Securing the Future of Canada's Academic Health Sciences Centres

A Case Study Describing the Current State and Future Issues

Academic Health Sciences Centres - National Task Force

Centres des sciences de la santé universitaires - groupe de travail national

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Executive Summary

Academic Health Science Centres (AHSC), a relatively new term in health care, is used to describe the relationship that exists between university level health/clinical education programs and the affiliated hospitals/health regions that provide the physical facilities necessary for delivery of care, research and education.

These organizations have evolved from a model that linked care delivery with medical education in the latter part of the 19th century, to organizations that today play a pivotal, but not exclusive role, in the integration of critical mandates related to education, research and the delivery of care. The traditional focus on episodic care has made way for population health and wellness throughout the continuum, and innovative methods of care delivery, leveraging technology for education, and translating research into improved care delivery are providing opportunities to strengthen the links between the three mandates. Moreover the mandate of the AHSC is being delivered in a changing model of governance and size of the organization. In most provinces the AHSC has a traditional academic core of tertiary and quaternary hospitals, education and research facilities and a larger geographic distribution of care within regional hospitals, community facilities and home care.

To ensure that AHSCs continue to meet the needs of Canadians, over twenty health organizations supported the establishment of a National Task Force, through funding from Health Canada, to engage in a comprehensive study of the current state and to make recommendations for the future direction of the Academic Health Science Centres in Canada.

This case study is one component of the National Task Force's work and is meant to be one of the informant documents to facilitate the larger dialogue surrounding the Task Force mandate. The original plan was to provide 17 case studies, one for each AHSC network related to universities with a medical school. As the interviews progressed, multiple similarities emerged which suggested that 17 case studies would be highly repetitive and likely of limited value. Therefore the national case study is intended to describe the current state of the AHSC models across the country, identifying areas of both consistency and divergence in terms of the model, the structure within which the model functions and the mechanisms through which the integrated mandate of the AHSC is delivered and the challenges associated with delivering the tri-partite mandate in the current model.

The majority of the interviews were conducted in person or in some instances by phone, of key administrative leaders from the Universities and the Hospitals/Health Authorities. As much as possible, within the short time frame for the study, an attempt was made to be inclusive of all health professions who are responsible for the delivery of the tripartite mission of the Academic Health Science Centre. The report contains both direct quotes and summaries of the content of interviews with confidentiality assured. A complete list of all interviewees is contained in the appendix.

The report describes the major elements which characterize the Academic Health Sciences Centres with a focus on the key drivers that influence the post-secondary institutions and the affiliated Hospitals/Health Regions. These include models of governance, integrative mechanisms for decision making beyond formal governance, resourcing the shared

mandate of the AHSC, and the challenges of delivering the joint education, research and health care mandate.

As a general observation the AHSC model is grounded in a partnership between the universities and their Faculties and Schools involved in the training of health professionals and the affiliated hospitals and more recently the emergence of the Health Authorities. The Health Authorities have added a new dimension to all three mandates of care, research and education by incorporating within a single governance structure for the delivery of care from the acute setting through to regional and community hospitals, community services and home care. This new structure is seen by the partners as both an opportunity and a challenge. The opportunity is that the traditional teaching hospital has now become an Academic Health Sciences Centre incorporating the training of all health professionals and a bench to bedside research organization in an integrated care delivery model from acute care through to community care and home care. The challenge is that the traditional AHSC has now become part of a smaller part of a large organization whereas it used to be the whole organization.

With a new governance model, the majority (10 of 17) being in Ontario and Quebec, continue to be governed in the traditional model whereby the hospital corporation has its own Board and the University is formally represented on that Board. In the regional models, only one (Capital Health) has a model that formally includes the University on its Board. The remaining six networks function in a regionalized governance model where representation on the Board by individuals with a formal background or affiliation with either partner may exist, but not by design. Concern was expressed that the regional models present a threat to the future of the AHSC because of the lack of formal integration or alignment between the partners formally responsible for the tripartite mandate are not represented at the governance level. Several initiatives described in the report have been developed by the partners (and in Quebec by government) to fill the need for integration. The majority of the AHSCs lack any or only an informal mechanism for dialogue and decision-making. The impact of this lack of formal integration on issues such as academic appointments for medical and other health professionals, for human resource planning for the training of all health professionals, for recruitment and retention of researchers, for development of new research programs and facilities, for development of new clinical/academic programs and others are described.

The most frequently expressed concern is the challenge of balancing the individual needs of the universities and the hospitals/health authorities to meet their resource requirements while also trying to provide needed resources for the shared mandate. The hospital/health authority sets priorities with their global budget for patient care and the universities set priorities with their global budget based on their primary interests of education and research. Neither partner has the discretionary funding available to be used for the shared mandate. This leads to a strain in the relationship and results in competing for funding from government and from the private sector through their respective Foundations.

The opportunities exist within the environment of the Academic Health Science Centres for Canada to be a world leader in providing a seamless integration of the highest quality of education of health care professionals with knowledge translation of the most advanced research to provide the highest quality health care delivery. A significant collision of changes

in all three mandates has emerged over the last two decades. There has recently been a rapid increase in advances in educational models for health professionals, as well as an increasing rapidity in the translation of research discoveries to patient care.

However with the rising cost of health care due to our aging population and other factors, governments have responded to increased health care costs with changes to the management and governance of the health care system. These changes have not been accompanied by changes in the governance and funding of the partner organizations that deliver the education, research and care through the AHSC.

Both the Federal and Provincial governments must recognize the value of the contribution of the partnership between the post-secondary institutions and the health regions which contribute in a significant and unique way to the innovation agenda and economic growth of the country through the development and commercialization of new therapeutics and devices. Together they provide the essential continuum for knowledge translation from the bench to society.

A new integrated model should be established that reflects the critical partnerships that exist between the country's post-secondary institutions and the health regions. Federal government programs must recognize the funding needs of AHSC partners through support for the indirect costs of research in a manner that reduces jurisdictional disputes among the partners.

Provincial government programs of funding for the post-secondary institutions and the health regions must reflect the partnership and not be encumbered by the lack of cohesion across ministries from a policy perspective and the complexity of funding mechanisms from separate ministries.

