Funding for Health Research and Innovation in Canada

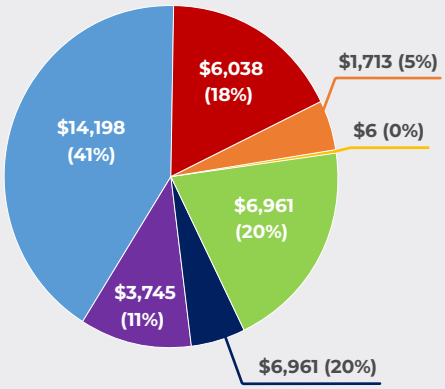
WHO ARE THE STAKEHOLDERS?

Canada's health research and health innovation ecosystem involves numerous organizations and agencies that act as either funders or performers (or both) of research and development (R&D).[1]

The Funders: Canada's business enterprises—which include health and bioscience companies—are the single largest source of funding for R&D in Canada, accounting for over 41% of R&D spending. Institutions—which include universities, colleges and academic health science centres—are the next largest source of funding for R&D (20%), followed by the federal government (18%). Other key sources of R&D funding in Canada include foreign investors (such as the U.S. National Institutes of Health), provincial governments, provincial research organizations, and private non-profits (which include health charities, foundations, and other non-profit organizations).

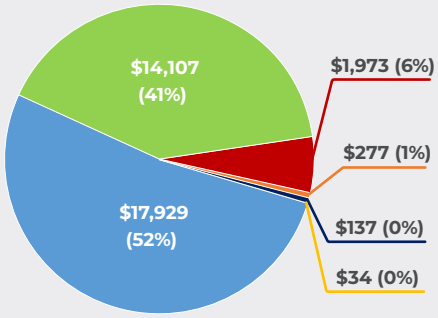
Total R&D Spending	Total *Health* R&D Spending[2]
$34.5 B in 2018	**$4.2 B in 2018**

Sources of R&D Funding in Canada
(in millions of dollars)

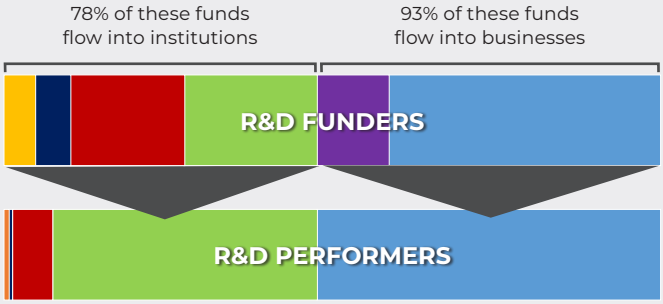


The Performers: Over 90% of R&D in Canada is performed by business enterprises and institutions. Generally, most government and private non-profit funding is used to support R&D performed by institutions, while most foreign and business enterprise investment goes to businesses.

Performers of R&D in Canada
(in millions of dollars)



Flow of R&D Funding



For your information:

Statistics Canada has not published any data on health R&D spending specifically since 2007. As a result, we can only estimate the total health R&D spending in Canada from all funding sectors combined. Except where indicated, the data reported here include R&D across all scientific disciplines.

Legend: Federal Government; Provincial Government; Provincial Research Organizations; Institutions; Business Enterprises; Private non-profits; Foreign Investors

WHAT DO WE FUND?

1. People

As the two largest performers of R&D in Canada, institutions and businesses employ (and pay the salaries of) the vast majority of health researchers in Canada. Within universities and colleges, these costs are in part covered by tuition fees and other investments. Within academic health science centres, researcher salaries are typically covered by administrative fees and funds raised by their affiliated hospital foundations. The federal government's Canada Research Chairs Program and Canada Excellence Research Chairs Program also provide financial support to universities across Canada to help them attract and retain world-class researchers.

1. Statistics Canada. Table 27-10-0273-01 Gross domestic expenditures on research and development, by science type and by funder and performer sector (x 1,000,000). DOI: https://doi.org/10.25318/2710027301-eng
2. Statista (2020) Total health research expenditure in Canada from 1975 to 2019. Retrieved from: https://www.statista.com/statistics/436571/total-health-research-spending-canada/

For Your Information:

Scholarships and fellowships are not a replacement for researcher salaries. A 2018 survey by Science & Policy Exchange found that 66% of students and postdocs who received tri-council awards required additional funding to support themselves.[3]

Scholarships and fellowships provide important additional support to the next generation of health researchers—graduate students and postdoctoral researchers. The federal government, through the three granting councils, offers a number of scholarship and fellowship programs for doctoral students and postdoctoral researchers, including the Vanier Canada Graduate Scholarships and Banting Postdoctoral Fellowships. Other sources of scholarships and fellowships include organizations like Mitacs and some businesses and private non-profit organizations.

