

The Health Research Solution to Canada's Health System Crisis

Written Submission to the Pre-Budget Consultations
in Advance of the 2023 Budget



OUR RECOMMENDATIONS

1. **That the Government of Canada double research funding to the Tri-Agency and commit to an annual increase that will keep pace with inflation and global benchmarks.**
 - a. This increase in funding must maintain a balance with investments in infrastructure and people.
2. **That the Government of Canada better support and enable a flourishing and diversified talent base in Canada, with a focus on Indigenous researchers, Black and people of colour researchers, early-career researchers, and other underrepresented and equity-deserving groups.**

INTRODUCTION

Research Canada applauds the federal government for working with the provinces toward a renewed investment in health care and hopes that it alleviates some of the most pressing crises facing our health care system across the country. This crisis has also had dire consequences for the critical health research that happens in Canada's hospitals and academic health science centres. Clinical research is a necessary step in every innovative health solution's journey from lab to patient, but when the health system is in crisis, this clinical research cannot happen.

While renewed investment in health care is certainly welcome and needed, we know that doing so without a corresponding investment in health research will ultimately fail to achieve the goals of an increase to the Canada Health Transfer and any bilateral agreements with the provinces in the long term. **Health research *must* be part of the solution.** Fundamental science, clinical research, and population and health services research that take place at universities, academic health science centres and hospitals are all necessary to drive life-saving discoveries and ensure an effective, accessible and equitable health system. Health innovations help to improve patients' treatment outcomes and health system experience, reduce costs for Canada's taxpayers, and improve Canada's competitiveness in the global innovation economy. **Investment in health care alone may alleviate some of the current health care strains, but it will not lead**

to the improved health care and strengthened health system that is only possible with health research.

A functioning health research and innovation ecosystem is a critical piece of the puzzle to fixing and strengthening our health system, but it will not be able to do so if we continue down the path we are currently on. The current level of federal funding is simply insufficient to ensure Canada's global competitiveness, with repercussions for growing our innovation potential and performance, for realizing the enormous economic potential of the bioeconomy, and for our ability to generate novel discoveries in pressing areas of science on which Canadians' health depends. This is having a meaningful impact on our ability to attract, develop and retain globally leading talent.¹ While the federal government made substantial reinvestments into the research ecosystem in Budget 2018 that helped to address years of decline, since that time, Canada has only fallen further behind. Just as in the lead-up to that budget, and as described in Canada's Fundamental Science Review, 2017,² Canada continues to remain well behind our OECD peers in the global innovation competition.³

Budget 2023 represents a critical crossroads where we either lose further ground to our global peers and the talent and economic potential that goes with it, or we put our shoulder to the wheel and set up our health research and innovation ecosystem, including the people who make it work, for long-term success. We can either watch our health system crumble, or we can invest in our health research and innovation ecosystem. To achieve maximum effectiveness, all federal funding investments must operate through a whole-of-government lens, recognizing that these choices have whole-of-ecosystem impacts.

About Research Canada: Research Canada is a national alliance whose mission is to improve the health and prosperity of all Canadians by championing Canada's global leadership in health research and innovation.

¹ Whiteside, Catharine et al. **In the global race for science talent is Canada investing enough?** Policy Options. May 27, 2021.

² Advisory Panel for the Review of Federal Support for Fundamental Science. **Investing in Canada's Future – Strengthening the Foundations of Canadian Research.** 2017. P. 30

³ Compared to the United States (3.5%), France (2.4%), Germany (3.1%), Belgium (3.4%) China (2.4%) Denmark (2.9%), Japan (3.3%), & the Netherlands (2.3), Canada spent 1.7% in 2020. **OECD, gross domestic spending on R&D.**



DETAILED RECOMMENDATIONS

Recommendation 1: Double Research Funding to the Tri-Agency

We recommend that the Government of Canada double research funding to the Tri-Agency and commit to an annual increase that will keep pace with inflation and global benchmarks. This increase in funding must maintain a balance with investments in infrastructure and people.

