

Unlocking the economic potential of the health and life sciences sector

HealthCare *CAN*'s Submission for the Pre-Budget
Consultations of the 2019 Federal Budget

August 3, 2018

HealthCare *CAN* recommends:

Recommendation 1: A minimum floor of 25% funding with respect to the Research Support Fund - whose mandate is to support indirect costs for research - be implemented immediately.

Recommendation 2: Healthcare organizations be allowed to apply directly to infrastructure, innovation and federal support for research funding (as recommended by FINA last year).

Recommendation 3: Enhanced investments in the health system of the future, particularly in the areas of digital health and data platforms are required now. Canada's research hospitals and healthcare organizations must be at the core.

HealthCareCAN's 2019 Pre-budget Submission

HealthCareCAN applauds the federal government for injecting much needed financial resources in science and research as demonstrated in Budget 2018. These investments were deeply needed, but it must be bolstered by a long-term national strategy going forward. In support of Economic Growth: Ensuring Canada's Competitiveness, this submission from HealthCareCAN, the national voice of Canada's research institutions, healthcare organizations and community hospitals, focuses on three areas where government can support and encourage the growth of the health and life sciences sector in the face of a changing economic landscape.

Economic Value of the Health and Life Sciences Sector

It is time to recognize Canada's health and life sciences sector as a driver of economic growth and innovation:

- Our sector contributed more than 11% of the national GDP.ⁱ
- Expenditures of \$200.5 billion resulted in \$119.8 billion in direct contribution to the Canadian economy.ⁱⁱ
- 1215 healthcare facilities support more than 2 million direct and indirect jobs in their local economies, with additional economic stimulus derived from construction, research and development.
- Canada's top 40 research hospitals invested \$2.5 billion in research in 2016.ⁱⁱⁱ
- Our sector generates significant tax revenues for federal, provincial/ territorial governments: nearly 22 cents for every dollar spent.
- Every dollar invested in fundamental science resulted in \$2.20 to \$2.50 in direct and indirect economic activity.^{iv}
- Investments in fundamental research yield high annual returns from 20% - 67%.^v
- Our sector plays a key role in attracting leading Canadian and global research talent.
- Cutting-edge research has led to hundreds of spin-off companies that have created new products, services and employment opportunities.^{vi}

This evidence demonstrates that Canada's hospitals and healthcare organizations are major players in driving innovation and economic growth, while improving the health and well-being of Canadians and ensuring Canada remains competitive.

Supporting the Full Cost of Research

While government is the primary funding source of research, its contribution does not cover the full cost of conducting this research. There are a number of indirect costs – for facilities, administration and, regulation and safety compliance that are required to support researchers and the research enterprise. Government needs to urgently revisit and address the current Research Support Fund (RSF) challenges – in terms of its administration and coverage rate.

The RSF operates on a sliding scale that leaves research hospitals and institutions who receive a large percentage of Tri-Council funding (more than \$7 million a year) with a lesser percentage of indirect cost coverage than organizations receiving less grant funding. While this may reflect an equalization aspiration, it actually penalizes those institutions that are successful and those whose research activity is growing quickly. In

addition, updating the RSF model must also address the elimination of the silos that exist between academic research and healthcare, which is stalling the timely translation of evidence into practice.

Canada is one of the only jurisdictions in the world that does not provide significant levels of funding for indirect costs. The current level of RSF coverage is 21.6%^{vii}; however, for larger universities and their affiliated hospitals that lead the research enterprise and have prime responsibility for state-of-the-art infrastructure, the return is only 18-19%. This is significantly lower than the 40%-60% reimbursement range received by our American counterparts. Those Canadian institutes that submit indirect expenses to U.S. funders are even reimbursed at a higher rate – 49.3%. While the UK does not calculate indirect costs as a percentage of direct costs like Canada, its model funds 80% of the full cost of conducting research, leaving institutions to cover 20%.^{viii}

“The so-called indirect costs provided through our Canadian system are woefully inadequate to allow us to provide the support required for our scientists. We need to have support that matches the financial needs of the full cost of research. Without that the progress of our researchers is being substantially impeded.”^{ix}

Canada’s research hospitals are in jeopardy, as one VP of Health Research reflected, “It is mission critical to address the fact that hospitals’ ability to find money is eroding. They will not be able to create the innovation space – hospitals are struggling mightily.” Anecdotally, research hospitals’ foundations, philanthropy and fundraising are covering increasingly greater proportions of these research-related indirect costs – up to 40%, if not higher, at some hospitals.^x This applies significant cost pressure on our hospitals, which are operating under tight budget constraints, impeding their ability to carry out their care and training responsibilities.

HealthCareCAN strongly encourages government to take immediate steps to reduce the magnitude of the shortfall by **establishing a minimum floor of 25% funding for the Research Support Fund**. Without adequate funding for indirect costs of health research, Canada’s efforts to remain internationally competitive are extremely impaired.

HealthCareCAN wishes to emphasize that research hospitals are not able to receive direct reimbursement from the RSF and must link with their universities. This reflects an out-dated conceptualization of the research and innovation ecosystem with respect to the health and life sciences sector. This issue is explored in the next section.

