



BRAIN CANADA

Written Submission for the Pre-Budget Consultations in Advance of the Upcoming Federal Budget 2025

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A platform for partnership to improve brain health: Amplifying and accelerating brain research, for the benefit of all Canadians

Submitted by:

David S. Park, PhD, FRSC

Board Director and Research Committee Chair
Director, Hotchkiss Brain Institute
Departments of Clinical Neurosciences, and Cell Biology and
Anatomy
Cumming School of Medicine, University of Calgary

Graham Collingridge, PhD, CBE, FRS

Board Director and Research Committee Member
Krembil Family Chair in Alzheimer's Research, University of
Toronto
Director, Tanz Centre for Research in Neurodegenerative
Diseases
Senior Investigator, Lunenfeld-Tanenbaum Research Institute,
Mount Sinai Hospital

Shernaz X. Bamji, PhD

Board Director and Research Committee Member
Associate Director, Djavad Mowafaghian Center for Brain
Health
Department of Cellular and Physiological Sciences
Life Sciences Institute, University of British Columbia

Pamela Kanellis, PhD

Chief Research and Program Officer, Brain Canada

Viviane Poupon, PhD

President and CEO, Brain Canada

On behalf of the Brain Canada Foundation, we recommend the following:

Recommendation 1: That the Government of Canada **make brain research a national priority** and **establish a dedicated, sustained financial commitment to fund it**, to improve health outcomes and quality of life for people in Canada.

Recommendation 2: With a long-term view to understanding and treating neurological conditions, ultimately improving health outcomes for people living with brain conditions, the Government of Canada **ensures its dedicated financial commitment to brain research is supported across the research pipeline**, from fundamental research to clinical trials, to knowledge mobilization, across the lifespan from neurodevelopment to neurodegeneration, and across brain conditions including mental illness.

Recommendation 3: As part of the commitment to funding brain research, the Government of Canada establish an **investment strategy to develop, retain, and enhance the diversity of the brain research labour force, including trainees, highly qualified personnel, and early career researchers, who are crucial** to advancing brain research, and to developing solutions with great social and economic benefit to Canada.

The Brain Canada Foundation (Brain Canada) is a national, charitable organization that convenes partners, donors, researchers, and people with lived experience of brain conditions to increase understanding of how the brain works, and help to prevent, diagnose, and treat its conditions. Since 2011, Brain Canada has stewarded the Canada Brain Research Fund (CBRF), matching the Government of Canada's contribution to accelerate, amplify, and fund bold brain research across Canada.

This brief presents our case for ongoing, sustained investment into the platform for partnership that Brain Canada has established to address the most pressing health challenge we face: our brain health. We also wish to disclose that Brain Canada received renewed funding in Budget 2024 for CBRF to build on its successful track record over the next four years.

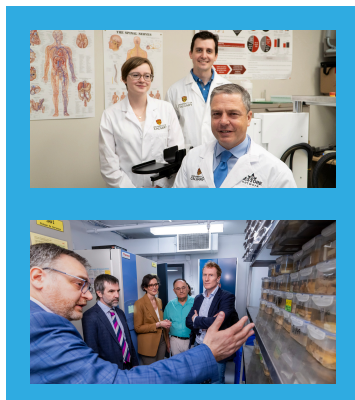
Why prioritize brain research?

There are more than a thousand brain diseases and disorders, including mental health diseases and disorders; neurodegenerative disorders such as dementia, amyotrophic lateral sclerosis (ALS), and multiple sclerosis; neurodevelopmental disorders such as autism and ADHD; brain and spinal cord injuries; brain cancer; and stroke.

According to recent data from the Global Burden of Disease study, these diseases and disorders are the leading cause of overall disease burden in the world.¹

Brain Canada and the Government of Canada recognize the high rates of brain conditions impacting millions of people across Canada. As Canada's population ages, incidences of brain conditions, and the cost of caring for affected individuals, are expected to rise, putting additional stress on an already strained system. Research plays a critical role in solving the world's greatest challenges, those that will have impacts for generations; it is crucial to understanding how the brain works, contributing to the prevention, diagnosis, treatment, and cure of disorders of the brain. It must continue to be prioritized.

