



**Written Submission for the Pre-Budget Consultations in Advance
of the 2026 Federal Budget**

Submitted by the Canadian Association for Neuroscience

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Unlocking the Brain Economy: Transforming a \$61 Billion Health Burden into an Economic Multiplier

Neurological and mental health disorders impose a growing burden on Canadians, our healthcare system, and the economy. These conditions cost the Canadian economy an estimated \$61 billion annually, which is more than cancer and cardiovascular disease combined¹. One in five Canadians — more than 7.5 million people — lives with a brain condition². Investments in basic research serve as an economic multiplier for Canada, catalyzing the innovations necessary to sustain a diverse and competitive economy. Prioritizing investments in basic research is essential for long-term prosperity, transforming this health and economic burden into a cornerstone of national growth and an economic multiplier.

Canadian neuroscientists work for all Canadians. Their discoveries provide hope for Canadians affected by neurological disorders and injuries, but beyond this important contribution, their research contributes to Canada's current priorities, as outlined in the Prime Minister's Mandate Letter (May 2025).

- International scientific collaboration is instrumental in elevating Canada's leadership on the world stage and **broadening its global economic partnerships**
- Scientific discoveries fuel **economic growth and innovation**
- Made-in-Canada discoveries contribute to Canada's **sovereignty** by reducing our dependence on other countries
- Providing stable and predictable funding for research will attract the **best talent** in the world and prevent the loss of Canadian talent because of brain drain
- Research & Development investments contribute to **strengthening the Canadian economy**

Brain research can help address the generational challenge Canada faces today and contribute to making a **stronger Canada tomorrow**.

¹ Canadian Institutes of Health Research, Evaluation of the Institute of Neurosciences, Mental Health and Addiction (INMHA), Report of INMHA Evaluation Panel 2016.

<https://cihr-irsc.gc.ca/e/50448.html>

² Canadian Brain Research Strategy

<https://canadianbrain.ca/>

The Cost of Stagnation: Preventing the Erosion of Canada's Scientific Edge and Talent Exodus

Canada ranks fifth globally in percentage of papers in brain research and scholarly impact, despite much lower funding rates than the top four countries (USA, China, UK and Germany) ³.^[3] However, we are underfunding our greatest advantage, creating a double loss for the Canadian economy. Over the last two decades, Canada is the only G7 nation whose R&D intensity has consistently declined, currently sitting at roughly 1.8% of GDP compared to the OECD average of 2.7% (Figure 1).

Research and Development Expenditure (% of GDP) - Canada, United States, World, OECD Members, China