2. Research

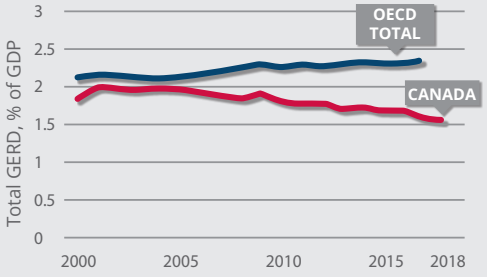
Each of the seven sectors involved in Canada's research ecosystem provide direct funding for research projects and initiatives—this includes funding for both investigator-initiated projects and targeted funding for research to address specific priority issues.

CANADA AT THE INTERNATIONAL TABLE

Worldwide, Canada is no longer in the top 30 nations in terms of total research intensity.

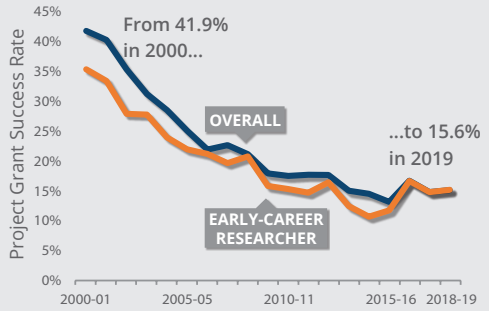
Canada's gross domestic spending on R&D (GERD) has been declining slowly over the last 15 years.

While Canada has the highest higher education expenditures on R&D (HERD) among the G7, the federal share is much lower than other countries at 23%.



Source: Organization for Economic Co-operation and Development. *Gross domestic spending on R&D*

SUPPORTING CDN HEALTH RESEARCHERS & INNOVATORS



Source: Canadian Institutes of Health Research

The primary source of federal R&D funding is the 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). The granting councils directly fund investigator-led R&D through each of their project grant competitions and other initiatives, and additionally support targeted R&D for priority issues such as Indigenous health. Other government agencies, such as the National Research Council (NRC), also directly fund—and in the case of the NRC, perform—R&D.

For Your Information:

Researchers in Canada are struggling to find federal funding for research projects that can lead to innovative health solutions. Success rates of the Canadian Institutes of Health Research (CIHR)'s project grant competition have steadily been declining over the past two decades.[4]

For Your Information:

In 2017-18, CIHR invested over $680 million in investigator-initiated research projects and almost $300 million towards priority-driven health research.4 NSERC invested $221.5 million in health and related life sciences and technologies.[5]

From the private non-profit sector, health charities and foundations directly support priority-driven research with funds raised in part from fundraising and donations. Other non-profits, such as the Stem Cell Network and the Canadian Institute for Military and Veteran Health Research (CIMVHR), which receive partial funding for their operations from the federal government, directly fund R&D projects relevant to their unique mandates. In addition to funding research performed within their own labs, businesses also provide vital financial support for research projects conducted within institutions, often in partnership with funds provided internally by the institutions and affiliated hospital foundations.

3. Infrastructure

Infrastructure costs are a necessary component of a fully-funded research ecosystem and include things like buildings, equipment, laboratories, and access to electronic databases. While these costs are covered internally by the research performers, academic institutions in particular generally need to look to external sources of funding to cover the full costs of infrastructure. The Canada Foundation for Innovation's (CFI) Infrastructure Operating Fund is the primary source of infrastructure funding from the federal government, but businesses and non-profit organizations also provide necessary infrastructure support.

4. Indirect Costs

There are a number of additional costs that are indirectly incurred in the conduct of research but that nonetheless are a crucial component of the full costs of research. These indirect costs, which include maintenance of spaces and equipment, meeting regulatory and technical standards, and providing central technical and administrative supports (i.e. staff), are typically borne by the hosting institution. The federal government supports these costs through the Research Support Fund (RSF).

For Your Information:

The RSF currently reimburses institutions for the indirect costs of research at approximately 20% of the direct costs, but estimates suggest that the actual indirect costs incurred are between 40% and 60%.[6]

3. Science & Policy Exchange (2018). Survey on Graduate Student & Postdoc Funding. Retrieved from http://www.sp-exchange.ca/events/survey/
4. Canadian Institutes of Health Research
5. Natural Sciences and Engineering Research Council of Canada
6. Fundamental Science Review Panel (2017). Investing in Canada's Future: Strengthening the Foundations of Canadian Research.