neuroscience. The ERA-NET NEURON funding program brings Canadian researchers together with scientists from Israel, Turkey, and 27 partner institutions across Europe, to strengthen the global neuroscience knowledge base and enhance opportunities for international networking. INMHA participates in the annual ERA-NET NEURON Joint Transnational Calls, which have recently included topics such as Biomarkers (2019), Mental Disorders (2018) and Neuroethics (2017).
 - Canadian investments through CIHR and FRQS total more than \$4.5M from 2017-2019, including \$1.4M in 2017, \$1.8M in 2018, and \$1.3M in 2019.
- **Network Catalyst Funding Opportunity:** In 2019, INMHA launched a funding opportunity to foster the development of three new networks, including: concussion, youth mental health, and to create an International Brain Initiative Canadian Secretariat. These grants are intended to bring researchers together to improve efficiency and advance research through the sharing of resources and the development of national and international collaborations.
 - INMHA has invested \$4.5M over up to five years for the creation of these three networks.
- **Planning and Dissemination Grants:** CIHR holds biennial competitions aimed at funding meetings and events that bring researchers, stakeholders and the general public together. This funding may be used to convene researchers in order to form the basis of collaborative grant applications, to consult with and form partnerships with stakeholders, or to participate in knowledge exchange.
 - INMHA has invested more than \$950K from 2017 to 2019 to support planning and dissemination activities, including more than \$500K invested in 2019.

