

**Creating a *'healthier, wealthier,
and greener'* future through Canada's
Research Hospitals**

A submission from H10 to the
Federal Pre-Budget 2017 Consultation
August 5, 2016

Represented Research Hospitals and the H10 Group*



Executive Summary

Canada's research hospitals are national assets. While under provincial jurisdiction, their tripartite mandate of patient care, training, and research, makes them platforms for system transformation relevant to all Canadians and the Federal Government. There are three reasons for this: (1) they are where the promise of science reaches the patient for the first time; (2) our research knows no organizational or provincial boundaries; and (3) the federal government plays an important role in funding research and innovation at our organizations. In addition, research hospitals employ over 600,000 Canadians and provide at least 66,000 research-related jobs. They play an important role in the economy, the environment, and in our nation's physical infrastructure. For example, research hospitals account for 8-10% of public sector greenhouse gas emissions and energy consumption. In this brief, we highlight three measures that the Federal Government can take to leverage these organizations in order to: (1) improve health; (2) create economic benefit; and (3) generate greener and cleaner communities.

1. To leverage the role of research hospitals in addressing the urgent and emergent health issues that the Federal Government is facing, we support the HealthCareCAN pre-budget brief asking for:

- **\$1 B** innovation fund that would allow the Government to leverage expertise from research hospitals among others, scale and spread innovations, and incent strategic procurement.
- We also ask that research hospitals receive the same treatment as universities and colleges when it comes to eligibility for programs and funds for research, innovation, and infrastructure purposes.

2. To address the very serious funding concerns among Canadian health researchers, ensure that Canada is able to retain highly qualified professionals, protect the investments of the past decade, encourage the next generation of Science graduates, *and as the Science Review and Innovation agenda* are unfolding, we ask the Federal Government for:

- **\$120 M** to the base budget of the Canadian Institutes for Health Research (CIHR), which in addition to the \$30 M promised in Budget 2016 would help to restore the toll of inflation on a frozen A-base.
- During and upon completion of the Science Review and the Innovation Agenda, we ask that due consideration be given to the manner in which research, innovation, and health policy will intersect.

3. To allow hospitals to contribute to better environmental stewardship and resilience, and to incorporate new materials and technologies that are greener, cleaner and more cost effective against a backlog of deferred maintenance, we ask the Government for:

- **\$250 M** for a second intake of the Strategic Investment Fund to accommodate those infrastructure projects directly from research hospitals that were impeded by timelines or university approvals
- Permission for hospitals and health regions to apply and compete for federal green infrastructure funds where previously they have been denied.

In conclusion, research hospitals can be better leveraged in Canada to the benefit of all Canadians, the economy, and the environment. We look forward to presenting more detail to the Standing Committee. Meanwhile, we thank you for your consideration.

Creating a ‘healthier, wealthier, and greener’ future through the levers of Canada’s Research Hospitals¹

Introduction

- H10 is an action roundtable of representative research hospital CEOs, created to help Canada leverage research hospitals in matters of health, healthcare, research, innovation and the economy.²
- Last year, H10 met with various Members of Parliament and Senators who were available when we visited and who expressed interest in better understanding our organizations. We would like to thank Parliamentarians for their reception and interest in working with us. We look forward to meeting with an even broader group of Parliamentarians in November 2016.
- H10 commends the Finance Committee for its Pre-Budget 2017 consultation question on how Government can help Canadians as individuals, businesses, and communities create a better future and more prosperous economy. We are pleased to highlight three opportunities for Canada:
 1. Leveraging our research hospitals to solve health and health system problems in Canada
 2. Securing health research and innovation as the Federal Review and Innovation Agenda proceed
 3. Supporting our efforts to create innovative, greener, and cleaner infrastructure

1. Leveraging Canada’s Research Hospitals

- Over the past year, Canada faced a number of serious health-related challenges nationally, ranging from opioid addictions to epidemic rates of diabetes, disease, depression and suicide, among others.
- While we have many great leaders that can assist in these crises alongside the colleges and universities, Health Canada, the Canadian Institutes of Health Research, and the Public Health Agency of Canada; we have no national platform through which to call on the state of the art in both research and practice across this country. Research hospitals provide these platforms.
- International experts know that Canada’s research hospitals are transforming care. Between 2012 and 2016, more than 5,000 research and innovation successes from our organizations were reported through reputable print media.³ However, we need a better mechanism to find and leverage this expertise nationally and as needed.
- Research hospitals have a tripartite mandate of care, training and research.⁴ The integration of these three mandates leads to *system transformation* capacity.⁵ Working with university partners, particularly faculties of medicine, but others as well, they are the translational mechanisms through which bio-medical and bio-psycho-social research reaches patients.⁶ They are suited to this role because: (1) their patients need the solutions being made possible through research and (2) because of the information they have on patients.⁷ Research hospitals help to bridge “health policy” and “innovation policy”, and require a “hybrid policy” to leverage their potential.⁸
- As the Canadian Academies puts it, leveraging innovation is not simply a matter of inputs and outputs, it’s also a matter of the mechanisms put in place to transform inputs into outputs.⁹ To this

end we need to: (1) create the winning conditions to regain our global advantage in the health and life sciences¹⁰ and (2) fund the “mechanisms” through which we can scale and spread innovation.¹¹

