



January 18, 2016

The Honourable Bill Morneau
Minister of Finance
90 Elgin Street
Ottawa, Ontario K1A 0G5

Dear Minister Morneau,

Research Canada: An Alliance for Health Discovery is pleased to submit its recommendations to the pre-budget consultations focused on how to support the middle class, create jobs and set the right conditions for long-term prosperity and stronger economic growth. Delivering on a promise for real economic change, Canada needs to substantially increase investments in the discovery (basic) research that will fuel the next generation of innovations, which will in turn create new industries, spur job creation, and fuel economic growth.

Federal support for discovery research is particularly crucial because the lack of direct commercial applications from discovery research projects—as well as the uncertainty of project success— can deter businesses from performing basic research even though some studies have shown that it is the form of R&D that generates the greatest economy-wide returns.

Discovery Research: Charting the Course Forward

Discovery (basic) research plays a critical role in sparking innovation. The innovations that have improved the country's productivity and quality of life are ultimately grounded in the results of discovery research. Now, more than ever, discovery research is needed to chart the course forward.

Economists tell us investments in R&D account for a large fraction of our current GDP. They, along with policymakers, have long recognized the importance of investment in R&D as a driver of technological development and economic growth and productivity. The technological progress supported by R&D has played a singular role in enhancing the

productivity of businesses and workers and spawning new, job-creating industries, such as the biotechnology sector. There is clearly an interdependent relationship between national strengths in industry and strengths in discovery research.

Investment in discovery research leads to an increase in productivity in the private sector, which helps the economy to grow. Generating a thriving life sciences industry requires fuelling the pipeline of basic scientific knowledge upon which innovation is predicated. Apart from the creation of new firms, which is often cited as an economic benefit of publicly funded research, these investments in discovery research expand the scientific information available (applied and translational research knowledge) for Canadian companies to draw upon in their technological activities.

Many studies of the economic benefits of publicly funded research identify skilled graduates as the primary benefit that flows to the private sector. The skills acquired during education are often a necessary precursor to the development of more industry-specific skills and knowledge.

The challenges involved in discovery research continually force researchers to design new equipment, laboratory techniques and analytical methods to tackle specific research problems. Some of these may eventually be adopted by industry. Also the role of government-funded research in providing an entry point into networks of expertise and practice affords individuals and organisations the means to participate in the worldwide community of research and technological development. The Canadian private sector finds informal methods of interaction an important means of learning about public research and technological activity, which ultimately increases Canada's technological diversity.

Canada needs strong public investment in discovery research if we are to fulfil the promise of past investments in people and infrastructure, nurture our health industries and ultimately fuel future advances in healthcare and the health of our productive labour force.

A Crisis in Canada's Innovation Pipeline

Unfortunately, there has been a steady decline in Canada's financial competitiveness in biomedical R&D, which has implications for the debate over appropriate federal policy in this area, especially at a time when mature economies such as those in Japan and Europe have maintained their level of investment. Canada's rate of decline in biomedical research funding "leads" the world. Australia now spends more per capita on biomedical research than Canada.

The OECD recently described how Canada's granting agencies have been shifting funds away from discovery research and toward commercialization. The C.D. Howe Institute points out that federal granting agencies should reorient their system of allocating public funding of academic research to give more weight to overall academic excellence rather than immediate practical payoff.

Funding of Canadian health research, notably through the Canadian Institutes of Health Research (CIHR) has not kept pace with inflation. The CIHR 's base budget has remained at 2010 levels, losing \$150 million dollars to inflation over the past five years. Its budget is currently static and will be marginally increased by \$15 million dollars in the 2016-17 fiscal year.

Forty-one per cent of Canadians in *CanadaSpeaks* 2015, a national public opinion poll Research Canada undertook with national and provincial partners, recommended spending ten per cent or more of health expenditures on health and medical research, yet spending on health and medical research is far below corporate spending in leading, innovation-driven industries. Sanofi, for example, invests 19.9 per cent of its revenues in R&D; Bombardier Inc. invests 11.7 per cent; IBM, 6.3 per cent and Rogers, 3.1 per cent while only 1.5% of total public health expenditures is invested in health research.

(Sources: Research Infosource – Canada's Top 100 Corporate R&D Spender 2014 (Corporate R&D spenders); Canadian Institute for Health Information – National Health Expenditure Trends, 1975-2014 (public health research expenditures)).

Recommendation 1

To this end, Research Canada recommends the following:

- 1) An immediate increase of \$150 million dollars in Budget 2016 for the Canadian Institutes of Health Research (CIHR) to make up for the inflationary loss.

Young scientists need a clear career path. Therefore, if science in Canada is to survive, it is essential that new generations of scientists are encouraged to enter the field, and the best way to attract brilliant young minds into discovery research is to match their undoubted commitment with appropriate career opportunities and appropriate salaries. Over the past several years, the CIHR has instituted a series of reforms to its peer review system and its open grants program that have had a severe impact on grant success rates for early-career investigators in particular, mitigating our country's capacity to cultivate the next generation of scientific leadership.

Recommendation 2

To this end, Research Canada recommends the following:

- 2) A one-time investment of \$50 million dollars over two years in CIHR earmarked for early- and mid-career scientists.

The granting councils can document an increase in the absolute number of applications, and an ever-increasing proportion of them that score excellent or outstanding in rigorous peer review, yet are not funded due to a decreasing investment in research. This funding gap has reached crisis proportions of late, and is now jeopardizing our capacity to retain the best and brightest scientists and cultivate the next generation of scientific leadership.

Recommendation 3

To this end, Research Canada recommends the following:

- 3) An increase to the Tri-Council base budgets aimed at funding excellent and outstanding research.

While not the primary focus of our letter to you, it is worth noting that science and research are not just important in driving the development of new products and processes that fuel economic growth, they are also essential in resolving major global challenges, such as climate change, energy security, scarcity of water resources, global health and disease, and food supply and nutrition. History shows us that discovery research leads to the technology breakthroughs of tomorrow that will enable us to respond to the biggest health and health care challenges facing the globe today.

Research Canada hopes that these recommendations will contribute to the national dialogue aimed at putting in place the right conditions for long-term economic growth and prosperity for all Canadians.

Sincerely yours,



Dr. Ryan Wiley
Chair



Deborah Gordon-El-Bihbety
President & CEO

- cc. The Honourable Jane Philpott, Minister of Health
The Honourable Navdeep Bains, Minister of Innovation, Science, and Economic Development
The Honourable Kirsty Duncan, Minister of Science
Dr. Robert McMaster, Vice-Chair, Research Canada