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

Prospectus for a Major Assessment on Health System Transformation to Meet the Burden of Chronic Disease

Prepared by the
Canadian Academy of Health Sciences

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About the Canadian Academy of Health Sciences

The Canadian Academy of Health Sciences is a non-profit organization composed of selected members from diverse disciplines both within and external to the health sector. It is both an honorific membership organization and a policy research organization. The Academy's Fellows, elected on the basis of their professional achievement and commitment to service, are volunteers who bring their time and expertise to provide assessment and advice on difficult challenges of public policy of concern to all Canadians in the area of health and health care. Election to active Fellowship in the Academy is both an honour and a commitment to serve in Academy affairs.

The Academy was created in 2004 and modelled on the Institute of Medicine of the United States that, since 1970, has worked outside the framework of government to ensure scientifically informed analysis and independent guidance on a variety of important public policy issues. The IOM's mission is to serve as adviser to the nation to improve health. The Institute provides unbiased, evidence-based, and authoritative information and advice concerning health and science policy to policy-makers, professionals, leaders in every sector of society, and the public at large. Below are examples of key IOM reports that have had an international impact on health policy:

- 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)

While the Canadian Academy is earlier in its development than the IOM, it brings together an unusual diversity of talent among its Fellows who come from many backgrounds, both within and external to the health sector: medicine, nursing, allied professions, the natural, social, and behavioural sciences, as well as law, administration, ethics and the humanities.

The challenges facing governments at all levels, institutional and professional leaders in the health system, the NGO and business sectors, and the public in regard to health and the sustainability of the health care system are complex and daunting. The process of the Academy's work is designed to assure appropriate expertise, the integration of the best science and the avoidance of bias and conflict of interest, the latter being a frequent dynamic that confounds solutions to difficult problems in the health sector. Building on the experience of the IOM, Academy reports undergo extensive review and evaluation by external experts who are anonymous to the committee, and whose names are revealed only once the study is published.

This prospectus relates to one of the most challenging issues facing health systems, and of critical importance to all Canadians: effectively managing the burden of chronic disease.

Chronic Disease Management in Canada – The Situation

We live in an era in which antibiotics can conquer most infectious diseases and surgical techniques can cure many conditions. In terms of healthy life styles, while Canada has made considerable progress in decreasing the frequency of smoking, obesity and sedentary lifestyles have increased markedly in the last two decades. Thus, chronic diseases are increasing in frequency, and represent the most important health challenge to Canadians and the sustainability of our health care system.

Many Canadians suffer from a chronic disease. One-third of Canadians – about 9 million people and 77% of Canadian seniors – have at least one of seven select chronic health conditions including arthritis, cancer, chronic obstructive pulmonary disease, diabetes, heart disease, high blood pressure, and mood disorders. Arthritis (16%) and high blood pressure (15%) are the most common of these conditions. Half of Canadians with **multiple chronic diseases** report moderate to severe disability in daily living. Patients with chronic diseases use a large share of health care resources and account for 67% of all visits by community nurses, 51% of all visits to family doctors, 55% of all visits to specialists, and 72% of nights spent in hospital[1].

Effectively and efficiently managing these individuals is an increasing challenge for Canada's health care system. Organized chronic disease management is often not available to Canadians. When it does exist, it provides highly specialized medical care in a "one thing wrong" paradigm, rather than "a whole patient" perspective[2]. For example, a person with diabetes and heart failure will often be seen in separate specialty diabetes and heart failure clinics, rather than in a clinic dedicated to the management of both conditions. People with multiple chronic diseases currently require visits to a variety of specialty clinics, which can result in redundant investigations, poor communication and uncoordinated care, polypharmacy, medical errors, and considerable patient inconvenience. Moreover, there is the imposition of a series of wait times for each specialty or procedure that the individual requires.

The management of chronic illness clearly requires changes in our current health systems. A number of approaches have been recommended for the more effective management of patients with chronic disease. These include:

- The need for new types of health care personnel trained specifically for chronic disease management;
- Expanded roles for non-physician health professionals such as nurses and pharmacists to monitor and deliver community or home-based care to chronically ill individuals[3,4];

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[1] Health Council of Canada. Population Patterns of Chronic Health Conditions in Canada: A data supplement to Why Health Care Renewal Matters: Learning from Canadians with Chronic Health Conditions. December, 2007.

[2] Rachlis M. Prescription for Excellence: How Innovation is Saving Canada's Health Care System. Harper Collins Publishers Ltd., Toronto, ON; 2004.

[3] Murray MD, Young J, Hoke S, et al. Pharmacist intervention to improve medication adherence in heart failure: a randomized trial. Ann Intern Med 2007; 146:714-25.