Brain Canada's impact by the numbers



- A total envelope of **\$400 million** awarded for **600 brain research projects** across the country
- More than **100 partners and donors** convened
- **1,090 students, trainees, and highly qualified personnel** engaged
- **2,140 peer-reviewed publications, cited 66,600 times** in subsequent research
- Over **70 patents, licenses, and IP rights registrations** and a dozen spin-off companies generated
- In 2023–24 alone, **2,774 people** participating in innovative interventions via **20 Brain Canada-funded clinical trials**

How is Brain Canada accelerating and amplifying brain research?

Brain Canada plays an important role in the brain research ecosystem, convening partners and donors to fund the kind of high-risk, high-reward bold research we need to improve brain health for all. Over its more than 25-year history, Brain Canada has successfully leveraged federal research funding to attract private capital, significantly amplifying the impact of the government's investment in brain research.

Brain Canada designs and administers targeted programs critical to advancing brain research in this country. **Through these programs, Brain Canada has developed a pipeline of research talent, supported the pursuit of fresh ideas and new technologies by early career scientists, and enabled platforms that researchers need to share knowledge, data, and protocols, enhance expertise across laboratories, and learn from each other to accelerate progress.** The research Brain Canada and its partners have enabled cuts across disease areas, across the lifespan, and across all stages of research.

There are myriad examples of how research funded by Brain Canada and its partners – including health charities, people with lived experience, provincial agencies, research networks, corporations, private donors, and foundations – is having an impact on research and patient outcomes. Here are just a few examples:

Mental health

An estimated 1 in 3 Canadians will be affected by a mental illness during their lifetime.² With the support of several key corporate donors, such as RBC Foundation, Bell Let's Talk/Bell, and Power Corporation of Canada, Brain Canada doubled its investment in mental health research in recent years. For example, Brain Canada-funded research showed that transcranial magnetic stimulation (TMS) a non-invasive treatment, successfully relieved symptoms in patients with treatment-resistant depression. Further investments in partnership with Bell Let's Talk/Bell are bringing relief to patients faster using a newer form of the therapy that takes a fraction of the time and causes less disruption to daily life. Brain Canada is looking to expand efforts to address mental health, including key issues such as substance use and suicide, where discussions with stakeholders indicate a clear need for funding and where Brain Canada has several donors ready to partner and amplify research investment.

Traumatic brain injury

An estimated 165,000 Canadians suffer traumatic brain injuries (TBI) each year,³ many of whom will experience persistent symptoms that affect their productivity and well-being. Brain Canada undertook an extensive consultation process to understand and prioritize the needs of diverse stakeholders related to TBI. This represents a new approach to research funding – one that engages stakeholders throughout and puts their needs front and centre, to ensure that research can achieve

maximum impact. The results informed the development of a new social innovation research program. In partnership with Brain Changes Initiative (BCI), Brain Canada is funding research on two priorities to develop evidence-based solutions – increased detection, treatment, and prevention for special populations (e.g., people in situations of abuse, people experiencing homelessness) and an increased focus on functional ability in TBI assessments. Brain Canada will continue investing in research that addresses the priority needs identified for TBI and intends to apply this approach in developing other research funding programs in future.