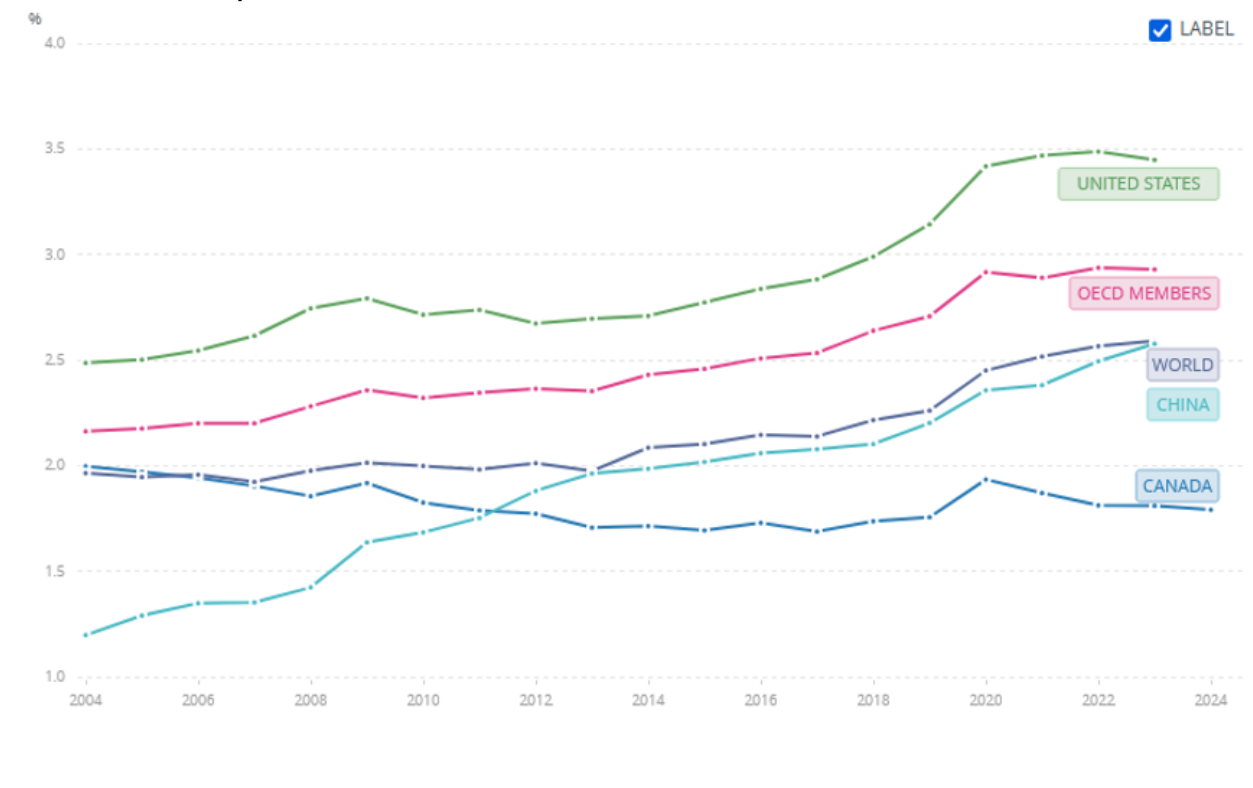


Fig. 1. Gross domestic expenditures on research and development (R&D), expressed as a percent of GDP. World Bank Group, Research and development expenditure (% of GDP), 2025.

³ Simard, Marc-André, et al, Trends in Brain Research: **A Bibliometric Analysis**. **Canadian Journal of Neurological Sciences**, 2025, 214–24.
<https://www.cambridge.org/core/journals/canadian-journal-of-neurological-sciences/article/trends-in-brain-research-a-bibliometric-analysis/749E041FC41D7C3504F7C4F753A5F8E4#article>

The government of Canada announced a historic \$1.7 billion investment last December to create the *Canada Global Impact+ Research Talent Initiative*, a suite of programs that will attract leading international and expatriate researchers to Canada. However, it is important to recognize and support the research talent that is already here – **our homegrown researchers, specialists and experts who trained here in Canada, and want to remain in their country**. To have a thriving scientific community, we must recognize the talent already present in Canada and provide support for the whole ecosystem. This will also ensure the individuals recruited through the Impact+ program will remain in Canada after the recruitment funds are spent.

The lack of support for homegrown talent makes it increasingly difficult for Canadian scientists to remain competitive and retain the talent necessary to lead in fields like AI and dementia research which is leading to a talent exodus. Canada uses taxpayer dollars to train the world's best neuroscientists, only to have them migrate to G7 peers to launch their careers, labs, and patents because domestic research funding is insufficient to sustain their research programs.

Most importantly, **research funding supports training in Canadian research laboratories**, which teaches critical thinking and produces highly qualified personnel that acquire key skills required in the knowledge and innovation economy. This is one of Canada's most important resources. Many Canadian trainees go on to launch small businesses based on new ideas and new product development.

Recommendation 1: That the Government of Canada implement a five-year plan to increase the base budgets of Canada's three federal granting councils, the Canadian Institutes of Health Research (CIHR), the Natural Sciences and Engineering Research Council (NSERC), and the Social Sciences and Humanities Research Council (SSHRC), by a minimum of 10% annually.

Why should we fund investigator-initiated research through the tri-councils?