1.0 Introduction

Background/Context

Canada's health care system has been repeatedly reviewed by royal commissions, special committees and consultants, and regardless of their national, provincial or regional scope, all studies call for an agenda for change based on the need to ensure that the health care system is sustainable.

The Honourable Roy Romanow, in his report entitled *Building on Values: The Future of Health Care in Canada*, said that the health care is sustainable "if we are prepared to act decisively". He goes on to say that "while [the system] is as sustainable as Canadians want it to be, we now need to take the next bold step of transforming it into a truly national, more comprehensive, responsive and accountable health care system. Making Canadians the healthiest people in the world must become the system's overriding objective.[1]"

Within this environment, the country's Academic Health Sciences Centres (AHSCs) are being scrutinized and challenged to fulfill their mandates through new models, structures and processes. Academic Health Sciences Centre (AHSC) is a relatively new term in health care and is used to describe health care organizations that are affiliated with research-intensive and health-professional degree granting universities for the purpose of sharing a joint mission of health professional and graduate education, and health and biomedical research[2].

These organizations have evolved from ones that served to link care delivery with medical education in the latter part of the 19th century, to organizations that today play a pivotal, but not exclusive, role in the integration of critical mandates related to education, research and the delivery of care. The traditional focus on episodic care has made way for population health and wellness throughout the continuum, and innovative methods of care delivery, leveraging technology for education, and translating research into improved care delivery are providing opportunities to strengthen the links between the three mandates.

Understanding how these mandates evolve within the rapidly changing landscape of the Canadian health care system over 20 national health organizations supported the establishment of a National Task Force on the future of AHSCs with funding from Health Canada.

The impetus for the Task Force was grounded partly in the reality that, despite numerous studies and reports on the future of the overall system, there has been no systematic review of the mission/mandate and roles/responsibilities of AHSCs since the early 1990's. This relative lack of attention threatens the overall effectiveness of Canada's health care system in the 21st century.

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1 Government of Canada, *Building on Values: The Future of Health Care in Canada*, Final Report of the Royal Commission of Health Care and Costs, Ottawa, 2002

2 Lozon, J. and Fox, R. (2002), *Academic Health Sciences Centre Laid Bare*, Healthcare Papers, 2(3)

AHSCs, which typically provide health education and clinical programs through universities, local affiliated hospitals and health care delivery systems, are a critical delivery mechanism for three essential components:

Care *– a range of specialized tertiary and quaternary health services with the inclusion of some primary care, complex continuing and rehabilitation care, and mental health services;*

Education *– training and clinical practice for future health professionals; and,*

Research *– supporting and conducting "leading edge" health and biomedical research and implementing innovative practices.*

These three components continue to be key elements of the modern AHSC, but the changing role of the AHSC also includes greater integration of care, education and research through increased focus on population health, use of technology in health education, and increased knowledge translation to ensure that research results in improved patient care and more efficient or effective use of resources in the organization of the health care system.

Task Force Mandate

The formal Terms of Reference for the National Task Force are as follows:

1. To draw on international experiences and lessons concerning the internal and external factors that need to be addressed to allow AHSCs (at the individual and collective level) to achieve excellence and innovation in patient care and service delivery, education, and research.

2. To undertake a thorough assessment (e.g., environmental scan) to understand the perspectives of AHSCs (i.e., Universities; Faculties of Medicine, Health Sciences, Dentistry, and Nursing; Teaching Hospitals and Research Institutes), governments and the public across Canada.

3. To make recommendations on new conceptual frameworks and typologies for AHSCs in Canada which will better align their mission in service, education and research with the changing approaches to health and health care delivery, changing expectations for interdisciplinary education and new opportunities for innovation through research.

Purpose of the Case Study

This case study is one component of the National Task Force's work and is meant to be one of the informant documents to enable the larger dialogue surrounding the Task Force mandate. The case study is intended to describe the current state of the AHSC models across the country, identifying areas of both consistency and divergence in terms of the model, the structure within which the model functions and the mechanisms through which the integrated mandate of the AHSC is delivered. Building on the descriptive elements of the case study, the report will identify key themes and issues and make recommendations regarding potential future actions that the National Task Force may wish to consider.

The case study was developed following a series of consultations with leaders from across

the country (see Appendix 1.1). Over the course of eight weeks from the end of February to end of April, approximately 100 people were consulted and asked to provide input into the development of this document. They included:

- Presidents & CEOs of hospitals and health regions
- Health authority and health region board chairs
- Deans of Medicine/Associate Deans
- Deans of Pharmacy
- Deans of Nursing
- School Directors/Department Heads, Rehabilitation Sciences
- Vice presidents of Research at Universities and Hospitals as well as Directors of Research institutes (where those exist)
- Vice presidents, professional practice/CNO
- Vice presidents, academic and provost universities

The consultations were augmented by a review of the literature and some independent research into the AHSC model, both in Canada and in other countries.

2.0 Defining the Academic Health Sciences Centre

The history of the modern AHSC can be traced back 120 years to 1889 when Johns Hopkins Hospital opened its doors as one of the first, if not the first, hospital in the United States that allowed medical students to work as clinical clerks and receive part of their training at the bedside, with medical research conducted within the hospital setting.

> "He who studies medicine without books sails an uncharted sea, but he who studies medicine without patients does not go to sea at all."
>
> *Sir William Osler, Canadian physician, first Chief Of Staff at John Hopkins University and Professor of Medicine, 1893*

Other large hospitals followed the Hopkins lead over the next 20-30 years. This led to more frequent and active educational partnerships with medical schools and by the 1920s the modern teaching hospital was finally created[3].

From the beginning the relationship between medical schools and teaching hospitals was one of co-dependency. Medical schools, ever on the alert for clinical facilities, understood that access to the wards of hospitals was essential for teaching and research[4]. Teaching hospitals, in turn, understood that their pre-eminence in 20th-century medical practice was a consequence of their participation in medical education[5].

Over the next 20 years, the focus of the teaching hospital was largely that – *teaching.* Following World War II, research equalled teaching as dominant activity of most medical faculties in the United States.This trend was mirrored in Canadian teaching hospitals, driven by new sources of funding to support research and an emerging health insurance system that created the publicly funded health care system that exists today.