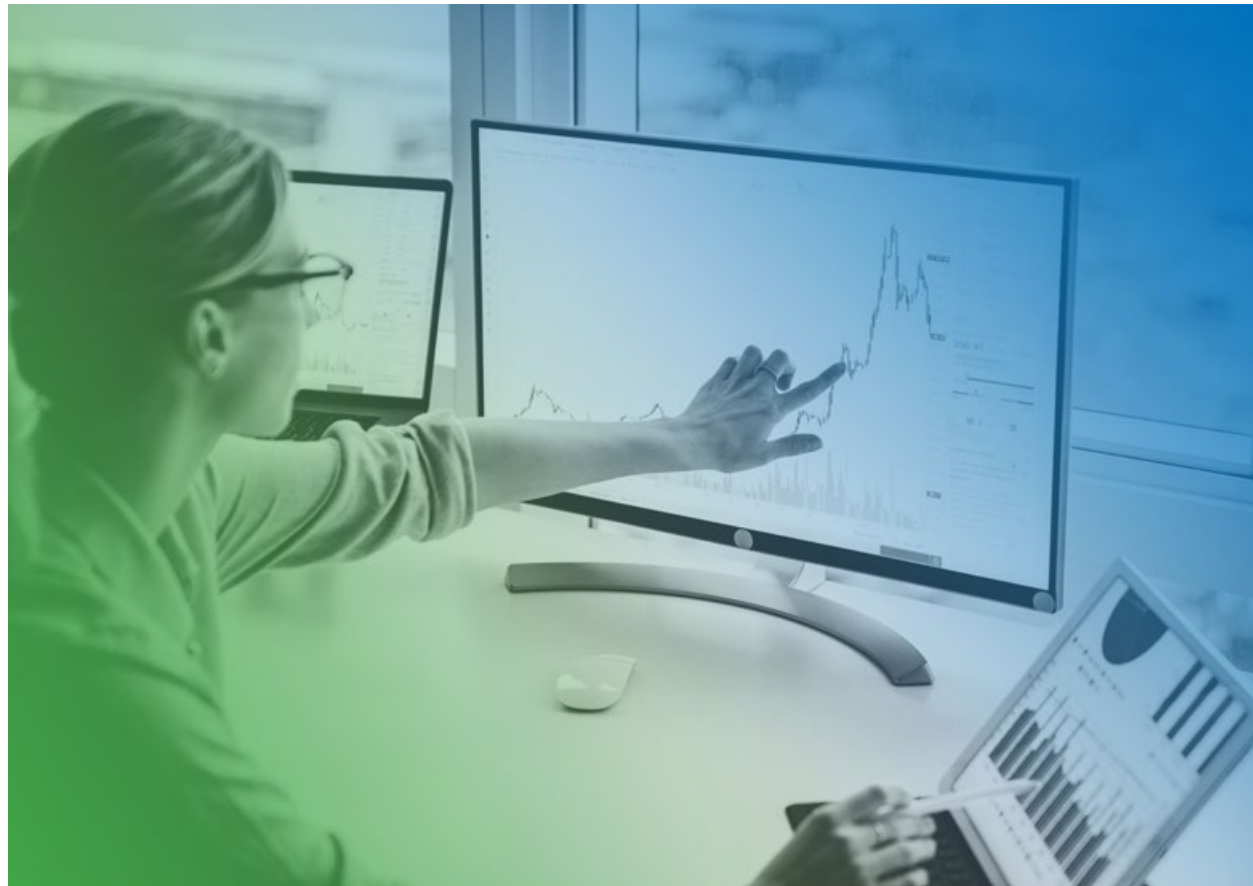
Platforms

While funding for networking is essential to connect researchers in order to collaborate, exchange ideas and disseminate knowledge, support for platforms takes this one step further by linking innovative facilities, technologies, tools and experts across the country. Platforms present an opportunity for Canadian brain and mental health researchers to compete and excel on the world stage and to enhance the quality and efficiency of interdisciplinary research projects.

INMHA believes that fostering cross-sectoral collaboration will maximize our collective research strengths and contribute to scientific breakthroughs that may not be possible in isolation. The Institute will therefore seek to provide funding support for platforms across the country that will elevate emerging Canadian strengths.

For example, in 2019 INMHA joined with FRQS to launch a competition to fund Canadians through the *Next Generation Networks for Neuroscience (NeuroNex) – Technology-enabled, Team-based Neuroscience* funding opportunity. This competition is intended to support Canadian participation on the NeuroNex program, which was created as part of the Brain Research through Advancing Innovative Neurotechnologies (BRAIN) program in the United States. The objective of NeuroNex is the establishment of distributed, international research networks that build on existing global investments in neurotechnologies to address overarching

questions in neuroscience. The creation of such global research networks of excellence will foster international cooperation by seeding close interactions between a wide array of organizations across the world, as well as creating links and articulating alliances between multiple recently launched international brain projects.



Enhancing Career Development

In order to assure the sustainability and impact of Canada's investments in brain health research, meaningful investments are needed to support early career researchers. Unique training programs, mechanisms that promote skill acquisition and the adoption of new technology, and initiatives that promote transdisciplinary and translational research all contribute to the success of the next generation of Canadian scientists.

Current Investments in Health Research Training

INMHA has committed to supporting CIHR's multi-Institute collaborative Health Research Training Platform (HRTTP) Pilot. This program is intended to support the development of interdisciplinary, interjurisdictional and intersectoral training environments that will equip trainees with the skills required for non-academic careers. Through training grants awarded to a group of applicants that will work collaboratively, this opportunity aims to develop robust training environments for graduate students and postdoctoral fellows, with developmental opportunities for early career researchers.

INMHA will strategically fund capacity building in key areas with demonstrated need. Together with CIHR Institute partners, three key areas have been identified for initial investment:

- **Integrating Mental Health Services within Primary and Community Care:** In collaboration with the Institute of Health Services and Policy Research, this HRTTP intends to focus on the design, implementation and evaluation of health system/service interventions to improve the integration of mental health services (prevention, management and treatment services) for common, prevalent mental health conditions within primary and community care, and/or to improve transitions between mental health services and primary and community care.
- **Stigma Reduction and Life Course Mental Wellness for LGBTQIA2 Populations:** In collaboration with the Institutes of Aging, Gender and Health, Indigenous Peoples' Health and external partners including the Public Health Agency of Canada and Egale Canada, this HRTTP intends to focus on LGBTQIA2 life course stress and resilience, including stigma, stress, violence, depression, suicide, alcohol, drugs, addiction, eating disorders, family and social environments, and healthcare support.
- **Vascular Cognitive Impairment:** In collaboration with the Institute of Aging and the Institute of Circulatory and Respiratory Health, this HRTTP intends to focus on capacity building in order to unravel the complexity of and changes to blood flow to the brain, as it relates to vascular cognitive impairment, including vascular dementia in aging populations.



Future Support for Career Development

Health research training and support for early and mid-career investigators is a priority for CIHR, and is an area that is likely to be further enhanced in CIHR's upcoming strategic plan. INMHA will therefore be responsive to and supportive of additional career development initiatives led by CIHR and/or CIHR Institutes in the near-term, with the intent to develop a comprehensive strategy in alignment with CIHR's strategic plan, beginning in 2021.

Performance Measurement

INMHA is committed to the continuous monitoring and assessment of its activities in order to ensure that strategic priorities are demonstrating impact and contributing to the Institute's mission. To do this, INMHA has convened a subcommittee of its IAB that is specifically tasked with developing performance measurement indicators to complement this strategic plan. As a first task, the subcommittee has developed a performance measurement logic model, describing immediate and intermediate outcomes of key Institute activities, with a particular focus on the next two to three years.

