



## **Presentation to the Advisory Panel on the Federal Research Support System**

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### **About Research Canada**

Research Canada is a national, voluntary, health organization whose Members, drawn from the academic, private and voluntary sectors are dedicated to advancing Canadian health research and innovation. Research Canada dons a health research and innovation ecosystem policy lens and flexes a collaborative advocacy muscle in an effort to align stakeholders on health research and innovation policy matters.

Research Canada is also the architect of the Parliamentary Health Research Caucus, which it established with Senator Wilbert Keon in 2009. We have successfully brought together health researchers and innovators with Parliamentarians for the past thirteen years in an educational forum that has won many political hearts and minds on health research and innovation.

### **Introductory Remarks**

Support for fundamental research through the Tri-Agency is the reason for Canada's high profile on the global stage when it comes to our research production and talent. Every scientist in Canada is dependent on it for their success. All forms of research, including strategic science are dependent on it. If we want to advance on the world stage, we must recognize that our global challenges require

collaborative action among governments. The good news is our science is up to the task.

In the wake of the COVID-19 pandemic, the importance of a strong and highly collaborative health research and innovation ecosystem, which has international partnerships, has never been more apparent. In order to fulfil the potential of Canada's health research and innovation ecosystem, especially its impact on Canada's health care system, we must have three core ingredients: secure, sustained and sufficient funding; informed and supportive research and innovation policy; and a diverse, well-supported and incentivized talent base. Yet we are falling short on these fronts. Despite substantial reinvestments made in recent years, the funding and policy environment in Canada is not well equipped to ensure Canada's global competitiveness and to attract, develop and retain globally leading talent.<sup>1</sup> The current level of federal funding is insufficient and has not maintained the balance between fundamental and strategic research, much less the balance among project grants, research infrastructure and investments in people that is necessary to grow our innovation potential and performance, and for our ability to generate novel discoveries in pressing areas of science on which Canadians' health depends.

To achieve maximum effectiveness in our research and innovation endeavour, all federal funding investments and policies must operate through a whole-of-government lens, recognizing that the choices we make have whole-of-ecosystem impacts. Re-focused and coordinated research funding envelopes through better governance and an integrated strategy would go a long way towards supporting and encouraging interdisciplinary and international collaboration, and towards creating balanced investments across stages of the research continuum—investigator-driven, strategic and applied research—and among its components—project grants, infrastructure and investments in people at all stages of their careers.

But here's the thing: there are points of integration and coordination in any collaborative process that invite new ways of seeing a problem or issue engendering innovative processes and solutions. But my experience has taught me that this occurs only when you set the right tables. In the case of research and its related innovation, you must have multi-stakeholder tables with people whose

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<sup>1</sup> Whiteside, Catharine et al. [In the global race for science talent is Canada investing enough?](#) Policy Options. May 27, 2021.

perspectives differ because they are from different sectors, represent different stages of the research and innovation process, and are at different organizational levels and will therefore challenge one another.

Often our top organizational and institutional leaders enter collaborative processes with the best intentions, but at the same time, they are expected to protect their organizations by their communities. We assist them in flexing their collaborative muscle by setting tables with individuals whose perspectives and experiences differ. Through a process of crossing the boundaries of our comfort zones, current knowledge and sector interests, a true collaborative process takes place and new pathways are forged—the kind of pathways that will help us to create the mechanisms, structures and entities through which we can better position Canada on the global stage in science, incentivize industry and academic partnerships and coordinate Canada’s clinical trial potential, to name just a few areas where we know we could do much better.

### **Elements of a research support system that are required to address the future needs of researchers:**

- Support for the full costs of research, a flourishing and diverse talent base and investment in research infrastructure are critical elements of a research support system to address the needs of researchers at all stages of the career cycle.
- Funding alone is not enough to help researchers flourish—we must also have policies, including immigration, commercialization and procurement policies, that enable and encourage global research talent to enter, and then stay in, the health research and innovation ecosystem.
- Research funding must maintain a balance with investments in people and infrastructure—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 trainees and post-doctoral researchers, is covered, yet each serves as essential support to Tri-Agency-funded activity. For trainees in particular, rising inflation is making it increasingly difficult for them to afford the basic necessities of life while also progressing in their careers.