From the beginning, the modern teaching hospital had a tripartite mission: education, research and care and by definition, what made the academic centre "academic" was the presence of an affiliated medical school[6]. While the tripartite mission remains the same, modern AHSCs go well beyond the hospital walls, in some cases even forming virtual organizations.

Emerging definitions for the modern Academic Health Science Centre include the following:

- organizations that combine the delivery of services to patients with high levels of research and teaching. Each has its own ownership and governance structure. In a few cases the hospital forms part of the University but most have highly developed collaborative mechanisms between the University, the hospital(s) and primary care based organizations. They remain independent but closely connected organizations. Where the hospitals are autonomously governed, the collaboration with a University is typically codified in an affiliation or partners' agreement. They usually have an overarching organization to secure collaboration and common standards in areas like

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3 *Ludmerer, K., (2002), The Embattled Academic Health Centre, Healthcare Papers, 2(3)*
4 *Ludmerer, K., (2002), The Embattled Academic Health Centre, Healthcare Papers, 2(3)*
5 *Ibid*
6 *Ibid*

ethics in order to build a common identity or brand. The organizational model in Canada is a close collaboration[7];

- these academic health care institutions are affiliated with universities that have health professions schools, including a medical school. In partnership with the university, the role of AHSCs is to educate health professionals, in a clinical care setting, to provide clinical care (particularly complex, specialized tertiary and quaternary care) and to undertake research that will continue to improve health and healthcare[8]; and
- university health professional programs are accredited, by external bodies that provide standards for all Canadian medical schools, and other schools and programs in the health professions school or program (such as nursing, rehabilitation sciences, dentistry, pharmacy, psychology, public health) The joint mission between the University and the affiliated academic hospital AHSC is to fulfill all accreditation standards.[9]

While it is beyond the scope of this case study to define the AHSC, the consultations confirmed a number of themes that are consistent with the sampling of definitions provided above.

It is clear that the AHSC model is fundamentally grounded in partnerships between universities and their respective Faculties of Medicine, Nursing, Health Professions, and the traditionally defined teaching/research hospitals or health regions/health authorities that house these hospitals.

The partners consistently describe a collective mandate for an integrated tripartite mission for patient care, teaching and research, and recognize that individually, these mandates are no longer the exclusive domain of the AHSC. On that point, there is recognition that the AHSCs function within an evolving health care system and that the tri-partite mission is being delivered through a larger network of providers.

This reflects the reality that all provinces are experimenting with some form of regionalization (e.g. regions, health authorities or Local Health Integrated Networks (LHINs) as organizing structures) meaning that the traditional Academic Health Science Centre has now become a smaller part of a large organizational context. Within that larger organizational context, there continues to be a sense that AHSCs have an expected leadership role for complex care delivery, improving health and advancing health in close interaction and collaboration with Universities, Health Regions and Government.

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7 B. Edwards, 'Academic Health Science Centres – A Platform for Discussion', December 2007

8 Lozon, J. and Fox, R. (2002), *Academic Health Sciences Centre Laid Bare,* Healthcare Papers, 2(3)

9 *Academic Healthcare in a Changing World: Positioning for Success UK,* Canada Academic Healthcare Leaders' Forum, May 2008

3.0 Governance Models and the Academic Health Sciences Centres

Government

The Constitution of Canada defines the delivery of health services as a provincial mandate meaning that provinces essentially have the right to define the health system that will be provided to its citizens. The federal government's role is largely focused on provision of some transfer payments and ensuring adherence to the provision of the Canada Health Act. Given this, the health systems in the ten provinces and three territories have evolved in quite different ways, particularly when it comes to structures and processes for governance and management and on decisions regarding the planning and provision of resources to support care delivery.

Post-secondary education is also a provincial mandate under the constitution and individual provinces each define the structures within which their universities, university colleges, community colleges and other post-secondary institutions function. The federal governments' role is again limited to provision of resources through transfer payment mechanisms and some focused opportunities to provide incentives to achieve national goals.

Within this overall model, there is some consistency in each province, in that each province has a structure that has a Minister of the Crown typically responsible for Health and another for Post-Secondary Education. Under each of these Ministries/Departments, there is management structure that provides the organizing framework and bureaucracy to deliver the work of the government. However there is a lack of cohesion across the government ministries from a policy perspective with respect to appropriately facilitating and resourcing the tri-partite mandate of the AHSCs.

This situation is complicated further by the fact that the research arm of the AHSC mission is not typically defined within Provincial structures (i.e. there is usually not a Minister of Research or Chief Scientist), but research has various "homes" in government, including Research & Innovation (Ontario), Small Business and Development (BC), Economic Development, etc,.

The various names for departments/ministries is shown below:

Province	Ministry, Department or Related Government Agency or Council				
	Health Care Delivery	**Post-Secondary Education**	**Research, Innovation and related**	**Health Promotion and Related**	**Other**
BC	Health Services	Advanced Education and Labour Market Development	Innovation Council	Healthy Living and Sport	Children and Family Development
			Small Business, Technology & Economic Development		
AB	Health and Wellness	Advanced Education and Technology	Advanced Education and Technology		Children and Youth Services
SK	Health	Advanced Education, Employment and Labour	Health Research Foundation		Social Services
			Research Council (Crown Corp)		Health Quality Council
MB	Health	Advanced Education and Literacy	Science Technology, Energy and Mines	Healthy Living Health Research Council	Family Services and Housing
ON	Health and Long-Term Care	Training, Colleges & Universities	Research and Innovation	Health Promotion	Children and Youth Services
					Community and Social Services
QC	Santé et Services sociaux	Education, Loisir et Sport	Société de Innovatech Québec	FRSQ	Famille et Aînés
NB	Health	Post-Secondary Education Training and Labour	Innovation Foundation		Social Development
PEI	Health	Innovation and Advanced Learning	Innovation and Advanced Learning		Social Services and Seniors
NS	Health	Education	Innovo Corp (Agency of Government)	Health Promotion and Protection	Community Services
NFLD	Health and Community Services	Education	Innovation, Trade and Rural Development		
YK	Health and Social Services	Education			Community Services
NWT	Health and Social Services	Education, Culture and Employment			
Nunavut	Health and Social Services	Education			Culture, Language, Elders and Youth

Table 1. Source of information for above table: current provincial and territorial government websites

Health System Governance

Governance at a health system level differs dramatically across the country with models ranging from no health governance beyond the Department/Ministry of Health, to single health authorities for an entire province, to health regions, to ongoing governance models at the hospital/organizational level. This section summarizes the models in each province and territory.