It cannot be stressed enough: **Underinvestment in health research is not an option—it undermines Canada’s future.**

Canada’s excellence in health research is a priceless resource. We are fortunate to have world-leading talent and great potential in research and development (R&D), but we run the risk of squandering this excellence. Canada is not globally competitive among its global peers, with risks to our economy and Canadians’ health. Canada is the only nation in the G7 whose R&D spending as a percentage of GDP shrank over the past two decades, and the gap continues to widen as other countries pick up the pace.^{4,5} The contrast is stark when we look to our southern neighbour. The U.S. spends \$160.12 (Canadian dollars) per capita on health research funding via its National Institutes of Health (NIH).⁶ Canada’s per capita spending is \$34.38 through the Canadian Institutes of Health Research (CIHR).⁷ Even our Tri-Agency spending, encompassing all research at \$82.59 per capita, is eclipsed by the U.S. NIH alone.⁸

Canada needs to either close the growing funding gap and recommit to global leadership in health research, or we decide that Canada will ultimately be irrelevant in health research. Through meaningful investment at scale in health research, using a whole-of-government approach, we will attract vital foreign direct investment (FDI), which will benefit Canadian industry, private sector partners and researchers in our universities, colleges and academic health science centres. Significant and sustained investment will inject fresh energy and inspiration and foster a more competitive and innovative environment across the sector through more clinical trials and the attraction of diverse, highly skilled personnel and talent from around the world. These are all essential elements for Canada to retain its own best-in-class talent and

⁴ Ibid.

⁵ Report of the Standing Committee on Science and Research. [Success, Challenges and Opportunities for Science in Canada](#), June 2022. P. 10-11.

⁶ Combining data from Congressional Research Service. [National Institutes of Health Funding: FY1996-FY2023](#), updated May 20, 2022, and United Nations. [World Population Prospects](#).

⁷ Combining data from Canadian Institutes of Health Research. [CIHR Grants and Awards Expenditures, 2021-22](#) and Statistics Canada. [The Daily: Canada’s Population Estimates](#), Sept. 29, 2021.

⁸ Ibid and data from National Sciences and Engineering Research Council of Canada. [NSERC Investments across Canada in 2019-20](#) and [Social Sciences and Humanities Research Council](#).



to nourish the entire health research ecosystem’s talent pipeline into the future. With more sector activity generally and the creation of more knowledge, there will be inevitable knowledge spillovers,⁹ facilitating commercialization and the development of additional novel discoveries.

We appreciate and acknowledge that the federal government is trying to grow a vibrant biomanufacturing economy in Canada through important measures such as the Biomanufacturing and Life Sciences Strategy. However, progress on this initiative will be impeded without real investments in the health research ecosystem;¹⁰ the talent, creativity, novel discoveries, intellectual property and commercialization that are products of a well-nourished ecosystem and fundamental to a competitive biomanufacturing sector will not be there to support it. Canada can be a “branch plant” biomanufacturing country, or we can become a respected competitive force as an innovation hub and an attractive destination for new companies, FDI and talent.

Our health research ecosystem proved during the COVID-19 pandemic how effective and productive it can be when all parts, including government, work collaboratively towards a common goal. Yet Canada was also caught flat-footed in a host of ways during this time. The research enterprise as a whole suffered, with interruptions and delays to projects and a loss of charitable funding to health charities, working in concert with academic health science centres.¹¹ Putting more federal dollars into health research will not only ensure that Canada manages our next public health crisis better, but will also enhance patient outcomes and health system resilience in a more efficient and cost-effective way during a time when our health and social systems have been left so fragile.

We add to our recommendation that, as Tri-Agency funding is increased, attention must also be paid to maintaining a corresponding balance in funding for personnel and facilities provided by the institutions that host research work. Neither of these components, with the exception of partial support for graduate students and trainees, is covered by Tri-Agency grants, yet each serves as essential support to Tri-Agency-funded activity.¹² Despite this, they continue to be underfunded.¹³

⁹ Canadian Association for Neuroscience. 2022 [Submission](#) to the Standing Committee on Science and Research. March 2022.

¹⁰ As expressed by BioCanRx, [Submission](#) to the Standing Committee on Science and Research, March 2022.

¹¹ Research Canada [letter](#) to the Prime Minister. April 3, 2020.

¹² Advisory Panel for the Review of Federal Support for Fundamental Science. [Investing in Canada’s Future – Strengthening the Foundations of Canadian Research](#). 2017. P. 126

¹³ *Ibid.* P. 147.