Women's brain health

Like much health research, neuroscience research has historically focused on male subjects, materials, and participants, biasing results towards the male body and men's experiences, distinct from those of females, women, and gender diverse people. This has led to ongoing deficits in understanding the brain health of more than half our population. Brain Canada has contributed to remedying the evidence gap by requesting that researchers include sex-and-gender-related factors in their research, allocating specific funding to add these considerations to existing projects, and developing funding opportunities focused on these considerations. For example, Brain Canada funding is enabling sex and gender-based research on stroke to identify the best rehabilitation strategy tailored to the individual patient, to improve outcomes for all. Key members of Canada's brain research community consider Brain Canada a leader in sex and gender brain science and look to the organization for guidance going forward. Brain Canada has developed a SGBA+ and EDI Action Plan and through that plan, is committed to advancing the field of sex and gender brain science by working with partners including Women's Brain Health Initiative (WBHI), a charitable foundation dedicated to protecting the brain health of women, caregivers, and families. Brain Canada has partnered with WBHI since 2016, making joint investments in leading-edge sex and gender-focused research, health promotion, and disease prevention initiatives.

Why should Canada take the lead?

Canadians have been at the forefront of progress to date in brain research. Canada ranks among the top five countries in the world in this area, publishing 6.4% of brain research articles globally. Canadian research publications obtain higher citation rates than those from US-based researchers, suggesting that Canadian brain research is of higher quality and impact.⁴

As a leading funder of brain research in Canada, complementary to tri-council funding, Brain Canada is an important factor in this success. Compared to the top 20 largest funders globally, Brain Canada ranks second for the proportion of publications in the top 1% for the field of neurology and neurosurgery. Brain Canada has also played an important role in influencing policy. In a recent assessment of Brain Canada research funded from 2011-2022, 10% of research publications were cited in policy, compared to the less than 6% average for academic research.⁵

Canada is poised for continued success. Brain Canada and its partners have well-established mechanisms for supporting excellent research and are working together to amplify investments and enable the pursuit of bold ideas. The research community increasingly has the technology available to move brain science forward, from 3D imaging to artificial intelligence to stem cells. There is broad agreement in the brain research community that the potential for reducing the burden of brain diseases on individuals, our society and our economy is high.

Canada has an opportunity to harness this potential and be at the forefront of the impact.

What could leadership look like?

In Budget 2024, Canada committed to supporting brain research via Brain Canada through to 2028 and this investment will yield improvements in health outcomes for people living with brain conditions. To be at the forefront of health, social, and economic impact however, Canada needs to make brain research a national priority and establish a long-term and sustained financial commitment to fund it through Brain Canada and its many partners in the field.

This commitment should take a long-term view to impact, acknowledging that: research impact is made possible with support **across the research pipeline**, from fundamental research into how the brain works through to clinical trials on promising treatments, to knowledge mobilization that brings evidence into practice, **across the lifespan** from neurodevelopment to neurodegeneration, and **across brain conditions** including mental health. A strategy to develop, retain, and enhance the diversity of the brain research labour force should be a crucial component of the commitment. As should the platform for partnership that Brain Canada has established to bring together partners, donors, and researchers to advance our understanding of the brain, develop innovative and commercializable solutions to its diseases and disorders, and improve the brain health of all Canadians.

[1] Jaimie D Steinmetz et al., "[Global, Regional, and National Burden of Disorders Affecting the Nervous System, 1990–2021: A Systematic Analysis for the Global Burden of Disease Study 2021](#)," *The Lancet Neurology* 23, no. 4 (April 2024): 344–81.

[2] Government of Canada, "[Mental Illness in Canada](#)," *Public Health Infobase* (data blog), October 8, 2020.

[3] Brain Injury Canada, "[Statistics: Traumatic Brain Injury](#)," 2022.

[4] Marc-André Simard et al., "[Trends in Brain Research: A Bibliometric Analysis](#)," *Canadian Journal of Neurological Sciences*, November 7, 2023, 1–11.

[5] Henrique Pinheiro, Etienne Vignola-Gagné, and David Campbell, "[A Large-Scale Validation of the Relationship between Cross-Disciplinary Research and Its Uptake in Policy-Related Documents, Using the Novel Overton Altmetrics Database](#)," *Quantitative Science Studies* 2, no. 2 (July 15, 2021): 616–42.