> "The single biggest issue that we have to deal with in our relationship with the health region is that the region reports through their Board to the Ministry of Health and the university reports to the Ministry of Education (or its equivalent)."

British Columbia

- The current system level governance model has six health authorities (five geographically defined Authorities and one Provincial Health Services Authority).
- With the exception of St. Paul's Hospital (which is part of Providence Health Care), all of the traditional teaching hospital organizations are part of the Health Authorities and have no separate or distinct governance structure.
- The University of British Columbia is not formally represented on health authority boards, although some people with university or academic backgrounds have been appointed.
    - Provincial Health Services Association has the Associate Dean, Research and Graduate Studies in the Faculty of Pharmaceutical Sciences at UBC on its board.
    - Vancouver Island Health Authority has a former vice-dean of a Faculty of Medicine on its Board.
    - Fraser Health Authority has a former President of the British Columbia Institute of Technology on its Board.
- Providence Health Care continues to be a separate organization with its own board (in accordance with denominational agreement between the province and its faith-based providers). The Dean of Medicine is appointed to the Providence Health Care Board.
- Three of the Health Authorities (Provincial Health Services Authority, Vancouver Coastal Health Authority, Vancouver Island Health Authority) as well as Providence Health Care are members of ACAHO.

Alberta

- Alberta Health Services (AHS) was formally created in April 2009, bringing together 12 formerly separate health entities in the province. A single Board governs AHS.
- In addition to AHS, Covenant Health exists as a fully affiliated Catholic Health care provider that delivers care through three hospital sites (Edmonton General Continuing Care Centre, Grey Nuns Community Hospital and Misericordia Community Hospital).

- The University of Calgary and University of Alberta (in Edmonton) continue to lobby for membership on the Board of AHS, but to date there is no agreement from the board to extend membership to the AHSC University partners.
- One member of the AHS Board has linkage with the AHSC model (Executive Director, Knowledge Institute of St. Michael's Hospital) and another has academic experience (President of Southern Alberta Institute of Technology).
- The Covenant Health Board has a number of physicians, but the Dean of Medicine is not a member.
- Both AHS and Covenant Health are members of ACAHO.

Saskatchewan

- The current system level governance model has 13 health regions and only one of the former teaching hospital organizations – St. Paul's Hospital in Saskatoon – continues to have its own Board.[10]
- There is no formal representation of the University of Saskatchewan on either the Regina Qu'Appelle Health Region (RQHR) or Saskatoon Health Region (SHR) board.
- Regina Qu'Appelle Health Region and Saskatoon Health Region are both members of ACAHO.

Manitoba

- The current system level governance model has 12 regional health authorities. All of the traditional teaching hospitals are part of the Health Authority structure and hence, have no distinct governance models.
- The president of the Medical Staff Society is on the Board of the Winnipeg Regional Health Authority (WRHA), but there is no formal university representation.
- The WRHA board chair is a former Dean of Medicine and former Deputy Minister of Health, but there is no formal requirement for university background for board members.
- WRHA is the only fully affiliated member of ACAHO from Manitoba.

> "By definition the university and the Academic Health Science Centre must be inextricably linked. The after-shock of regionalization brought the university to the discussion as a very strong advocate for building partnership."

Ontario

- The current system level governance model has 14 local health integration networks (LHINs).
- Hospital corporations continue to have their own Boards.

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10 St. Paul's has its own Board and CEO but all other staff, including medical staff, are employees of the Saskatoon Health District

- University is formally represented on all AHSC Hospital Boards, usually by the Dean of Medicine (although this is not an exclusive model either in Ontario or other provinces).

- In some cases (e.g. University of Toronto), the Dean of Medicine is also the Vice Provost Relations with Health care Institutions, which means that the University is represented under a broader umbrella than simply the Faculty of Medicine. In this model, the University of Toronto has a representation (usually the Dean of Medicine/ Vice Provost) on 9 of the 10 fully affiliated academic hospitals and a number of the 19 community affiliated health care institutions.

- There are 19 members of CAHO in Ontario including: Baycrest; Bloorview Kids; Bruyère Continuing Care; Centre for Addiction and Mental Health; Children's Hospital of Eastern Ontario; Hamilton Health Sciences; Hotel Dieu Hospital; Kingston General Hospital; London Health Sciences Centre; Mount Sinai Hospital; Royal Ottawa Health Care Group; St. Joseph's Healthcare (Hamilton); St. Joseph's Healthcare (London); St. Michael's Hospital; Sunnybrook Health Sciences Centre; The Hospital for Sick Children; The Ottawa Hospital; Toronto Rehabilitation Institute; University Health Network.

Quebec

- The current system governance model has 18 health regions.

- Hospital corporations continue to have their own boards. Unlike most other provinces, board compositions reflect appointments that are defined by legislation and made by specific organizations (e.g. foundations, council of nurses, university, health region, etc). Some members are elected.

- The University is formally represented on all AHSC boards, usually by four people (e.g. Dean of Medicine, Dean of Nursing or Health Professions, a resident who is elected by his/her peers and one other person not directly affiliated with the university).

- There are 11 members of ACAHO in Quebec including: Association québecoise d'établissements de santé et de services sociaux; Centre hospitalier de L'Université de Montréal; Centre hospitalier universitaire de Québec; Centre hospitalier universitaire de Sherbrooke; Hôpital Maisonneuve-Rosemont; Hôpital du Sacré-Coeur de Montréal; Hôpital Sainte-Justine; Institut de cardiologie de Montréal; Institut universitaire de gériatrie de Montréal; McGill University Health Centre; Sir Mortimer B. Davis Jewish General Hospital.

New Brunswick

- The system has recently been restructured into two health authorities – one representing largely Anglophone communities and one representing largely Francophone communities. The traditional AHSC organizations in New Brunswick are now managed by Regional Health Authority B and includes organizations in Saint John and Moncton.

