



Canadian Academy of Health Sciences
Académie canadienne des sciences de la santé

Prospectus for a Major Assessment:

The Return on Investments in Health Research: Defining the Best Metrics

Prepared by the
Canadian Academy of Health Sciences

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The Return on Investments in Canadian Health Research – The Situation

Investments in health research have increased significantly across Canada over the past decade. Naturally, and justifiably, with these greater investments come increased expectations. In addition, the widening diversity of stakeholders engaged in and/or supporting health research has led to a broader range of anticipated outcomes. These expectations include: 1] better health; 2] greater life expectancy; 3] translation of research findings into improvements in quality of life; 4] informed public policy on health related issues across the full spectrum of government and private sector activity; 5] new commercial opportunities within and beyond Canadian borders; 6] increased attraction of the next generation to pursue careers in health research and the health sector; 7] a better ‘state of readiness’ for the unexpected threats to health that inevitably develop in the contemporary world.

In parallel with these expectations, a confluence of factors has placed intense focus on understanding what return our society receives for the investments made in health research. Some of these include:

- lack of public understanding of the value of research and its applicability to current issues in health care at a time of unsurpassed concern about accessible, affordable, high quality health care in a publicly funded system;
- failure to adequately measure the benefits of fundamental and applied health research and to properly convey them in a meaningful fashion to policy-makers and the public;
- an increasingly common view that health care (and by association, health research) is a cost-driver consuming an ever greater share of provincial resources at the expense of other sectors;
- growing general concern about expenditure accountability in the aftermath of widely publicized instances of misuse in both the public and private sectors in Canada and abroad;
- lack of consensus on how and when to best evaluate return on research expenditures;
- specific questions from policy makers about tangible results attributable to recent increases in public investment in health research through the Canadian Institutes of Health Research, the Canada Foundation for Innovation and the Canada Research Chairs program;
- uncertainty about the appropriateness of Canada’s expenditures on health research versus those of analogous contributions in other industrialized countries;
- a need to acquire appropriate evidence to assist in striking the right balance between funding of investigator-initiated “discovery” health research and targeted “strategic” health research;

- a decline in the number of health professionals pursuing health research careers at a time when the “greying” of current investigators is likely to lead to a major decline in research personnel;
- mounting pressure on innovation as the primary avenue for improving Canadian productivity and standard of living in the knowledge based economy of the 21st century;
- the need for a robust multi-dimensional measurement framework that addresses the increasingly complex, multi-sectoral impacts¹ of health research spanning:
 - improved health and well being
 - benefits to the health care system
 - improved decision making and administration
 - creation of new knowledge
 - training of the next generation of researchers for future innovation
 - commercial and economic dividends



¹ Adapted from Buxton M, Hanney S. Evaluating the NHS research and development programme: will the programme give value for money? J R Soc Med 1998; 91 Suppl 35:2-6

Potential Scope

The scope and deliverables of the Assessment will be based on joint agreement between CAHS and the Sponsors. The general intention is to propose a clear menu of metrics by which return on investments in health research in Canada can be measured. It is understood that different Sponsors will possess a varied spectrum of interest about different metrics.

The procedures to conduct the Assessment will be determined by the Assessment Panel and may include receipt of written submissions, open and closed meetings of the Panel, and forums involving the Panel, Sponsors and leading authorities within and outside of Canada.

The final report may contain some or all of the following:

- environmental scans of return on investment frameworks and best practices at institutions and agencies both within and outside of Canada; this includes incorporation of previous work conducted by CIHR², and casting international work from the UK³, Australia⁴ and other countries⁵ into the Canadian context
- consultations with policy-makers, the private sector, researchers, funders, other stakeholders and the public about what each value in health research outcomes
- a framework for measuring the return on investments in health research across the six domains listed below:
 - improved health and well being
 - benefits to the health care system
 - improved decision making and administration
 - creation of new knowledge
 - increased research capacity for future innovation
 - commercial and economic dividends
- identification of the information resources and human resources that would be required to evaluate returns on investment on a regular basis in the future
- a recognition of the differences in quantitative and qualitative research and potential need for differing metrics in different research themes
- other elements deemed relevant by the stakeholders