- Research hospitals are also important employers and stewards of resources. In 2015, they accounted for 650,000 jobs; 60,000 inpatient beds; 12M outpatient visits; 6M emergency visits; and over \$45 B in operating budgets and \$2.6B in research and innovation funding.^{12 13 14}
- Further, research hospital accomplishments are part of our heritage, competitive advantage, and history. As we approach Canada’s 150th Anniversary, we want future generations to know this.¹⁵
- Research hospitals are also one of most collaborative innovation engines in our country.¹⁶ However, our procurement policies are not innovation-sensitive so our innovations don’t enter our own markets.¹⁷ Instead, they become opportunities for other global economies. An innovation fund would help to rectify this.
- In terms of the Federal Budget, the government can leverage the capacity of research hospitals by considering the mechanisms and funding for scale and spread. Research hospitals are already providing infrastructure for research and innovation. We therefore recommend:

- **\$1 B** innovation fund that would allow the Government to scale and spread expertise from research hospitals on an as needed basis per HealthCareCAN’s proposals.
- That research hospitals receive the same treatment as universities and colleges when it comes to eligibility for research, innovation, and infrastructure funds and programs.

2. Securing Health Research and Innovation as Federal Reviews and Agenda Proceed

- Canada’s research hospitals commend the government on an unprecedented commitment to strengthening Canada’s federal research and innovation ecosystems and impacts.
- Studies by RAND Corporation and others illustrate why the research and innovation ecosystems in the health sector are uniquely linked.¹⁸ Environments conducive to inquiry and exploration in real time patient settings create an opportunity for both research and innovation to thrive.¹⁹
- As such, what we need for the health and life sciences in Canada is a clear organizing framework that considers all unique players in its ecosystem. Research hospitals must be put on par with the universities and colleges in terms of their access to research, innovation and infrastructure funding activity. This benefits not only the research hospital, but faculty and students as well.
- In terms of research funding specifically, we are looking forward to participating in the Science Review. However, applied research is also critically important. This is true even when the research is on yeast, worm, or animal models. It is estimated that “25% of highly promising biomedical discoveries resulted in a randomized clinical trial, but only 10% were established in clinical practice within 20 years”.²⁰ This underscores the role of both industry and clinical settings in enabling the receptor capacity for these discoveries.

- In the meantime, as this government has seen from the headlines of the past year, the health research enterprise has been likened to a traumatized patient. A few factors have caused this:
 - (1) health research funding has not kept up with inflation since 2010²¹
 - (2) because of funding pressures, there were major funding reforms²²
 - (3) the funding reforms resulted in the elimination of two of the regularly scheduled grant cycles
 - (4) the resulting grant cycle (called project scheme) received a record 3,813 proposals asking \$3B²³
 - (5) of the funding requested, only 491 (13%) will be funded with the \$235M available leaving a large percentage of excellent applications unfunded and compromising research labs. ²⁴
- While in the longer term, the Science Review and the Innovation Agenda development may provide holistic solutions, however, as development and implementation will take time, we ask:

- **\$120 M** to the base budget of the Canadian Institutes for Health Research, which in addition to the \$30 M promised in Budget 2016 would help to address the toll of inflation over the years.
- During and upon completion of the Science Review and the Innovation Agenda, we ask that due consideration be given to the manner in which research, innovation, and health policy intersect.

3. Supporting our efforts to create innovative, greener, and cleaner infrastructure²⁵

- H10 commends the Government on an unprecedented commitment to improve the environment for generations of Canadians and on engaging civil society in how we do this.
- In this regard, the hospital sector is a friendly giant with a dual dilemma. First, operating 24 hours a day, 7 days a week, it has significant chemical, waste, energy, water, transportation, food, pharmaceutical, physical plant, and purchasing requirements. It is estimated that hospitals account for 8% of public green-house gas emissions and 11% of public energy consumption.^{26 27}
- Second, hospitals need to remain resilient in the face of climate change and disaster. We've seen many instances of hospital evacuations in the face of flood or fire. We need to aim for a hospital system that remains fully operational and resilient in the face of disaster. These exist and it has been shown that planning for climate resilience also leads to more sustainable practices.
- Fortunately, hospitals are taking initiative all over the country. There are over 363 physical plant initiatives intended to repair, retrofit or rebuild facilities so that they are cleaner, greener, more efficient, sustainable and resilient. We also made 35 submissions to the Strategic Investment Fund. At least a third of these projects, while focussed on research and innovation also look at improving or replacing research and innovation facilities that are 20 to 50 years of age.²⁸
- Unfortunately, we have a backlog of deferred maintenance because of fiscal pressures.²⁹ We are playing our role with the provinces, but we need the support of the Federal Government to enable greener construction choices. To this end, we ask the Federal Government for:

- **\$250 M** for a second intake of the Strategic Investment Fund to accommodate those infrastructure projects from research hospitals that were impeded by timelines or university approval processes.