- Shared care models to enhance primary care with the support of specialist physicians;
- Increased use of multi-disciplinary team management approaches and evidence-based clinical pathways;
- Development of patient registries to evaluate quality of care and reduce disparities in health care delivery[5];
- Creation of programs to teach guided self-management for patients and families dealing with chronic illness;
- Incorporation of primary and secondary prevention strategies into care pathways;
- Adoption of an all-of-government approach (i.e. all ministries) to engage the full range of public policy that can create the social and environmental conditions people need to shift to healthier lifestyles[6].
- Productive partnerships involving non-government organizations, local authorities, and industry to harness collective efforts supportive of care of the patient with chronic disease, with routine measurement and monitoring of the impact of these investments[6].
- Development and use of appropriate information systems that support better tracking, research, and public reporting on chronic health conditions and the results of investments to promote health and improve Canadians' access to high-quality illness care[6].

Innovations based on a number of these elements and others are underway in jurisdictions across Canada. However, a comprehensive transition from our existing rather dislocated system of care for patients with chronic illnesses to an affordable one that achieves appropriate outcomes is a very significant challenge.

The Academy will undertake an evidence-based assessment that will deliver the following:

- Definition of the elements which are key to success for achieving optimal health outcomes for patients with one or more chronic diseases, including adults and children;
- Identification of the major structural barriers to developing effective models of care in the context of affordability and sustainability;
- Conclusions about the steps necessary to implement the transition to an effective model of care, with clarification of roles and responsibilities, in the Canadian context.

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[4] Pengel LHM, Refshauge KM, Maher CG. Physiotherapy-directed exercise, advice, or both for subacute low back pain. Ann Intern Med 2007; 146:787-96.

[5] Landon BE, Hicks LS, O'Malley AJ, et al. Improving the management of chronic disease at community health centers. New Engl J Med 2007; 356:921-34.

[6] Health Council of Canada. Why Health Care Renewal Matters: Learning from Canadians with Chronic Health Conditions. December, 2007

How is the assessment important to the Canadian public policy agenda?

Chronic disease affects all aspects of the Canadian health care system. The pressure for increased transparency in the health sector will drive an informed public to reject suboptimal outcomes and the high cost of the disconnected system of care currently in place. There is evidence that effective chronic care management programs can reduce hospitalization, better utilize expensive health care personnel and technology, improve prescribing practices and adherence to medication and other treatment regimens, and provide improved health outcomes and value for the same investment. This would be a desirable goal for all Canadians.

How is the assessment likely to be used in a non-governmental context and by whom?

Patient advocacy groups and national disease organizations, home care services, private providers of health care, as well as regional health authorities will find the outcomes of this assessment have direct impact on their programs and function. The Chronic Disease Prevention Alliance of Canada[7] (an initiative currently sponsored by the Canadian Diabetes Association, the Canadian Cancer Society, and the Heart and Stroke Foundation of Canada) can serve as an existing source of information. National health personnel organizations should make use of this assessment in defining the impact of multiple chronic diseases on their current policies, accreditation requirements, and evaluation strategies. Health Canada is currently funding 20 projects involving inter-professional education to enhance collaborative health care practice. These projects are not yet completed and their effectiveness in altering practice not yet known[8].

Although much of the evidence focuses on single chronic disease entities, e.g. mental illness, cardiovascular disease, dementia, cystic fibrosis, or diabetes, this assessment will be particularly interested in the issues of health care delivery when two or more chronic diseases are present. Current health care delivery systems in Canada are not designed to accommodate care for such individuals and any conclusions derived from this assessment can help inform provincial public policy on health care delivery.

What socioeconomic benefits to Canadians could result from an assessment that enables informed decision-making on the part of governments and others?

Chronic diseases are the leading causes of death and disability in Canada, with approximately two-thirds of deaths attributed to cardiovascular disease, cancer, chronic obstructive lung disease, and diabetes. The total cost of illness, disability and death in Canada due to chronic diseases is significant, with cardiovascular diseases and cancer alone accounting for over $32 billion annually. The business sector, non-profits dependent on donations, taxpayers and individual Canadians will all benefit from better outcomes from this investment.

What are the scientific aspects central to answering the question?

Data from Canada and other countries are available in traditional peer-reviewed journals. However, much of the best evidence about the optimal management of multiple chronic

[7] The Chronic Disease Prevention Alliance of Canada (CDPAC) website: http://www.chronicdiseaseprevention.ca (accessed June 11, 2007).

[8] Interprofessional Education for Collaborative Patient-Centred Practice website: http://www.hc-sc.gc.ca/hcs-sss/hhr-rhs/strateg/interprof (accessed June 11, 2007).

diseases is not in the peer-reviewed literature, and require literature search strategies that include websites, technical reports, and scientific meeting abstracts. Consultation with organizations around the world that are currently providing good chronic health care will be useful to identify practices that could be of value if disseminated beyond their communities. Because effective chronic disease management will require system change, the health administration, business, and change management literature will be searched in addition to more traditional medical sources.

To what extent does the existing state of knowledge allow for an assessment?