- Dalhousie University is the link for the hospital members, and is not formally represented in the new governance structure.
- Health Authority B is the only member of ACAHO from New Brunswick.

Nova Scotia

- The current system level governance model has nine district health authorities plus the IWK Health Centre as a stand-alone hospital corporation.
- Dalhousie University is formally represented on both Capital District Health Authority (CDHA) and IWK boards, with the Deans of Medicine and Health Professions sitting on the CDHA board and the Dean of Medicine as a member of the IWK board.
- CDHA and the IWK are members of ACAHO.

Prince Edward Island

- The system is managed directly by Department of Health with no formal governance entity in place.
- There are no members of ACAHO from PEI.

Newfoundland and Labrador

- The current system level governance model has four regional integrated health authorities. Eastern Health is the entity that includes the traditional AHSC members.
- Memorial University is not formally represented on the Eastern Health board, although the Dean of Medicine attends as a non-voting member.
- Eastern Health is the only member of ACAHO from Newfoundland and Labrador.

Yukon

- Hospital services organized under the organizational umbrella of the Yukon Hospital Corporation. Two sites for hospital care – Whitehorse General Hospital and Watson Lake Hospital.
- Department of Health organized to provide direct leadership to other parts of the health care system (e.g. continuing care, public health).
- No members in ACAHO from the Yukon.

Northwest Territory

- System organized into eight (8) Health and Social Services (HSS) Authorities that manage and deliver a full spectrum of community and facility-based services for health care and social services.

- Majority of hospital services provided through Stanton Territorial Hospital in Yellowknife. Other services provided at Inuvik Regional Hospital and H.H. Williams Memorial Hospital in Hay River.
- No members in ACAHO from the NWT.

Nunavut

- System organized under direct management from the Department of Health and Social Services.
- Hospital service focused around delivery at Baffin Regional Hospital.
- No members in ACAHO from Nunavut.

Observations

The majority of AHSC networks (10 of 17) are in Ontario and Quebec and continue to be governed in the traditional model whereby the hospital corporation has its own board and the university is formally represented on that board.

In regional models, only one (Capital District Health Authority) has a model that formally includes the university on its board. The remaining six networks function in a regionalized governance model, and the Regional Authority is now the AHSC with separate governance and where representation on the board by individuals from the affiliated University may exist as ex-officio members, but it is not required.

Under the regional models there are isolated examples of hospital corporations that continue to exist as separate legal entities. Only two of these – Providence Health Care in BC and IWK Health Centre in Nova Scotia – appear to have University partners formally recognized within their governance structures.

Many people express concern that the regional models present a growing challenge for the AHSC because of the lack of formal integration or alignment between the partners formally responsible for the tripartite missions at a governance level. Without that alignment, the potential for the governance entity to focus on only care delivery and resource management within a single mission is increased.

Conclusions

The federal government has a limited, and often informal, leadership role in the current governance framework. Some question if this needs to change.

Provincial government structures are inconsistent across the country, but all create a fragmented leadership model for the AHSCs with a minimum of two, and often three or more ministries or departments with some form of influence and control over the delivery of the integrated AHSC mandate.

Governance of the health system also differs dramatically across the country, leading to a lack of consistency in models to provide leadership at the AHSC organizational level. Governance is viewed by many as having historically provided a formal mechanism to engage both partners in the AHSC model in the overall leadership of the AHSC enterprise, but even that is questioned by some as to the overall effectiveness of this linkage.

As systems evolve and governance models change, emerging alternate models and mechanisms to provide these formal linkages are becoming increasingly important.

4.0 Integrative Mechanisms (Beyond Governance)

Leadership and Management Structures and Processes

In the absence of consistent and ongoing governance linkages to provide system level leadership over the AHSCs integrated missions, many provinces are beginning to experiment with a series of other mechanisms and models to enable better coordination of the leadership efforts. These include both formal and informal options and models and include:

- regular meetings between the university and the hospital/health authority to discuss key issues. These meetings often occur between the CEO and the Dean of Medicine, but extend to meetings between the University President and the CEO, the VPs of Research and Associate Deans of Research, VPs of Education and Associate Dean of Education, VPs of Patient Care or Medicine and their counterparts at the University including the Dean of Nursing, etc. These meetings are described as critical, and yet they are often described as largely ad hoc or informal and dependent on the individuals involved to make them successful. Some people express a need for more formality and structure around these types of meetings;

- formal committees that exist between the hospital/health authority and the university as forums to discuss specific issues (e.g. hospital/university liaison committees). These are viewed as useful, although some describe their mandates or terms of reference as outdated or too narrowly defined;

- issue specific workgroups (e.g. groups to compile inventory of research and educational initiatives, forums to communicate strategic issues/priorities);

- formal initiatives surrounding strategic priorities (e.g. Inter-Professional Education or IPE); and

- forums created through national and provincial organizations such as ACAHO, AFMC, the Council of Academic Hospitals of Ontario (CAHO) and the Academy of Canadian Executive Nurses.

In addition to these types of opportunities for linking between the parties, there are some specific examples of emerging initiatives that appear to be filling a gap that exists related to integration. These include the following three examples:

- Réseaux Universitaires Intégrés de Santé (RUIS) in Quebec.

- Toronto Academic Health Science Network (TAHSN).

- Saskatchewan Academic Health Sciences Network (SAHSN).

> "Our challenge is getting beyond organizational egos and this inherent need to protect individual interests. Only when we start to think and act as a single entity will the AHSC Network in our community be truly successful."

Each of these are described on the following pages in more detail.

Saskatchewan Academic Health Sciences Network (SAHSN)

SAHSN was created in 2002 largely because program relationship issues between the University of Saskatchewan (U of S) and the Saskatoon Health Region (SHR), particularly around the College of Medicine, were viewed as sub-optimal. While these were seen as the most acute, there was also concern about the relationship between all health science programs at the U of S with the SHR and with the Regina Qu'Appelle Health Region (RQHR).

SAHSN was established with two core mandates – remediation of the academic health science centre relationships and promotion of broader province-wide approaches to academic health sciences.