- Permission for hospitals and health regions to apply and compete directly for federal green infrastructure funds where previously they have been denied.

In conclusion, research hospitals can be better leveraged in Canada to the benefit of all Canadians, the economy, and the environment. We look forward to presenting more detail to the Standing Committee. Meanwhile, we thank you for your consideration.

¹ The title of this brief is inspired by/adapted from (1) the Healthier, Wealthier, and Smarter documents and campaign (2013-ongoing) by the Council of Academic Hospitals of Ontario and (2) the Economist, 2009 “Healthier, Wealthier and Wiser”.

² You can read more about H10 at this [link](#)

³ HealthCareCAN hosts “[Innovation Sensation](#)” a searchable database tracks research and innovation media successes from research hospitals.

⁴ National Task Force on the Future of Academic Health Science Centres, 2012. *Three Missions...One Future – Optimizing the Performance of Canada’s Academic Health Sciences Centres*.

⁵ CAHO, 2013. *Accountabilities of Ontario’s Research Hospitals*. <http://caho-hospitals.com/wp-content/uploads/2013/08/November-12-2013-Accountabilities-of-Ontario%E2%80%99s-Research-Hospitals.pdf>

⁶ Campbell, E.G., Weissman, J.S., Moy, E. and Blumenthal, D. *Status of clinical research in academic health centers. Views from the research leadership*. JAMA. 2001; 286:800–806.

⁷ Martin, F. and Miller, F.A. (2012). *Leveraging the “living laboratory”: On the emergence of the entrepreneurial hospital*. Social Science & Medicine, 75 (4): 717-724.

⁸ Miller, F.A., French, M. *Organizing the entrepreneurial hospital: Hybridizing the logics of healthcare and innovation*. Research Policy (2016).

⁹ Council of Canadian Academies, 2012. *Innovation as Business Strategy, Why Canada Falls Short*.

¹⁰ H10, 2016. *What action is needed for health research and innovation?* <http://www.healthcarecan.ca/wp-content/uploads/2016/04/4-What-action-is-needed-for-health-research-and-innovation-in-Canada.pdf>

¹¹ Advisory Panel on HealthCare Innovation, 2015. *Unleashing Innovation*.

¹² H10, 2015. *What is a Research Hospital?* <http://www.healthcarecan.ca/wp-content/uploads/2016/04/3-What-is-a-Research-Hospital.pdf>

¹³ HealthCareCAN calculations from figures on members websites

¹⁴ With some seed funding a database of Canada’s research hospitals, their critical statistics, research priorities and special expertise, research priorities, and achievements could likely be constructed. We would be pleased to discuss this with departmental staff if this is of interest.

¹⁵ A submission will be forthcoming to the Canada 150th Fund to engage Canadians, recognize researchers, and showcase the achievements of Canada’s Research Hospitals.

¹⁶ Science Technology and Innovation Council, 2015. *State of the Nation 2014: Canada’s report 2014* [http://www.stic-csti.ca/eic/site-stic-csti.nsf/vwapj/STIC_1500_SON_Report_e_proof4.pdf/\\$file/STIC_1500_SON_Report_e_proof4.pdf](http://www.stic-csti.ca/eic/site-stic-csti.nsf/vwapj/STIC_1500_SON_Report_e_proof4.pdf/$file/STIC_1500_SON_Report_e_proof4.pdf)

¹⁷ Council of Canadian Academies

¹⁸ Wooding, S. Hanney, S. Pollitt, A., Buxton, M., Grant, J. *Understanding the returns from cardiovascular and stroke research: The Policy Report*. Project Retrosight. RAND Corporation.

¹⁹ Ibid

²⁰ Morgan, Myfanwy, Christine A. Barry, Jenny L. Donovan, Jane Sandall, Charles D.A. Wolfe, and Annette Boaz (2011). *Implementing “translational” biomedical research: Convergence and divergence among clinical and basic scientists*. Social Science & Medicine, 73: 945-952.

²¹ H10, 2016. *Why does CIHR need enhanced funding support?* <http://www.healthcarecan.ca/wp-content/uploads/2016/04/5-Why-does-CIHR-need-enhanced-funding-support.pdf>

²² Ibid

²³ CIHR website

²⁴ Ibid

²⁵ This section is drawn from HealthCareCAN’s submissions to the Let’sTalkSustainability and Let’sTalkClimateChange consultations. You can read the full brief at http://www.healthcarecan.ca/wp-content/uploads/2016/08/IssueBrief_GreenisGreen_full_EN.pdf

²⁶ Statistics Canada. *Greenhouse gas emissions, by sector*. April 11, 2012. <http://www.statcan.gc.ca/tables-tableaux/sum-som/l01/cst01/envi42a-eng.htm>

²⁷ Statistics Canada. *Energy use, by sector*. April 11, 2012. <http://www.statcan.gc.ca/tables-tableaux/sum-som/l01/cst01/envi41a-eng.htm>

²⁸ Survey of HealthCareCAN members

²⁹ Roberts, G. and Samuelson, C. 2015 *Deferred Hospital Maintenance n Canada: There is more to ‘a building’ than building it*. HealthCareCAN.