² A Framework for Measuring the Impact of Health Research: A report prepared for the Canadian Institutes of Health Research; September 2005. (<http://www.cihr-irsc.gc.ca/e/30324.html>)

³ Medical Research: Assessing the Benefits to Society. A report by the UK Evaluation Forum supported by the Academy of Medical Sciences, the Medical Research Council and Wellcome Trust; May 2006. (http://www.wellcome.ac.uk/doc_WTX031876.html)

⁴ Exceptional Returns - The Value of Investing in Health R&D in Australia. A report prepared for the Australian Society for Medical Research by Access Economics; September 2003. (<http://www.asmr.org.au/general/Except.pdf>)

⁵ Buxton M. Hanney S. Jones T. Estimating the economic value to societies of the impact of health research: A critical review. Bulletin of the World Health Organization 2004; 82(10):733-9. (<http://www.who.int/bulletin/volumes/82/10/733.pdf>)

Tentative Workplan

Phase I: Study Definition:

The CAHS Standing Committee on Assessments together with the Assessment Sponsors will define the precise nature of the question, the scope of the Assessment and the assessment deliverables.

Phase II: Panel Formation:

All Sponsors, the CAHS Fellowship, other interested parties and the public will be invited to suggest potential members of the Assessment Panel. The Standing Committee on Assessments will propose a membership list of the Assessment Panel to the CAHS Board. The Chair and approximately 25% of the members will be Fellows of CAHS (see Appendix). The remaining 75% of members will be selected from the best Canadian and international experts in the field and will include public representation.

The proposed panel will be posted on the CAHS web-site for comment and suggestions prior to finalization. Final approval of the Assessment Panel will rest with the CAHS Board.

Phase III: Panel Deliberation:

The Panel together with professional/ support staff will conduct their work. This will include environmental scanning, receipt of written submissions by interested parties, open hearings with presentations from interested parties, closed meetings and deliberations. Consideration will be given to launching the assessment process with a Major Forum involving leading international experts to which the Sponsors will be invited.

Phase IV: External Review:

A draft report will be received by CAHS and forwarded to an External Review Committee selected by the Standing Committee on Assessments. Sponsors will again be invited to suggest members of the External Review Committee. The Assessment Panel will subsequently evaluate its report based on recommendations from External Review. Approval and acceptance of the final report will rest with CAHS Council.

Phase V: Dissemination:

The final report will be distributed widely in printed format and posted on the CAHS web site. Other methods of dissemination, based on prior agreement with the Sponsors, will be utilized. These may include presentations, town hall meetings, non-print media, etc. in order to maximize the impact and uptake of the recommendations.

Budget

Estimated range: \$500,000 to \$600,000

The final budget will depend on scope and variable costs such as number of meetings and hearings. The final budget will be agreed upon in advance through written contract between CAHS and the Sponsors.

It is anticipated that the funding costs would be shared among a large number of institutions and agencies heavily impacted by this complex set of issues, leading to a relatively low cost per individual sponsor.

Potential Assessment Sponsors

Many organizations at all levels are grappling with the issue of return on investment from health research in Canada. Some of those who have an interest in this issue and who might wish to join a partnership to sponsor this assessment include:

- Alberta Heritage Foundation for Medical Research
- Association of Canadian Academic Healthcare Organizations (ACAHO)
- Association of Faculties of Medicine of Canada (AFMC)
- BIOTECanada
- Canada Foundation for Innovation
- Canada Health Infoway
- Canada Research Chairs
- Canadian Agency for Drugs and Technologies in Health
- Canadian Association of Rehabilitation Professionals
- Canadian Dental Association
- Canadian Health Services Research Foundation
- Canadian Institute of Health Information
- Canadian Institutes of Health Research
- Canadian Medical Association
- Canadian Nurses Association
- Canadian Pharmacists Association
- Canadian Veterinary Medical Association
- Federal-Provincial-Territorial Council of Deputy Ministers of Health
- Fonds de la recherche en santé du Québec
- Genome Canada
- Health Canada
- Health Charities Coalition of Canada and member Charities
- MEDEC
- Michael Smith Foundation for Health Research
- National Alliance of Provincial Health Research Organizations (NAPHRO)
- Provincial governments
- Public Health Agency of Canada
- Research Canada
- Royal College of Physicians and Surgeons of Canada
- Rx & D: Canada's Research Based Pharmaceutical Companies
- Statistics Canada
- Universities and/or research institutions

About the Canadian Academy of Health Sciences

The Canadian Academy of Health Sciences (CAHS) is comprised of approximately 200 Fellows who have attained the highest levels of academic and professional accomplishment in their respective fields. CAHS is not an advocacy group but rather an organization comprised of individuals from diverse backgrounds who have agreed to volunteer their time and expertise to participate in assessments of crucial health- and biomedical related issues affecting the lives of all Canadians.

The objectives of CAHS are to:

1. Serve as a credible, expert, independent assessor of science & technology issues relevant to health of Canadians
2. Support the development of timely, informed & strategic advice on urgent health issues
3. Facilitate development of sound & informed public policy on these issues
4. Enhance understanding of health-related science & technology issues affecting the public by transmitting results of assessments & providing opportunities for public discussion
5. Provide a single authoritative & informed voice for the health science communities
6. Monitor global health issues to enhance Canada's state of readiness for the future
7. Represent Canadian health sciences internationally & liaise with international academies to enhance understanding and potential collaborations

Remarkably, until now, Canada has been unique in not having this type of resource as compared with many other countries such as the United States, France, the Netherlands, and the United Kingdom. Both the U.S. Institute of Medicine and the U.K. Academy of Medical Sciences are interdisciplinary organizations that respond to questions and issues put to them from a variety of sources: government, national non-governmental organizations, industry, academia and major research organizations. Below are some of the reports that the Institute of Medicine in the U.S. has produced after careful study and analysis that have had a meaningful impact on all aspects of health:

- To Err is Human: Building a Safer Health System (1999)
- Stem Cells and the Future of Regenerative Medicine (2001)
- Crossing the Quality Chasm: A New Health System (2001)
- Who will keep the Public Healthy? Educating Public Health Professionals for the 21st Century (2002)
- Preventing Childhood Obesity: Health in the Balance (2004)

CAHS Fellows (October 2006)