The Vision of SAHSN is: *Through collaboration, Saskatchewan health partner organizations will achieve excellence in the education of health professionals, in health research and in the provision of health care services to residents of Saskatchewan.*

The Mission is: *The Saskatchewan Academic Health Sciences Network works to create an environment of excellence among its partners where the education of health professionals, health research and the provision of health services are complementary activities enhanced through interdependent relationships.*

The work of the network is supported through three standing committees:

- SAHSN Academic Health Sciences Centre (AHSC) Standing Committee
- SAHSN Information Technology (IT) Committee
- SAHSN Advisory Committee on Clinical Education (ACCE)

Of the above three, the AHSC Standing Committee was formed as new members were added to reflect the second of SAHSN's two mandates. The sense was that as this second mandate gained prominence, the issues that originally led to the formation of SAHSN could become diluted. The purpose and goal for the AHSC Standing Committee is described as follows:

- The **explicit purpose** of the AHSC Standing Committee is to provide a forum for joint planning and shared decision making so that there is an integrated approach between the University of Saskatchewan's health science programs and the two major regions with respect to academic matters affecting health professional education and health research.
- The **implicit purpose** of the AHSC Standing Committee is to create a forum that allows for a better understanding of the culture and processes of the three organizations, so that over time a more cohesive and synergistic approach prevails with respect to academic health science matters.
- The **goal** is to achieve a virtual health science centre involving health science colleges at the U of S with the two major health regions and the several sites within each. Only in this way can Saskatchewan achieve the scale necessary to be competitive with the academic health science centres elsewhere in Canada.

Specific objectives of the AHSC Standing Committee include:

1. Medical Education Oversight: To serve as an oversight body for the medical education program interface with the health regions. The medical education program needs particular attention in view of the significant service provided by academic staff.

2. Integrative Policies and Mechanisms: To serve as the forum to establish policy and basic operational frameworks for integrative approaches between the University and the two health regions on matters that affect academic health science programs. Such matters include, but are not limited to the following: single headships and unified clinical departments; new approaches to better engage community-based faculty; and joint staff appointments.

3. Health Science Planning and Problem Solving: To serve as the focal point for joint health human resources planning and problem resolution concerning the interface of the health science programs at the U of S with the two health regions.

4. Affiliation Agreement Collaborative Process: To serve as the joint collaborative process and dispute resolution process contemplated in Section #9 of the Affiliation Agreements between the U of S, and SHR and RQHR.

5. Consultation and Liaison with other entities: While the Standing Committee represents the three organizations that form the core of the academic health system in this province, there are many matters that will need broader discussion. Accordingly, the Standing Committee will need to develop mechanisms to consult regularly with other key stakeholders.

6. Specialized Service Program Planning: An additional function could be to use the Standing Committee to make recommendations concerning the implications on academic programs with respect to distribution of highly specialized low volume services.

Additional information surrounding SAHSN can be found on the SAHSN website at (http://www.saskhealthsciencesnetwork.usask.ca)

Toronto Academic Health Sciences Network (TAHSN)

TAHSN was formed many years ago and serves as a forum to bring together the University of Toronto and its many affiliated organizations to advance the collective AHSC mission of all of the partners. TAHSN represents the largest network of AHSCs in Canada and one of the largest in North America as evidenced on a number of dimensions including academic standing, research activity/output, collaboration and contribution to healthcare innovation.

The mission of TAHSN is to be *a dynamic consortium of the University of Toronto and its affiliated academic hospitals to serve as a leader in Canadian health care by developing collaborative initiatives that optimize, advance, and sustain a shared academic mission of high quality patient care delivery, education, knowledge transfer, and research innovation.*

In order to advance its academic mission and the role of academic hospitals, TASHN actively engages in activities at the local, regional and provincial system planning levels to promote

a better understanding of the role that education, research and academic hospitals play in providing high quality health care services.

Some of the initiatives that TAHSN undertakes include:

- making recommendations on the role of academic hospitals in providing complex clinical care programs and the role of research in delivering them;
- taking the lead in working with other providers to establish centres of excellence in clinical care, education and research;
- serving as a resource for specific specialty areas and sharing evidence-based information and best practices in clinical care, education and research;
- establishing partnerships that ensure that the role of academic health science centres is recognized and supported within health care communities;
- actively responding to system policy directions and providing information on potential implications for patient care, education and research;
- providing recommendations on the resources required to advance and sustain the academic hospital's mission in the current environment;
- developing recommendations relating to current health care funding, particularly for hospital, medical and university education; and
- examining alternate funding plans and how they can be integrated into current systems to support clinical care, education and research.

The work of TAHSN is supported by a number of standing sub-committees including: Research Committee, Medical Affairs Committee, Research Ethics Committee, Communications Directors Committee, and Chief Nursing Executives Committee.

In addition to the standing committees, TAHSN utilizes working groups to address issues on an ad hoc basis as they arise. Current working groups include: TAHSN / Local Health Integration Network Sub-Committee, Research Ethics Board Working Group, Research Administrators Working Group, and Clinical Researchers Working Group.

Membership in TAHSN is described under three categories:

TAHSN Members/Full Affiliation

- Baycrest
- Bloorview Kids Rehab
- Centre for Addiction and Mental Health
- Mount Sinai Hospital
- St. Michael's Hospital
- Sunnybrook Health Sciences Centre

- The Hospital for Sick Children
- Toronto Rehabilitation Institute
- University Health Network
- Women's College Hospital
- The University of Toronto

Associate Members

- North York General Hospital
- St. Joseph's Health Centre
- Toronto East General Hospital

Special Participants/Guests

- Council of Academic Hospitals of Ontario
- MaRS Discovery District
- Ontario Hospital Association
- Toronto Central LHIN

Additional information surrounding TAHSN can be found on the TAHSN website at (http://www.tahsn.ca).

Réseau Universitaire Intégré de Santé (RUIS)

Since 2003, the Ministry of Health and Social Services of Quebec has granted the four faculties of medicine a much higher profile in the organization and delivery of tertiary level health care in the province. The provincial government's new plan divides the province into four geographic regions, or Réseau Universitaire Intégré de Santé (RUIS). Each RUIS is anchored by one of the Faculties of Medicine – McGill and the Universities of Montreal, Sherbrooke and Laval – with tertiary services, education and research coordinated by each university's Faculty of Medicine and its associated teaching hospitals.