Recommendation 2: Invest in Diverse Research Talent

We recommend that the Government of Canada better support and enable a flourishing and diversified talent base in Canada, with a focus on Indigenous researchers, Black and people of colour researchers, early-career researchers, and other underrepresented and equity-deserving groups.

Diversity is critical to strengthening Canadian society. When it comes to health research, the entire research ecosystem benefits from and recognizes the value of a diversity of peoples, approaches and career stages. Novel discoveries and research programs that deliver impact to a wide range of communities depend on nurturing and developing the broadest and brightest talent pool within the health research ecosystem.

A lack of diversity among researchers has been identified as a factor in certain groups being underrepresented in research and clinical trials and therefore being underserved by a system which is supposed to serve them equally. It cannot be this way. Supporting researchers who reflect the population can lead to research design and questions that are relevant to the population.

Canada has important work before it on the path toward Truth and Reconciliation, which includes supporting health research that will benefit Indigenous communities. Creating a diverse, inclusive and innovative research ecosystem requires a commitment to decolonizing research institutions and systems and an investment in targeted supports and policies that encourage and uplift Indigenous researchers, research priorities and ways of knowing. Similarly, a diverse research ecosystem, with specific supports, is essential to tackling racism, sexism and other forms of discrimination that are barriers to justice and dignity for Black and people of colour researchers, as well as those from other underrepresented and equity-deserving groups.

In Canada, financial supports for our research talent have stagnated and are failing to provide trainees and early-career researchers with livable wages—a problem that is only compounded for researchers from Indigenous, Black, and other underrepresented and marginalized communities who typically face additional barriers and challenges. Annual stipends provided to PhD candidates by their institution are largely funded by their supervisors through Tri-Agency project grants, and without sufficient project grant funding, their wages suffer as well. Minimum stipends for PhD candidates across Canada are generally under \$30,000 annually,^{14,15} an amount

¹⁴ Based on a review of current minimum stipends for PhD students at [Top 50 Research Universities](#) (Research Infosource, 2022)

¹⁵ Howe, Erin. December 20, 2022. [Temerty Medicine Increases Graduate Student Stipends](#).

that in most cities is not enough to fully support students throughout their training without additional funds.¹⁶ Federal scholarships and fellowships can help to supplement trainees' wages, but these too have stagnated. Currently, PhD candidates can receive \$21,000 per year through the Canada Graduate Scholarship Program—an amount that has not changed in the last two decades.¹⁷ Moreover, these awards are few and far between, meaning they benefit only a small fraction of Canada's young research talent.

We live in a globally competitive research environment, and other countries are making significant awards available to diverse researchers at all stages of their careers. There is little incentive for graduate students—both Canadian and international—to continue their studies in Canada where they will likely struggle to afford the necessities of life. And the case is similar for postdoctoral scholars and other early-career researchers. A postdoctoral fellow in Canada makes an average of \$51,913 per year compared to the equivalent of \$87,576 Canadian dollars in the U.S. As such, Canada must ensure that researchers of diverse backgrounds receive enhanced and fulsome support that ensures livable and competitive wages across the career spectrum. Increasing awards like the Canada Graduate Scholarship is important, but it cannot be done without also increasing research funding to the Tri-Agency, lest we risk widening the gap even further between the select few who hold these prestigious awards and the majority of young talent who do not.

CONCLUSION

Health care has long been a point of pride for Canadians, but we are currently failing on this front unless immediate action is taken to ensure that Canadians can access the life-saving medicines, diagnostics, therapies and treatments discovered and developed by Canadian health researchers and innovators. Research and talent are what drive innovation, and we need to ensure that Canada has a policy and investment environment that supports our ecosystem as a whole and is ready to bring research innovations to the patients who need them. Failure to make these investments puts Canadians at risk and thereby puts Canada's health and economic security at risk. It wastes the potential of investments we have already made especially those in the top-tier diverse research talent that will help to strengthen our health system for the future. Together,

¹⁶ Based on living wage rate of \$23.15/hour in Toronto (approx. \$48,000 annually, 40-hour work week). [Ontario Living Wage Network](#). November 2022.

¹⁷ Crawley, Mike (CBC). December 24, 2022. [Canada's grants for master's, PhD students haven't increased since 2003. These researchers want that changed.](#)



our two recommendations represent an essential plan to address the health system crisis now and secure a just and prosperous future for all Canadians.