Investigator-initiated research spans from basic scientific research to translational approaches and commercialization. It involves systematic study aimed at acquiring new knowledge. Nobody can predict which discovery will lead to the next pharmaceutical innovation – however we do know that basic research is the foundation of long-term innovation, economic growth and societal well-being. In Canada, investigator-initiated research is funded by **CIHR, NSERC and SSHRC**, which constitute the main federal funding

agencies and are well respected by the research community. They fund research that is the foundation of the research ecosystem and an investment in discovery research.

Studying diabetes-related and lizard peptides led to the development of blockbuster weight-loss drugs

University of Toronto's Daniel J. Drucker's research led to the discovery, published in 1987, of glucagon-like peptide-1 (GLP-1) in the human body, a hormone that stimulates insulin release and promotes weight loss. He later isolated a similar peptide from a lizard called the Gila monster (published in 1997) – which ultimately paved the way for blockbuster drugs such as Ozempic and Wegovy:

“Nobody set out in the GLP-1 field 25 or 30 years ago to invent a drug that produced weight loss or would reduce heart disease, liver disease or kidney disease,” remarked Drucker, in an interview published by the University of Toronto. **“This all came about from basic science observations that were unexpected but thankfully translated into clinical findings of use for patients with these challenging disorders.”** The breakthroughs didn't happen immediately. It took decades of painstaking work for Drucker's early research to result in tangible treatments

The Canadian Institutes of Health Research (CIHR) are the primary engine for health research in Canada. The **CIHR project grant program's** main objective is to support a diverse portfolio of health-related research and knowledge translation projects at any stage, **from discovery to application, including commercialization** ⁴. It is a very well-established program, supported by the research community, which is uniquely qualified to support the whole research ecosystem and life sciences sector. Project grants support investigator-initiated research – a total of 865 grants were awarded in 2025, in topics related to indigenous health, sex and gender, public and community health, but also medical physics and imaging, randomized control trials and aging, to give only a few examples. This research is directly relevant to health outcomes for Canadians and provides the foundation onto which new treatments can be developed, as can be seen in the following two examples of funded projects:

The Toxic Drug Study

One project funded in the latest CIHR Project grant competition (September 2025) is a project called the Toxic drug study, which will investigate the clinical and toxicological profile of people with drug poisoning. Unregulated drug poisoning is now Canada's leading cause of years of life lost, with more than 5,000 deaths every year. British Columbia has been the hardest hit, facing a public health emergency since 2016. This project, led by Dr. Jeff Brubacher and conducted at the University of British Columbia, in the province most severely affected by the crisis, will improve emergency care, empower communities, and establish a model for national monitoring of the toxic drug supply.

⁴ **CIHR Project grant program** <https://cihr-irsc.gc.ca/e/49051.html>

Studying fear memory to understand PTSD

A second CIHR funded project from the same competition is a study led by SickKids researcher Sheena Josselyn, which will investigate the effects of psychedelics on memory in mice. Individuals with post-traumatic stress disorder (PTSD) have extremely strong memories of a traumatic experience and an inability to suppress inappropriate fear responses that interfere with their daily lives. Therefore, PTSD can be characterized as a disorder of fear memory processing. The results from these experiments will not only inform clinical trials but will provide insights into how fearful memories are stored and may be modified in the brain.

These are but two examples of the research being done in Canada, addressing some of Canada's most pressing health challenges. CIHR funding serves as the foundation to Canada health research ecosystem and is essential for Canada's global competitiveness, yet federal support for investigator-led research has eroded, with CIHR project grant success rates falling from roughly 25–30% in the early 2000s to approximately 13.6% today.

Providing stable, predictable increases to the budget of the main federal funding agencies is essential to provide stability to the Canadian research ecosystem. Recent years have seen decreases in the budgets of CIHR (-5.3%)⁵, NSERC (-1.3%)⁶ and SSHRC (-8.6%)⁷ between 2020-2025, and while increases are planned for coming years, they fall short of inflation as we will see in the next section.