Albert J. Aguayo	John Dirks	Jawahar (Jay) Kalra
William Albritton	Ian R. Dohoo	George Karpati
Tasso P. Anastassiades	Diane Doran	Norah Keating
Aubie Angel	James Dosman	Nuala Kenny
Jack Antel	Andrée Durieux-Smith	Wilbert J. Keon
Stephen L. Archer	Mostafa M. Elhilali	Kevin M. W. Keough
Paul W. Armstrong	Robert Evans	Bartha M. Knoppers
Francois Auger	Thomas Feasby	Otto Kuchel
Lorne Babiuk	B. Brett Finlay	Fernand Labrie
Patricia A. Baird	Jean-Claude Forest	Jean-Claude Lacaille
Michael Baker	Yves Fradet	André Lacroix
Morris L. Barer	Cyril Frank	Bernard Langer
Renaldo Battista	John W. Frank	Andreas Laupacis
Michel G. Bergeron	Henry G. Friesen	Mary Law
Alan Bernstein	Abraham Fuks	Yvonne Lefebvre
Allan Best	D. Grant Gall	Wendy Levinson
John Bienenstock	Nicole Gallo-Payet	Peter Liu
Joan Bottorff	Jacques Genest	David Locker
Michel Bouvier	Phil Gold	Jonathan Lomas
M. Ian Bowmer	Larry Goldenberg	Donald Low
Manuel Buchwald	Harry L. Goldsmith	James Lund
Helen Burt	David Goltzman	Nora (Noni) MacDonald
John A. Cairns	Avrum Gotlieb	Peter Macklem
Donald Calne	Paul Grand'Maison	Stuart M. MacLeod
Serge Carrière	Jean Gray	Paul Man
S. George Carruthers	Ronald D. Guttman	G. B. John Mancini
Carol Cass	Harvey Guyda	Karen Mann
Vincent Castellucci	Carlton Gyles	Thomas Marrie
Timothy Caulfield	Vladimir Hachinski	James G. Martin
Sylvain Chemtob	Antoine Hakim	Renee Martin
Ray Chiu	Judith Hall	S. Wayne Martin
Anthony Chow	Phillip Halloran	Anne Martin-Matthews
Michel Chrétien	Pavel Hamet	Christopher McCulloch
Michael Clandinin	J. Richard Hamilton	Ernest A. McCulloch
John Conly	David F. Hardwick	Grant McFadden
Andre-Pierre	Susan Harris	Patrick J. McGrath
Contandriopoulos	David Hawkins	Roderick McInnes
Alastair Cribb	Michael Hayden	Bruce McManus
Richard Cruess	Rejean Hebert	John McNeill
Max Cynader	Carol Herbert	Graydon (Grady) Meneilly
Abdallah Daar	Clyde Hertzman	Jose Menezes
Dale Dauphinee	Philip Hicks	Nadia Mikhael
Jean Davignon	K. Wayne Hindmarsh	Richard Morisset
Dave Davis	Ellen Hodnett	Barbara Morrongiello
Jacques de Champlain	James C. Hogg	Janice M. Morse
Lesley Degner	Martin Hollenberg	Jean-Marie Moutquin
Johanne Desrosiers	Yves Joannette	David S. Mulder
Naranjan Dhalla	Joy Johnson	Bruce Murphy
Henry Dinsdale	Celeste Johnston	T. J. (Jock) Murray

J. Fraser Mustard
Reginald A. Nadeau
Arnold Naimark
Louise Nasmith
Stanley Nattel
C. David Naylor
Lindsay Nicolle
Linda O'Brien-Pallas
Hugh O'Brodovich
Annette O'Connor
Christopher Overall
Eliot Phillipson
Roger Pierson
I. Barry Pless
Barry I. Posner
Dorothy Pringle
Rémi Quirion
Raymond Rajotte
Eugenio A. Rasio
Jeffrey Reading
Domenico Regoli
Richard Reznick
Carol L. Richards
Kenneth Rockwood
Allan Ronald

Lawrence Rosenberg
David S. Rosenblatt
Walter W. Rosser
Serge Rossignol
Ori D. Rotstein
Guy Rouleau
Claude Roy
Rima Rozen
Ellen Rukholm
Robert B. Salter
Martin T. Schechter
Ernesto L. Schiffrin
Hugh Scott
Rafick Sékaly
Barry J. Sessle
Melvin Silverman
Jacques Simard
Peter Singer
Bhagirath Singh
Emil Skamene
Ingrid Sketris
Eldon R. Smith
Michael J. Sole
Matthew W. Spence
Bonnie Stevens

Miriam Stewart
Donald Stuss
Roger A. L. Sutton
Charles H. Tator
Sally Thorne
Aubrey J. Tingle
Johanne Tremblay
Richard E. Tremblay
Jack Tu
Peter S. L. Tugwell
Jacques Turgeon
Jeffrey Turnbull
D. Lorne Tyrrell
Jack Uetrecht
Patrick Vinay
Peter Walker
Keith Walley
Mamoru Watanabe
Jeffrey I. Weitz
Catharine Whiteside
Douglas R. Wilson
Sharon Wood Dauphinee
Donald Woods
Salim Yusuf