The goal of the plan is to improve access to health care by streamlining relationships between primary care providers – doctors and regional hospitals – and upper level care providers for specialized procedures. To organize primary care services, the government divided the province into 95 local networks (réseaux locaux), each with a "centre de santé." For more specialized care, the local networks would have an agreement with the RUIS.

The Laval RUIS is one example of the model. In 2003, the Faculty of Medicine of l'Université Laval united the managing directors of the Centre hospitalier universitaire de Québec (CHUQ), Centre hospitalier affilié universitaire de Québec (CHAUQ), l'Hôpital Laval et de l'Hôtel-Dieu-de-Lévis, and the executive vice-rector of l'Université Laval, to constitute the network committee of l'Université Laval (CRUL). The aim of this committee was to better incorporate the concerns of education and research within the network of the university

hospitals affiliated to l'Université Laval. Other members were added to the network to as the RUIS-UL evolved.

To help meet its aim, there are five standing committees and four working groups organized primarily along clinical service lines (e.g. nursing, family medicine, cardiovascular, pulmonary care, tele-health). The work of the RUIS-UL and the nine committees and working groups is aimed at integrating and coordinating the efforts (related to education, research and patient care) of the region's university-affiliated hospitals in order to achieve higher quality clinical and academic results.

For more information on the RUIS models see the following links:

- Laval (http://www.ruisul.org)
- McGill (http://www.med.mcgill.ca/RUIS)
- Université de Montréal (http://www.ruis.umontreal.ca)
- Sherbrooke (http://www.chus.qc.ca)

Joint Appointments

One traditional model for integrating the missions of the AHSC – one that continues to be viewed as highly relevant and important – is the process of joint appointments of staff between the university and its hospital partners. This has a long history with medical staff appointments and includes a number of different types of mechanisms:

- To get privileges at the AHSC/hospital site, physicians almost always must also have some form of academic appointment.
- Some physicians are full-time university roles (e.g. geographical full time or GFT), although these are not universally defined across Canada. Others are categorized as clinical faculty. GFT or equivalent typically have some of their remuneration provided by the university, clinical faculty only receive direct remuneration from the university for specific tasks. This does vary across the spectrum of AHSCs.
- Many physicians in an AHSC participate in some form of practice plan or alternate payment plan, but significant variations exists. It is important to note that this statement does not mean that the plan is managed or controlled by the University, but rather can be plans that exist within the physician group itself.
- Department chairs or heads are often remunerated (at least in part) by the hospital or health region but this does not occur with respect to appointments of non-MD chairs or heads.
- Traditionally, departmental/divisional structures within the Faculty of Medicine were mirrored at the hospital (e.g. medicine, surgery, pediatrics, etc).

- In many cases, the academic lead/chair is then cross-appointed as the hospital department head. In cases where multiple hospital partners exist, the chair is typically cross-appointed at one of the hospital sites. *Note: when the chair is not also a hospital head, there is some sense that the academic chair has reduced influence or power.*

- With the development of more programmatic structures, this alignment is changing in some cases (e.g. a hospital may now have a head of the cardiac program). In this case, the academic leadership for the respective divisions may not align with the hospital structure. This is seen as potentially diluting the influence of the academic leaders, which can be problematic when it comes to recruitment strategic planning, evaluation, promotion accountability and other HR development issues.

- With respect to the remuneration of researchers, MD, PhD or MD-PhD, the responsibility for payment varies. It can come from the AHSCs and/or their Research Institutes, in some cases it is shared with the University, in others it is the sole responsibility of the University while in others the Health Authority or Hospital; or it can be funded through external programs from peer review agencies. Irrespective of the funding flow researchers would have an academic appointment with the affiliated university.

The process of academic appointments is less prevalent, although growing, as a model for nursing and health professions. In some professions such as Pharmacy it has existed for many years, but reimbursement is variable and problematic. It was pointed out by leaders of the health professions that is also problematic with respect to obtaining the appropriate number of placements with AHSC for student trainees/internships. Often funds are requested by the hospital/health region from their academic partner for buy-out time of clinical staff to supervise trainees. These funds do not normally exist within the budgets of the professional schools. Many of the leaders in these disciplines carry a university appointment, although the university appointment rarely provides any additional compensation. Heads of university schools (e.g. PT/OT) do not typically have any cross appointment at a hospital. This is different than the physician model where chairs typically continue to have a clinical role (even if it is a limited one). There is an increasing trend for researchers within the Health Professions to have an academic appointment.

Conclusions

Integration occurs at multiple levels through numerous mechanisms, some formal, some informal, some that are structurally defined and some that are ad hoc.

Cross appointments for clinical leaders within hospitals at the affiliated university schools/faculties is viewed as an important step in future planning of the education and clinical training of health professionals as health care delivery models change.

Additional attention to models is required in this area as there is a clear need to create mechanisms to ensure that the AHSC networks evolve and begin to “think and act like one entity” in order to ensure ongoing competiveness and relevance of the AHSC model in Canada.

5.0 Challenges in Delivering the AHSC Mandate

Section 2 of this report summarized some of the definitions of the AHSC. Common to all of the definitions is the tripartite or integrated mission related to care, research and teaching. When this mission is overlaid on the shifting governance and leadership models for the health care system across the country, a number of challenges emerge that warrant attention and discussion in this document.

Distributed Models

AHSCs traditionally were known as the centres where the most complex care was provided, where the bulk of clinical research occurred and where most teaching was delivered. In the current health care system, all of these mandates are becoming increasingly distributed with teaching now occurring in multiple sites, many of which are not hospitals. Research too occurs in many settings and complex care is being delivered in large regional settings in greater volumes. And yet, the AHSC still plays a unique role in all of these realms:

- **Care Delivery:** AHSCs continue to provide the vast majority of the quaternary care as well as the more complex tertiary care. They are also the early adopters for new procedures that ultimately enable the distributed model for additional tertiary care services.