Identification of the structural barriers in the Canadian context are less likely to be found in the literature but are in reports like the Clair report, the Fyke report, the Mazankowski report, and the Romanow and Kirby reports.

Most of the published material is derived from the US[9] and the UK[10], so it is timely to pull together the international and Canadian literature and examples to enhance chronic illness prevention and treatment in Canada; and to consider those aspects of the Canadian situation that are unique and will require specific strategies.

Where does the existing expertise reside?

Canadians who have implemented such programs include Dr. Hui Lee (Sault Ste. Marie); Dr. John Morse (Yellowknife); Dr. Lisa Dolovich (McMaster); the Capital Health Authority in Edmonton; the CDA, CCS, and HSF; and numbers of other small programs across the country. Dr. Michael Rachlis has published on the need for adoption of chronic disease management programs[1]. Expertise from outside the country will be invaluable, including the Seattle Group Health program and the Kaiser-Permanente program from the US and those involved with implementation of the UK programs.

[9] Wagner EH, Austin BT, Von Korff M. Improving outcomes in chronic illness. Manag Care Q 1996; 4(2):12-25.

[10] Kennedy A, Rogers A, Gately C. From patients to providers: prospects for self-care skills trainers in the National Health Service. Health Soc Care Community. 2005; 13:431-40.

Potential Scope

The potential deliverables include:

- Definition of the elements which are key to success for achieving optimal health outcomes for patients with one or more chronic diseases, including adults and children;
- Identification of the major structural barriers to developing effective models of care in the context of affordability and sustainability;
- Conclusions about the steps necessary to implement the transition to an effective model of care with clarification of roles and responsibilities in the Canadian context.

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 set of conclusions about how the health care system can best approach chronic disease management, with a particular focus on patients with multiple chronic diseases.

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.

Similarly, the objectives of the Panel Report will be based on joint prior agreement between CAHS and the Sponsors. The report may involve some or all of the following:

- environmental scans of best practices around the world to overcome the challenges posed by chronic diseases (e.g. Group Health Centre in Sault Ste. Marie, the Calgary Hip and Knee Clinic, the Diabetes Management Strategy in the Northwest Territories, Group Health in Seattle, the Robert Wood Johnson Foundation's program: *Improving Chronic Illness Care*[11], etc.);
- comprehensive literature review to outline existing gaps in knowledge and provide recommendations for improved chronic illness management in the Canadian context, taking into consideration the urban and rural environments;
- consultations with policy-makers, health care professionals, other stakeholders, the private sector, and the public about their perspectives on the issue;
- other elements deemed relevant by the parties to the issue.

[11] Improving Chronic Illness Care Website: http://www.improvingchroniccare.org (accessed June 11, 2007).

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 will be invited to suggest potential members of the Assessment Panel to the Standing Committee on Assessments who will determine membership of the Assessment Panel. 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 website for comment and suggestions prior to finalization. Final approval of the Assessment Panel will rest with the CAHS Council.

Phase III: **Major Forum:**

To launch the Assessment, the Academy will convene an international forum on the subject in Toronto in September 2008 including Panel members and international experts. The Forum will be open only to CAHS Fellows and Sponsor representatives.

Phase IV: **Panel Deliberation:**

The Panel together with support staff will conduct their work. This will include environmental scanning, receipt of written submissions by interested parties, closed meetings, open hearings with presentations from interested parties, and deliberations.

Phase V: **External Review:**

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

Phase VI: **Dissemination:**

The final report will be distributed widely in print and posted on the CAHS web site. Other methods of dissemination, based on 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 conclusions.

Budget and Timeline

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 number of government and non-governmental agencies heavily impacted by this complex set of issues, leading to a lower cost per individual sponsor.

Assessments of this scope require approximately 18 months. Assuming confirmed sponsorship by mid-2008, the Assessment will be launched with a Major Forum in September 2008 and a completed report is expected by December 2009.

Potential Assessment Sponsors

Many organizations at all levels are grappling with the issue of ensuring high quality care to Canadians with chronic illness. Some of those who have an interest in this issue and who might wish to join a partnership to sponsor this assessment include:

- Provincial Ministries of Health
- Health Canada
- Public Health Agency of Canada
- Association of Canadian Academic Healthcare Organizations (ACAHO)
- Canadian Hospital Association and Provincial Hospital Associations
- Canadian Medical Association
- Royal College of Physicians and Surgeons of Canada
- Canadian Nurses Association
- Canadian Pharmacists Association
- College of Family Physicians of Canada
- Other health care personnel associations, such as physiotherapists, occupational therapists, etc.
- Patient advocacy groups (e.g. mental health, diabetes, cystic fibrosis, asthma, Alzheimer's disease, renal disease, etc.)
- Medical subspecialty groups (e.g. Canadian Geriatric Society, Canadian Cardiovascular Society, etc.)
- Canadian Health Services Research Foundation
- CIHR Institutes and the CIHR KT Office
- Provincial health research foundations
- Private insurance companies

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