

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

Science and research strengthen the Canadian Economy by
supporting innovation and health

By: The Canadian Association for Neuroscience

Recommendations:

Recommendation 1: That the Government of Canada increase the core budgets of 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 ten percent annually for the next five years, as recommended in the 2023 *Report of the Advisory Panel on the Federal Research Support System*¹, which stressed the necessity of increased funding for investigator-initiated research and talent support. The objective of this recommendation is to bring Canada's investments in research and development to a level on par with other countries in the G7.

Recommendation 2:

Given the rising prevalence of neurological and mental health disorders, it is imperative that the Government of Canada prioritize brain and mental health research. To address this urgent need, a comprehensive moonshot program dedicated to understanding the brain should be launched. This initiative will drive innovation and lead to significant improvements in public health across the country.

¹ <https://ised-isde.canada.ca/site/panel-federal-research-support/en/report-advisory-panel-federal-research-support-system>

The **Canadian Association for Neuroscience (CAN) applauds the investments in science and research announced in Budget 2024**. These investments acknowledge that scientific research benefits Canadians, Canada's economy, and Canada's future prosperity. In this submission, we outline the benefit of scientific research to the health of Canadians and our economy, and the need for the government to continue making critical financial investments in research.

CAN **applauds the increased support for Canadian science graduate students and postdoctoral fellows**. Budget 2024 announced \$825 million over five years to increase the number and annual value of graduate student scholarships and post-doctoral fellowships. We thank the Federal government for recognizing the important contributions our trainees make to Canada. However, we note that **only a small proportion of graduate students and post-doctoral fellows receive tri-council scholarships** (~12-18%).

Over **80% of graduate students are paid through Tri-council research grants to their supervisors**, which have not seen a proportional increase in the last budget.

Thus, CAN also **applauds the announcement in budget 2024 to increase core research grant funding** and support Canadian researchers. Budget 2024 proposes to provide \$1.8 billion over five years, starting in 2024-25, with \$748.3 million per year ongoing to SSHRC, NSERC, and CIHR. These investments are critical for Canada's economy and economic growth. However, further commitments must be made to ensure budgets are increased **annually** to keep pace with inflation and rising costs of research.

The 2023 *Report of the Advisory Panel on the Federal Research Support System*² (Bouchard report) whose mandate was to "advise the Government of Canada on how to modernize the federal system supporting academic research [...] and to maximize the impact of investments and position Canadian researchers for success" stated:

Research funding simply has not kept pace with these pressures over the past twenty years. An initial step would involve an increase of at least ten percent annually for five years to the granting councils' total base budgets for their core grant programming.

² <https://ised-isde.canada.ca/site/panel-federal-research-support/en/report-advisory-panel-federal-research-support-system>

It is essential to accelerate the budget increase to CIHR, NSERC and SSHRC and we propose to implement the recommendations of the Bouchard report in budget 2025, specifically a **10% annual increase to the budgets for 5 years**, an efficient way to address the need to better support trainees and research support staff paid through research grants, to support the scientific community and to boost the innovation economy.

The following table shows budget increases proposed in budget 2024 for the next 5 years

	2024-2025	2025-2026	2026-2027	2027-2028	2028-2029
Initial budget	3799.6	3874.6	3952.6	4085.6	4316.6
Enhancing Research Support*	75	153	286	517	764
Budget after increase	3874.6	3952.6	4085.6	4316.6	4563.6
percent increase (relative to previous year)	2%	2%	3%	6%	6%

*Data from Budget 2024, Table 4.1, page 212

While the overall tri-agency budget increases over the five years following budget 2024, it does so at a rate that is **close to or below inflation rates for many years**, and only slowly increases afterwards.

The shortfall in the proposed increases is large and can be addressed by closely following the recommendations of the Bouchard report. The following table shows in contrast the budget of the federal funding agencies if the Bouchard report had been implemented in 2024.

	2024- 2025	2025- 2026	2026- 2027	2027- 2028	2028- 2029
Initial budget	3799.6	4179.6	4597.6	5057.3	5563
10% annual increase starting 2024**	380	418	459.8	505.7	556.3
Budget after increase	4179.6	4597.6	5057.3	5563	6119.4
percent increase (relative to previous year)	10%	10%	10%	10%	10%

** Report of the Advisory Panel on the Federal Research Support System (Bouchard report) page 10³

Significant increases in tri-agency funding can act as a driver for the innovation economy.