- It is also critical that we have a funding and policy environment that supports and encourages interdisciplinarity, collaboration and partnerships, both domestically and internationally.

### **How well Canada's research support system is adapted to address the challenges of the future and support the type of research Canada wants to undertake:**

- Research that addresses the challenges of the future is critical so that policy decisions we make with regard to these issues, like climate change and new and emerging infectious diseases, are evidence-based. But to address these issues effectively and efficiently when time is of the essence, we need a new approach that bookends strategic and applied research funding with robust support for investigator-driven research—the knowledge base on which all other scientific advancements are made—and an industry-facing mechanism that is crucial to ensuring the adoption of innovative health solutions by Canada's health system.
- The Canada Foundation for Innovation (CFI) already does this well through its various funding programs. In the case of health research, we would broaden the partnerships encouraged through this funding mechanism beyond industry to include other sectors in the health research and innovation ecosystem, such as health charitable organizations. Strengthened collaboration, partnership and interdisciplinarity—both within and beyond Canada's borders—are necessary to ensure that our health research and innovation ecosystem has the tools needed to address the challenges of the future and remain globally competitive.

### **How we can ensure the competitiveness of the Canadian research system into the future:**

- 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. To become a well-oiled innovation nation, we need a funding and policy environment that supports the development and adoption of Canadian innovation. This must start with government's full understanding of how research and its development

and commercialization have evolved over the past few decades, and of our current state of underinvestment in investigator-driven research.

- Secondly, the federal government must don a research and innovation ecosystem lens, one which will reveal that all of the activities from research discovery through to its development and commercialization are interdependent and predicated on the interrelationships forged among research and innovation ecosystem stakeholders. If one activity or stakeholder group is not funded sufficiently or is negatively impacted by a federal research or innovation policy, other parts of the research and innovation ecosystem are affected and our ability to innovate as a country is compromised.
- Commercialization needs to be better supported and funded. Licensing models in other countries could serve as examples for Canada.

### **Elements of the current system that effectively position Canada for the future:**

1. Re-focused and coordinated research funding envelopes through better governance and an integrated strategy, including the Tri-Agency and other federal funding bodies
2. CFI: infrastructure funding that is kept in balance with project funding through the Tri-Agency
3. Research Support Fund balanced with Tri-Agency project funding
4. People: policies—including immigration policies—and funding—including the Canada Research Chairs (CRC) and Canada Excellence Research Chairs (CERC) programs—to support a diversified talent base throughout the career cycle, beginning with trainees and postdoctoral fellows
5. Integrated approach to funding strategic research so that it is tethered to government priorities, but also is bookended by the fundamental science and industry partnerships critical to its successful applications
6. Balanced investments across stages of the research continuum—investigator-driven research, strategic and mission-driven research,

applied research—and among its components—project grants, research infrastructure and investments in people at all stages of their careers.

### **What is needed for Canada to keep up with other top research countries:**

- Re-focused and coordinated research funding envelopes through better governance and an integrated strategy, including the Tri-Agency and other federal funding bodies.
- A meaningful investment at scale in health research, using a whole-of-government approach, is key to attracting vital foreign direct investment (FDI), which will benefit Canadian industry, private sector partners and researchers in our universities, colleges and academic health science centres.
- To achieve maximum effectiveness, all research and innovation federal funding investments and policies **must operate through a whole-of-government lens.**
- Significant, sustained and balanced investment will inject fresh energy and inspiration and foster a more competitive and innovative environment across the sector through more clinical innovations and 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 to nourish the entire health research ecosystem's talent pipeline into the future.