When we look at the evolution of the CIHR budget since its creation in 2000 (figure 2 below), we note that since 2008, there have not been significant and sustainable increases above the level of inflation. There have been some increases above inflation level in 2010, 2016 and 2018-20, with a notable increase in 2020 to fund COVID research, but in most other years only modest increases, below inflation rate, stagnation or decreases can be seen. This results in the current budget \$1292M (=\$746M dollars from 2000) for 2025-26 being lower, in constant dollars adjusted for inflation to the CIHR budget from 2007 of \$927M (=\$785M from 2000).

⁵ **Infographic for Canadian Institutes of Health Research – GC InfoBase**

<https://www.tbs-sct.canada.ca/ems-sgd/edb-bdd/index-eng.html#infographic/dept/74/financial>

⁶ **Infographic for Natural Sciences and Engineering Research Council of Canada – GC InfoBase**

<https://www.tbs-sct.canada.ca/ems-sgd/edb-bdd/index-eng.html#infographic/dept/230/financial>

⁷ **Infographic for Social Sciences and Humanities Research Council of Canada – GC InfoBase**

<https://www.tbs-sct.canada.ca/ems-sgd/edb-bdd/index-eng.html#infographic/dept/306/financial>

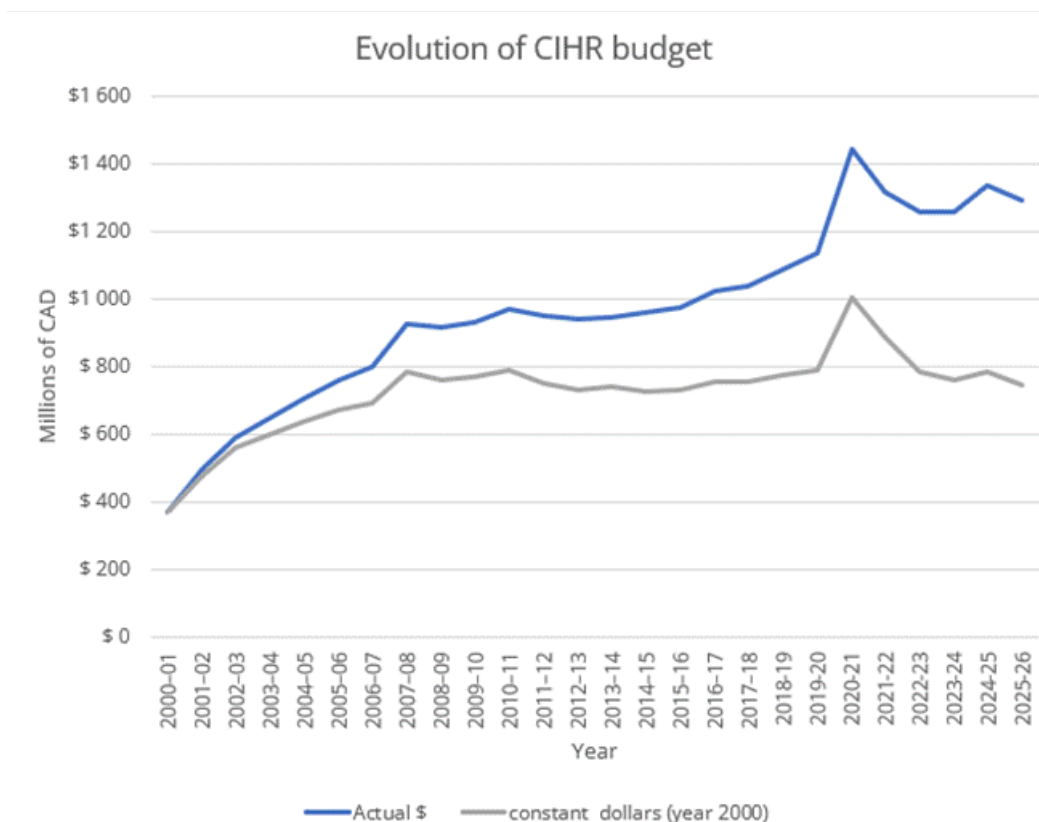


Figure 2: Evolution of the CIHR budget in actual dollars and in constant dollars – Data obtained from CIHR in Numbers <https://cihr-irsc.gc.ca/e/50218.html> and constant 2000 dollar values calculated using the Bank of Canada inflation calculator)