The International Monetary Fund published a detailed blog post explaining **Why Basic Science Matters for Economic Growth**.⁴

“While applied research is important to bring innovations to market, basic research expands the knowledge base needed for breakthrough scientific progress. A striking example is the development of COVID-19 vaccines, which in addition to saving millions of lives has helped bring forward the reopening of many economies, potentially injecting trillions into the global economy. Like other major innovations, scientists drew on decades of accumulated knowledge in different fields to develop the mRNA vaccines.”

³ <https://ised-isde.canada.ca/site/panel-federal-research-support/sites/default/files/attachments/2023/Advisory-Panel-Research-2023.pdf>

⁴ <https://www.imf.org/en/Blogs/Articles/2021/10/06/blog-ch3-weo-why-basic-science-matters-for-economic-growth>

“Basic research is not tied to a particular product or country and can be combined in unpredictable ways and used in different fields. This means that it spreads more widely and remains relevant for a longer time than applied knowledge.”

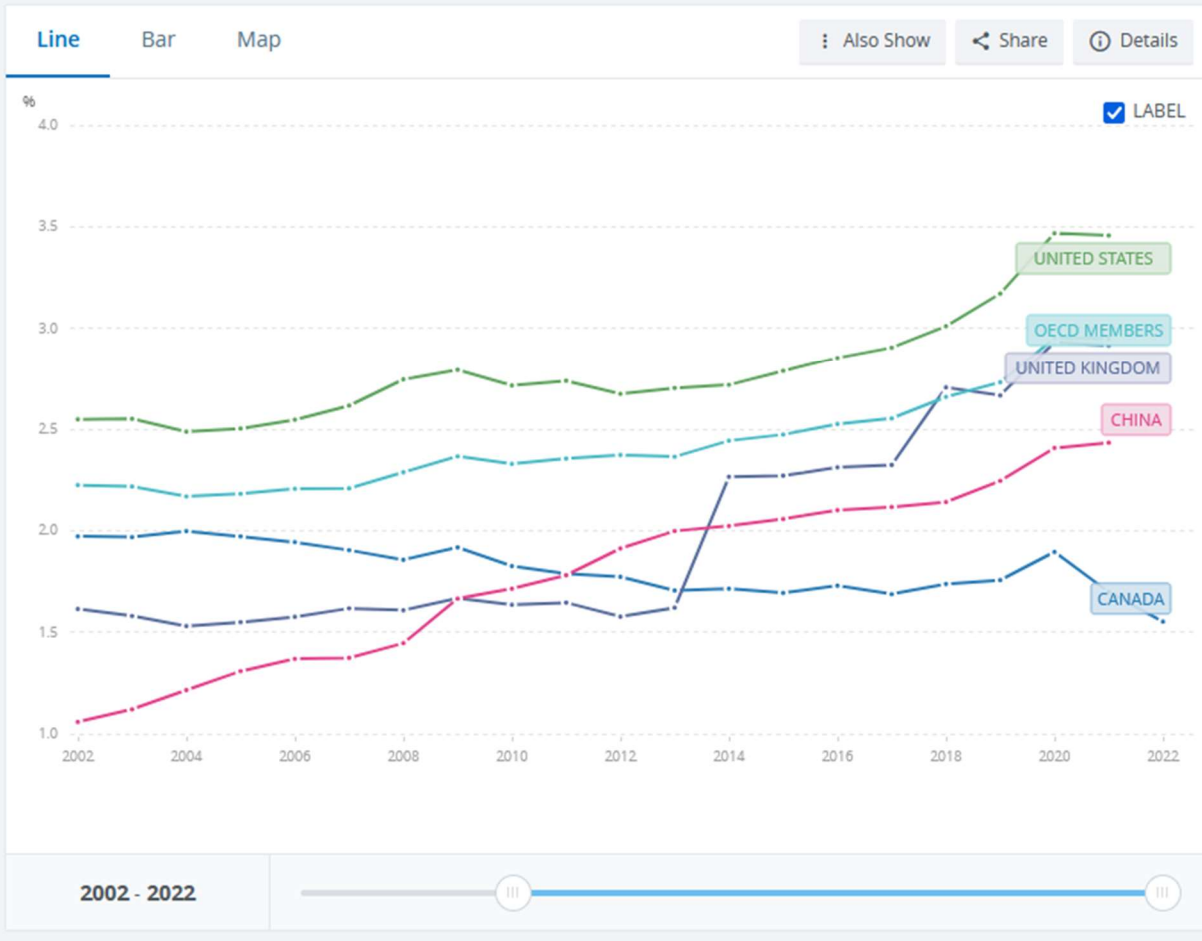
Canadians have much to gain from investment in science.