In addition, INMHA will create a strategic implementation plan that will define the activities necessary to turn the Institute's strategic goals into reality. The performance measurement logic model and the strategic implementation plan will be evergreen, internal documents that the Institute will maintain and modify on an annual basis as needed, with support from the INMHA IAB, input from relevant CIHR staff, and in collaboration with the CIHR Results and Impact Unit, as required.

Conclusion

INMHA's Strategic Plan 2020-2022 represents our commitment to principled decision-making, aligning our strategic activities with core values in order to ensure the most relevant, impactful and equitable health outcomes for Canadians. We will focus the bulk of our energy on areas of critical need, where evidence is desperately needed to save lives, inform essential public health policy and improve and promote the health and wellbeing of Canadians with brain and mental illnesses and their families.

We are committed to forming partnerships within CIHR, the Government of Canada and beyond, because we believe that our greatest challenges cannot be solved by one Institute in isolation. Through these partnerships and our iterative approach, INMHA aims to identify and address knowledge gaps, and translate and disseminate scientific knowledge, providing research to inform health care policy and expand our collective understanding of the brain.

Above all, we are committed to funding and translating the very best research on brain and mental health, bridging the gap between scientific potential and societal need to form a strong, inclusive foundation of knowledge that will benefit all Canadians.

Acknowledgments

It is with great appreciation that we wish to acknowledge the members of INMHA's Institute Advisory Board, who invested their time and effort into many thoughtful discussions that contributed to the development of this Strategic Plan. In particular, we wish to thank IAB members who volunteered to lead and participate on subcommittees that directly informed this plan with respect to: priorities and capacity building, vision and engagement and strategic planning.

This Strategic Plan also benefitted from the input and feedback of our diverse community of stakeholders, including researchers, partners, knowledge users, and fellow CIHR Institute colleagues, who participated in engagement events, meetings and workshops that directly informed this document.

Finally, INMHA wishes to acknowledge that all of its activities are made possible by the hard work of many staff members throughout all portfolios and branches at CIHR in Ottawa.

INMHA Advisory Board 2019-20

Yves De Koninck (Chair)

Professor of Psychiatry & Neuroscience
Université Laval

Jaideep Bains

Full Professor
Department of Physiology and Pharmacology
Hotchkiss Brain Institute
University of Calgary

Jennifer A. Chandler

Bertram Loeb Research Chair, Full Professor
Centre for Health Law, Policy and Ethics, Faculty
of Law
University of Ottawa

Patricia Conrod

Full Professor
Fondation Julien/Marcelle and Jean Coutu Chair
in Social and Community Pediatrics, Chercheure
Boursier, Fonds de Recherche du Quebec en
Sante.
Department of Psychiatry
University of Montreal

Karen D. Davis

Professor
Department of Surgery and Institute of Medical
Science, University of Toronto
Head, Division of Brain, Imaging and Behaviour –
Systems Neuroscience, Krembil Research Institute,
University Health Network

Deanna Groetzinger

Manager, Neurological Health Charities Canada

Henry Harder

Professor and Past Chair
School of Health Sciences
University of Northern British Columbia

Judy Illes (Vice-Chair)

Professor of Neurology and Canada Research
Chair in Neuroethics at University of British
Columbia (UBC) and Director of Neuroethics
Canada (formerly, the National Core for
Neuroethics, UBC)

Marco Antonio Maximo Prado

Robarts Research Institute
Department of Physiology and Pharmacology/
Department of Anatomy & Cell Biology
Brain and Mind Institute
University of Western Ontario

Antonio P. Strafella

Senior Scientist
Krembil Research Institute
University Health Network

Helen-Maria Vasiliadis

Senior Research Scholar
Fonds de Recherche du Québec – Santé
Professor and Researcher
Université de Sherbrooke

Simone Vigod

Chief, Department of Psychiatry, Women's College
Hospital
Shirley A. Brown Memorial Chair in Women's
Mental Health Research, Women's College
Research Institute
Associate Professor & Director of the Division of
Equity, Gender and Population, Department of
Psychiatry, University of Toronto
Adjunct Scientist, ICES, Toronto, Ontario

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Contact Us



Institute of Neurosciences,
Mental Health and Addiction
Institut des neurosciences, de la
santé mentale et des toxicomanies

Discoveries for life

CIHR Institute of Neurosciences, Mental Health and Addiction
University of Calgary
Cumming School of Medicine
Heritage Medical Research Building, Room 172
3330 Hospital Drive NW
Calgary, AB T2N 4N1

Tel.: 403-210-7161
Fax: 403-441-3044
INMHA-INSMT@cihr-irsc.gc.ca

<http://www.cihr-irsc.gc.ca/e/8602.html>

Canada