Eligibility for Funds

For over 10 years, research hospitals have been explicitly excluded from federal infrastructure funds, such as the Knowledge Infrastructure Program, Canada First Research Excellence Fund, and the Building Canada Fund. Aging physical and technological infrastructure has been identified as a key risk in the health sector. Canada’s hospitals face an accumulated deferred maintenance cost of roughly \$28 billion and 48% of healthcare facilities are over 50 years old.^{xi} Hospitals operate 24 hours a day, 7 days a week and have a significant environmental impact. It is estimated that Canadian hospitals account for 8% of public greenhouse gas emissions and 11% of total public energy consumption.^{xii}

While the 2016 Post-Secondary Institutions Strategic Investment Fund welcomed applications from research hospitals, university-affiliated research hospitals required the signature of a university president, which many did not receive. Similarly, research hospitals must negotiate with the university their share of CFI funds and must receive university agreement if they want to submit a funding proposal directly to CFI, receive a contribution and/or manage a CFI contribution. Hospitals are independent legal entities, with very different

research priorities. Healthcare organizations' applications for infrastructure grants should not be gated by universities nor should they be bound to each other.

Canada's research hospitals have been unable to secure direct funding through government's innovation programs, such as the Innovation Supercluster Fund and the Strategic Innovation Fund. For these programs, research hospitals do have the opportunity to become involved in the supercluster or consortia/network, but industry is the lead. Government must recognize that research hospitals already operate in networks and should be considered valuable partners in evolving the Innovation Agenda. Research hospitals serve as powerful health and life sciences innovation hubs that work with multiple researchers, universities, patients, companies, governments and industry.

Research hospitals are essential partners. It is time to level the playing field and allow them to compete directly for funding. Canadian hospitals and healthcare organizations are only asking that they be able to contribute on equal footing, with the same advantages provided to other sectors. This Committee recommended in their 2018 Pre-Budget Report, "**Support research hospitals by providing direct eligibility for infrastructure and innovation support.**" We strongly encourage this recommendation again and that it be adopted by government.

Digital Health and Data

Clinical and administrative data are being increasingly digitized. The sharing and variety of data continues to expand. Insights that could change care for individuals, groups and even society as a whole are buried in these data. Big data analytics, including predictive analytics and artificial intelligence applications, are the mechanisms used to gain insight from patterns in these data. They have garnered considerable attention in recent years in providing opportunities for improving population health and patient care. For example, the treatment of disease has been radically improved as a result of early identification, intervention and self-management.

The development of platforms to link and share these data will assist researchers in answering key questions about health, risk factors and disease, and will support clinicians in delivering the best care in the most affordable way. We invite the government to continue investing in Canada Health Infoway as it develops its Health Access program and PrescriberIT. Canada's research hospitals need to be at the centre of digital health for data platforms and data sharing. The creation of an innovation ecosystem of researchers, industry, clinicians, and patients will strengthen Canada's competitiveness. Skills training to prepare Canada's future workforce to successfully harness the power of big data is critical. According to the Health and Biosciences Strategy Table:

"Digital health systems could catalyze a \$408 million boost in economic productivity,^{xiii} while better use of data and analytics could save the health system \$10 billion a year through better clinical decisions, personalized care and new research^{xiv} ... Canada needs to progress in adopting digital health technologies in which it lags behind other comparable countries."^{xv}

For Canada's health system to take advantage of the ongoing progress in the field of big data analytics, we propose the Government considers an initial investment of \$100 million over five years through Canada's research hospitals to work with industry, clinicians and patients in order to develop meaningful digital health data platforms and applications, undertake evaluation of their clinical benefits, and advance their use through the rest of the health system.

Clearly, investments in the area of digital health and health data cannot be postponed. HealthCareCAN encourages government to ***invest in the health system of the future, particularly in the area of digital health and data platforms***. This will also attract investments in the health and life sciences industries to Canada. The Advisory Council on Economic Growth reached the same conclusion, “If Canada can position itself at the forefront of this revolution, it stands to benefit enormously; if not, we will forfeit this growth to foreign players.”^{xvi}

Conclusion

It is time for government to unleash the high potential of the health and life sciences sector. HealthCareCAN's recommendations support research and discovery, infrastructure and innovation. Implementing these recommendations will grow the health and life sciences sector, which in turn will grow Canada's economy and ensure we remain competitive:

“[our] sector exhibits strong potential for innovation, growth and the creation of good, middle class jobs for all Canadians, including currently untapped pools of talent. They also face powerful forces of competition that demand action now to build on their strength and secure a place in the global economy.”^{xvii}

ⁱ [Health and Biosciences Economic Strategy Table, *The Sector Today and Opportunities for Tomorrow*](#), February 2018.

ⁱⁱ [Health Care in Canada: An Economic Growth Engine](#)

ⁱⁱⁱ [Canada's Top 40 Research Hospitals](#).

^{iv} [What science is really worth?](#), p. 682-684

^v *Ibid.*,

^{vi} [From Microscope to Marketplace: Spin-off Companies from ACAHO Member Institutions](#)

^{vii} [INVESTING IN CANADA'S FUTURE: Strengthening the Foundations of Canadian Research](#), 2017.

^{viii} [Indirect Costs of Research: Results of a joint survey administered by CAUBO/CAURA](#), 2013, p. 50.

^{ix} *Ibid.*

^x Conversation with Dr. Charles Chan, UHN, October 18, 2017.

^{xi} [Adaptation State of Play Report](#), p. 28

^{xii} [Green is Green: Improving the Health, Economic and Environmental Impact, Resilience and Sustainability of Canada's Hospitals through Green Infrastructure](#), 2016.

^{xiii} Canada Health Infoway, *Mobile Health Computing Between Clinicians and Patients White Paper*, 2014.

^{xiv} Canada Health Infoway: *Big Data Analytics and Health White Paper*, 2013.

^{xv} [Health and Biosciences Economic Strategy Table. *The Sector Today and Opportunities for Tomorrow*](#), February 2018

^{xvi} *Ibid.*

^{xvii} *Ibid.*