Maintaining Canada’s Competitiveness and Leadership in the World – Canada’s scientists are highly respected on the world stage and are leaders in brain research including **mental health, neuropathies, stroke, autism, memory and dementia, sleep, pain, artificial intelligence, and spinal cord injury**. However, it is difficult for Canadian scientists to remain competitive and attract talent as the disparity in research support with other countries continues to widen, as seen in the following figure from the World Bank Group.

Research and development expenditure (% of GDP) - Canada, United States, United Kingdom, China, OECD members

UNESCO Institute for Statistics (UIS). UIS.Stat Bulk Data Download Service. Accessed April 24, 2024. apiportal.uis.unesco.org/bdds.

License : CC BY-4.0 



Gross domestic expenditures on research and development (R&D), expressed as a percent of GDP. They include both capital and current expenditures in the four main sectors: Business enterprise, Government, Higher education and Private non-profit. R&D covers basic research, applied research, and experimental development.

- Source: UNESCO Institute for Statistics (UIS). UIS.Stat Bulk Data Download Service. Accessed April 24, 2024. apiportal.uis.unesco.org/bdds.

Canada is the only country in the G7 whose investments in R&D have declined over the last 20 years. The data from the UK demonstrate that this is a trend that could be reversed with a commitment from the government.

Currently, CIHR's budget is a mere 0.05% of Canada's GDP, drastically lower than the 0.18% of GDP allocated to the National Institutes of Health (NIH) in the United States.

Statistics Canada recently published similar data showing Canada's R&D intensity (1.86% in 2021) to be significantly lower than the G7 average (2.62% in 2021).

Gross domestic expenditures on research and development intensity in the G7 countries, 2019 to 2021

[← Back to main article](#)

[Interactive](#)

[Image](#)

[CSV \(1 KB\)](#)

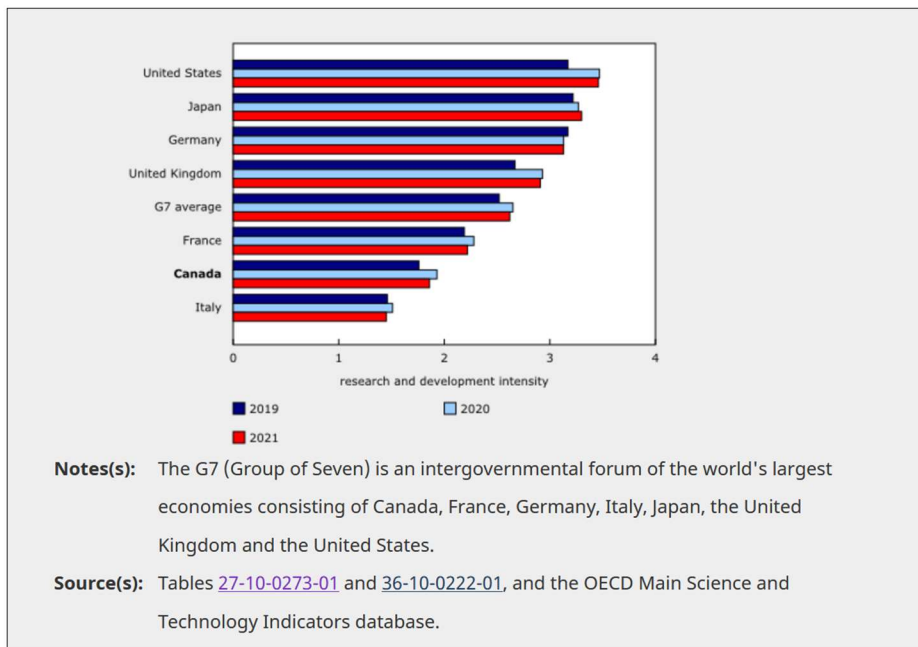


Figure from Statistics Canada - The Daily released 2023-12-22: *Gross domestic expenditures on research and development, 2021 (final), 2022 (preliminary) and 2023 (intentions)*
<https://www150.statcan.gc.ca/n1/daily-quotidien/231222/dq231222b-eng.htm>

We propose that **Canada aim to reach investment levels on par with the average of G7 countries**. Increased investment in tri-agency can act as a driver to fuel and promote research investments in Canada.

