



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)
- BIOTECCanada
- 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
William Albritton
Tasso P. Anastassiades
Aubie Angel
Jack Antel
Stephen L. Archer
Paul W. Armstrong
Francois Auger
Lorne Babiuk
Patricia A. Baird
Michael Baker
Morris L. Barer
Renaldo Battista
Michel G. Bergeron
Alan Bernstein
Allan Best
John Bienenstock
Joan Bottorff
Michel Bouvier
M. Ian Bowmer
Manuel Buchwald
Helen Burt
John A. Cairns
Donald Calne
Serge Carrière
S. George Carruthers
Carol Cass
Vincent Castellucci
Timothy Caulfield
Sylvain Chemtob
Ray Chiu
Anthony Chow
Michel Chrétien
Michael Clandinin
John Conly
Andre-Pierre
Contandriopoulos
Alastair Cribb
Richard Cruess
Max Cynader
Abdallah Daar
Dale Dauphinee
Jean Davignon
Dave Davis
Jacques de Champlain
Lesley Degner
Johanne Desrosiers
Naranjan Dhalla
Henry Dinsdale

John Dirks
Ian R. Dohoo
Diane Doran
James Dosman
Andrée Durieux-Smith
Mostafa M. Elhilali
Robert Evans
Thomas Feasby
B. Brett Finlay
Jean-Claude Forest
Yves Fradet
Cyril Frank
John W. Frank
Henry G. Friesen
Abraham Fuks
D. Grant Gall
Nicole Gallo-Payet
Jacques Genest
Phil Gold
Larry Goldenberg
Harry L. Goldsmith
David Goltzman
Avrum Gotlieb
Paul Grand'Maison
Jean Gray
Ronald D. Guttman
Harvey Guyda
Carlton Gyles
Vladimir Hachinski
Antoine Hakim
Judith Hall
Phillip Halloran
Pavel Hamet
J. Richard Hamilton
David F. Hardwick
Susan Harris
David Hawkins
Michael Hayden
Rejean Hebert
Carol Herbert
Clyde Hertzman
Philip Hicks
K. Wayne Hindmarsh
Ellen Hodnett
James C. Hogg
Martin Hollenberg
Yves Joannette
Joy Johnson
Celeste Johnston

Jawahar (Jay) Kalra
George Karpati
Norah Keating
Nuala Kenny
Wilbert J. Keon
Kevin M. W. Keough
Bartha M. Knoppers
Otto Kuchel
Fernand Labrie
Jean-Claude Lacaille
André Lacroix
Bernard Langer
Andreas Laupacis
Mary Law
Yvonne Lefebvre
Wendy Levinson
Peter Liu
David Locker
Jonathan Lomas
Donald Low
James Lund
Nora (Noni) MacDonald
Peter Macklem
Stuart M. MacLeod
Paul Man
G. B. John Mancini
Karen Mann
Thomas Marrie
James G. Martin
Renee Martin
S. Wayne Martin
Anne Martin-Matthews
Christopher McCulloch
Ernest A. McCulloch
Grant McFadden
Patrick J. McGrath
Roderick McInnes
Bruce McManus
John McNeill
Graydon (Grady) Meneilly
Jose Menezes
Nadia Mikhael
Richard Morisset
Barbara Morrongiello
Janice M. Morse
Jean-Marie Moutquin
David S. Mulder
Bruce Murphy
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