Rebuilding stable and predictable base research funding is vital to maximizing the impact of the government's \$1.7 billion International Talent Attraction Strategy from Budget 2025; without stable core funding, recruiting top talent risks bringing more talented researchers into a system that cannot sustain it. In 2023 the **Advisory Panel on the Federal Research Support System**⁸ provided the government with a suite of bold yet feasible measures to keep Canada competitive in the global research market. As an initial step, the **panel recommended an increase of at least 10% annually for five years to the granting councils' total base budgets** to sustain the research excellence that is the hallmark of Canadian science.

The investigator-initiated fundamental research funded by the tri-council forms the foundation of the commercialization ecosystem. The recent report from the federal Pharmaceutical and Life Sciences Task Force reinforce this point: Canada cannot build a

⁸ **Report of the Advisory Panel on the Federal Research Support System**
<https://ised-isde.canada.ca/site/panel-federal-research-support/en/report-advisory-panel-federal-research-support-system>

competitive life sciences ecosystem without a strong pipeline of discovery research. This base research is required to generate intellectual property and early-stage breakthroughs that biohubs, incubators, and venture-backed startups need to scale.

Recommendation 2: That the Government of Canada make neuroscience a core mission area within the mandate of the proposed federal capstone research agency announced in Budget 2024.

Canada has internationally recognized strengths in neuroscience and is well-positioned to lead global discovery and innovation. Designating neuroscience as a core mission area within the federal capstone research agency announced in Budget 2024 would address the growing burden of neurological and mental health disorders nationwide. By formally designating neuroscience as a national priority, the federal government can harness our domestic expertise to secure substantial health and economic returns for all Canadians. Integrating brain science as a core mission area facilitates a coordinated, whole-of-government approach to addressing the most complex health and productivity challenges of the 21st century.

Recommendation 3: That the Government of Canada embed neuroscience research and expertise across national strategies and federal advisory bodies related to mental health, neurodegenerative disorders, defense, and artificial intelligence, and align federal programs to translate discoveries into real-world commercial impacts.

Neuroscience is not a niche clinical discipline; it is an enabling science that underpins the biological foundations of human cognition, resilience, and workforce productivity. Currently, federal strategies in areas such as artificial intelligence, defense readiness, and aging often overlook the neuroscientific expertise that could optimize these initiatives. By urging the formal inclusion of neuroscientific expertise within federal policy development and funding opportunities, the government can leverage the expertise of the Canadian neuroscience community to act as a proactive strategic partner.

Economic Growth

Brain health underpins workforce participation, and national productivity. Currently, mental health disorders are a leading cause of disability and lost productivity, making discovery-based research essential for developing the diagnostics and therapies needed to mitigate these costs. But beyond health care savings, funding this research domestically

acts as a direct economic engine. It ensures that breakthrough intellectual property and high-value jobs remain in Canada, attracting the private capital necessary to fuel our innovation-based economy. Furthermore, this domestic research ecosystem cultivates a highly skilled talent pool; our student and intern trainees are vital assets for Canadian medical and tech companies looking to fill competitive roles. Without strong foundational investments at home, both our top talent and our commercialization opportunities will migrate to international peers, stripping Canada of sovereign assets and economic potential.

National Resilience, Defence and Public Safety:

Approximately 1 in 6 Canadian Armed Forces members will experience a service-related mental health or brain-related disorder. Traumatic brain injuries (TBI) and PTSD are the "invisible wounds" that cost the Canadian government billions in long-term disability claims⁹.

Neuroscience supports the health and operational readiness of Canadian veterans and first responders. Domestic research builds expertise in treating PTSD, TBI, nerve and spinal cord injury — conditions that disproportionately affect those who serve. Relying on foreign discoveries limits Canada's ability to tailor solutions to its own populations and weakens sovereign capacity in defence, performance, and human resilience. Domestic research allows for sovereign data control — ensuring that sensitive health data of our personnel remains in Canadian hands while developing personalized therapies. The CIHR funded research done by Dr. Sheena Josselyn described above is an example of such research that has the potential to help Canadians suffering from PTSD.