Creating Good Jobs for Canadians – Investing in scientific research leads to the creation of jobs for highly qualified personnel not just within research laboratories but across industry, government, and the health sector.

Made-in-Canada discoveries are the foundation for innovation that supports a **stronger and more diverse Canadian economy**. Investments in health research leads to dramatic cost savings, due to more effective treatments and earlier

intervention. For example, a *World Economic Forum* report puts the costs of the neglect of women's health research at 1 trillion dollars a year.⁵

We don't know where the next great discovery will come from, but we know that just like investment portfolios, diversity fosters discovery and will increase return on investment.

Supporting critically important brain research

Disorders affecting the nervous system include neurodevelopmental disorders, late-life neurodegeneration, and newly emergent conditions, such as cognitive impairment following COVID-19. **Canada must address Brain and Mental Health issues**, which are among the most complex to understand, but also the most important we face – the burden of brain disorders and diseases has substantially increased over the last 25 years with an aging population. This is having a detrimental impact on the economy, healthcare systems, and Canadian livelihood. **Neurodegenerative diseases are the leading cause of disability and the second leading cause of death worldwide**⁶, and mental health disorders are the leading cause of days off work. Canadian neuroscientists work tirelessly to identify cures and therapies for Canadians who live with these diseases and conditions.

Budget 2024 announced a **\$20M per year investment for four years starting in 2024-2025 to support Brain Canada** (<https://braincanada.ca>). Brain Canada plays a key role in our research ecosystem, funding high-risk, high-reward brain research programs nationwide. **We commend the government of Canada on recognizing the important work done by Brain Canada by renewed funding for this Canadian institution** and urge the government to continue building on these investments for the benefit of all Canadians.

In the report from the House of Commons standing committee on Science and Research study on "**Pursuing a Canadian Moonshot Program**", the Honourable François-Philippe Champagne testified that, "*it is vital that we focus our attention not only on the immediate matters we are facing as a nation but also on the long-term challenges and opportunities we face as a society, and I would say, indeed, globally.*"

⁵ <https://www.weforum.org/publications/closing-the-women-s-health-gap-a-1-trillion-opportunity-to-improve-lives-and-economies/>

⁶ Feigin et al. *Lancet Neurol.* 2019;18(5):459-480. doi:10.1016/S1474-4422(18)30499-X

Understanding the brain is one of the greatest challenges we face, and Canada is in a great position to launch a **Brain moonshot program**. Examples of projects that could be undertaken with such a moonshot program include “Eradicating common brain disorders like Alzheimer’s and Parkinson’s by 2050.” and “Developing effective personalized treatments for mental health disorders”. By providing dedicated support for such programs, Canada can provide leadership and hope for Canadians struggling with neurological and mental health issues.

Knowing that brain disorders will afflict 50% of the population, it is imperative that we invest massively in brain research. It is an investment in our health, our economy, and a better future for all Canadians.

Conclusion

Increasing the government's investment in health R&D will be key to a healthy Canada, both in terms of economics and the health of our citizens. Investment in Canadian brain research will not only support a knowledge-based economy prepared to face future challenges, it also provides evidence-based medical knowledge to improve and prevent brain diseases and disorders, which affect 50% of Canadians across our lifetime.

We applaud the government of Canada’s commitments to Science and research and encourage the prioritization of funding for CIHR, NSERC, SSHRC and for brain and mental health research.

These are and should remain priorities for Canada as a means to strengthen the Canadian Economy by supporting innovation and health.

About the Canadian Association for Neuroscience

We are the largest association of neuroscientists in Canada, with over 1000 members dedicated to advancing research towards understanding the brain, associated disorders, and developing diagnostics and cures.

Contact:

Julie Poupart, PhD

Chief Operating and Advocacy Officer, Canadian Association for Neuroscience
Julie.Poupart@can-acn.org
514-912-2405