Bridging the Translation Gap

The recent federal Pharmaceutical and Life Sciences Task Force¹⁰ (Task Force) recommendations highlight that fragmentation across funding agencies and translational infrastructure weakens Canada's ability to turn research into commercial success. To ensure that federal investments in basic science yield a direct return, the government must

⁹ **Veterans Affairs Canada, 2024-25 Departmental Plan**

<https://www.veterans.gc.ca/en/about-vac/reports-policies-and-legislation/departamental-reports/departamental-plans/departamental-plan-2024-2025>

¹⁰ **Pharmaceutical and Life Sciences Sector Task Force: Report to the ministers of health and industry**

<https://www.canada.ca/en/health-canada/services/drugs-health-products/drug-products/announcements/pharmaceutical-life-sciences-sector-task-force/report-ministers-health-industry.html>

move toward a synchronized ecosystem that links federal granting councils with existing commercialization vehicles, such as the Strategic Response Fund (SRF) and Health Emergency Readiness Canada (HERC). Currently, a large gap (known as the 'Valley of Death') exists between discovery and market application, often forcing Canadian researchers to partner with foreign companies for commercialization. By creating coordinated pathways and increased funding, Canada can ensure its scientific leadership generates high-value jobs and sovereign assets domestically.

Health System Sustainability:

With an aging population, neurodegenerative diseases have become the leading cause of disability and the second leading cause of death worldwide. Early-stage research enables earlier diagnosis, preventive strategies, and disease-modifying treatments. Investing in early intervention and brain health research reduces the increasing long-term costs of our healthcare system. Sustained investment will position Canada as a global leader, driving groundbreaking research and innovation, improving patient outcomes across the country and attracting global research and industry partnerships.

In addition, the toxic drug crisis is one of the most serious public health crises Canada has ever faced, tragically impacting people who use substances, their families, and communities across the country. Canada has witnessed a substantial increase in toxic drug poisonings since national surveillance began in 2016 by the Public Health Agency of Canada. Key updates published by the government of Canada indicate over 5,600 opioid toxicity deaths in 2025, or 15 deaths per day on average. While these represent a decline in opioid-related deaths in Canada since the COVID-19 pandemic, accidental poisonings remained the leading cause of death for males aged 20-49 and females aged 20-39 in Canada in 2024¹¹. CIHR-funded research such as that described in the **Toxic Drug Study** described above will provide made-in-Canada solutions to reduce the burden of drug toxicity on Canadians, and our healthcare system.

Conclusion

By adopting the recommendations in this document, the Government of Canada can secure its position as a global leader in the brain economy while safeguarding the health of its citizens. Strengthening our research ecosystem is a vital investment in the intellectual capital and sovereign innovation that will drive our national prosperity. With stable, predictable funding and a strategic focus on neuroscience, we can transform the challenge

¹¹ **Key findings : Opioid- and stimulant-related harms in Canada**
<https://health-infobase.canada.ca/substance-related-harms/opioids-stimulants/>

of brain-related disorders into a frontier of economic opportunity. Together, we can ensure that Canadian discoveries continue to provide hope, fuel growth, and build a more resilient future for all.

About the Canadian Association for Neuroscience (CAN)

Composed of over one thousand researchers working at academic institutions nationwide, the Canadian Association for Neuroscience (CAN) is the largest association of neuroscientists in Canada. We are dedicated to advancing neuroscience research, understanding associated disorders, and developing diagnostics and cures. Our shared goal is to ensure neuroscience remains a major strength for Canadian research and innovation, and we are committed to acting as a constructive partner to the government to improve health outcomes and drive an innovation-based, prosperous economy.

Contacts:

Tabrez Siddiqui & Susanne Schmid, Co-Chairs of the Canadian Association for Neuroscience
Advocacy Committee

Julie Poupart, Chief Operating and Advocacy Officer
advocacy@can-acn.org