- **Research:** The continuum of research is such that many organizations now participate in some forms of research, but the AHSC is still the only place where the full continuum actually takes place. The critical mass of research also provides the AHSC with the unique opportunity to embed the researchers into the clinical teams, allowing researchers and clinicians to interact more consistently. This, in turn, provides the opportunity for new learning and the rapid translation of research into practice. This bench to bedside model is unique to the AHSC.

- **Teaching:** Possibly the most distributed of the tripartite mission is the teaching mandate. For nursing, which is provided in many more settings than just the 17 universities with a faculty of medicine, it is clear that the majority of the practice based teaching occurs outside of the traditional AHSCs. Similarly, students in the health professions and medicine can now receive portions of their training in settings other than the traditional AHSC. For example, there are now more than 800 students enrolled in medicine programs through a series of satellite centres (see list of satellite programs in medicine in table on the next page). Notwithstanding that, the AHSC continues to be the only setting that continues to provide consistent positions for post graduate training with residency positions in multiple specialties being delivered at any given time. Similarly, the AHSC is still the primary location for positions such as clinical fellows.

As the missions become more and more distributed into networks, the role of the AHSC within that network needs some clarity. To achieve this, AHSCs must ask themselves several key questions, including:

- What are we trying to achieve?

- When is the AHSC the most appropriate to lead?

- Who determines priority in research and how is it determined?

Greater role clarity has the potential to improve relationships not only within AHSC networks, but also between AHSCs and other healthcare organizations by supporting better understanding of what regional hospitals and community hospitals/primary health care providers can expect of the AHSC and what opportunities exist for them in supporting or benefiting from the care delivery, research and teaching work of the AHSC.

Satellite Training Programs in Medicine

Faculty	Satellite	Enrolment by Year					
		Preparation Year	Yr 1	Yr 2	Yr 3	Yr 4	Total
Sherbrooke	Saguenay		27	18	23	0	**68**
	Moncton		25	26	21	0	**72**
Montreal	Maurice (Trois Rivières)	32	33	30	30	30	**155**
McMaster	Waterloo		20	15	0	0	**35**
	Niagara		15	0	0	0	**15**
Western	Windsor		24	0	0	0	**24**
Northern	East (Sudbury)		33	32	31	31	**127**
	West (Thunder Bay)		25	26	22	24	**97**
Saskatchewan	Regina		0	0	0	21	**21**
Brisith Columbia	Island (Victoria)		33	30	23	26	**112**
	Northern (Prince George)		31	31	24	24	**110**
Total for Canada		**32**	**266**	**208**	**174**	**156**	**836**

Table 2.

Note: Dalhousie Medical School in Nova Scotia has recently signed an agreement with the New Brunswick Government to have a medical school campus there.

Care Delivery and Health Human Resources

The global shortage of health professionals is having an impact on AHSCs as staff shortages, particularly in specialty areas (e.g. critical care), are impacting the way in which care is being delivered. Some of the large regional and community hospitals are viewed as having a potential recruitment competitive advantage as staff can now work in tertiary programs and live closer to home. As well, community-based care settings continue to offer attractive alternatives for professionals who seek employment opportunities in non-hospital settings.

Some AHSCs have responded by introducing innovative staffing models that leverage the academic mission as a recruitment/retention incentive. The emergence of inter-professional education within AHSCs is also viewed as an advantage for attracting staff in nursing and the health disciplines. Academic Health Science Centres are positioned to address the

challenges in health human resource planning for all health professionals as they present a real opportunity to create new and unique models that truly integrate the tripartite mission of the AHSC.

The emerging shortages in physicians present a unique set of challenges, which include:

- changing relationships with medical residents (e.g. generational issues of expectations and demands, including working hours and conditions, which results in a requirement for more physicians to fill the same number of FTEs);
- dwindling supply of generalists to support programs (both within and outside of AHSCs) that could increase demand for care in AHSC specialty settings;
- demand for the generalist-specialists i.e. individuals that would be trained in bridging disciplines such as genetics, immunology, pharmacotherapy – they would be critical to support both the care delivery and the education mission;
- increased demand for specialists and increased opportunities for recruits;
- changing expectations for on-call; and
- emergence of new roles (e.g. hospitalists, advanced practice professionals) that present both solutions and challenges – particularly in how people are paid and the source of money for these roles.

Emerging Issues Re: Educational Mandate

The Academic Health Science Centres are the cornerstone for the training of all health professionals. Traditionally the 'teaching hospital" affiliated with a university was seen as primarily for the training of physicians. Models of care delivery over the last 10 to 15 years have been characterized by the need for patient-centered care. This has resulted in transformation of the department-based structure of the traditional hospital to the interdisciplinary program management-based structure. Changes in educational paradigms within disciplines have adapted with the introduction of the problem-based curricula. It is now being recognized that the need for inter-professional education is central to tackling the important issues in health care delivery today.

> "Interprofessional education helps healthcare providers work together and pool information. No one healthcare provider has all the answers."
>
> *Canadian Interprofessional Health Collaborative*

Examples of IPE Initiatives:

- The Centre for Collaborative Health Education at Memorial University (Newfoundland): The Centre was developed to enhance the education of social workers, pharmacists, nurses and physicians by expanding and promoting inter-professional collaboration and teamwork in education and practice settings. This work is expected to increase the number of students and practitioners in inter-professional education and practice in Newfoundland and Labrador, and enhance their competencies. The Governing Council includes the directors from the faculties of social work, pharmacy and nursing and the deans from the faculties of education and medicine.

- Seamless Care: An Interprofessional Education Project for Innovative Team Based Transition Care (Nova Scotia): Inter-professional education is viewed as a potential differentiator for Dalhousie and affiliated hospitals/health authorities. The Dean of Medicine and Dean of Health Professions both sit on the CDHA Board so the leadership for this initiative can start at the governance level. A Skills Centre has been created to serve as the mechanism to focus IPE and enable team-training models. Through the Seamless Care initiative, student teams from medicine, nursing, pharmacy, and dentistry/dental hygiene are working together to help patients develop the skills and knowledge necessary to manage their illness and work with their health care team within the health care system.

- *Éducation à la Collaboration Interprofessionnelle centrée sur le Patient (Projet ECIP) (Quebec):* This project involves collaborative work between Université de Montréal and Université de Sherbrooke to create model environments for training and practice in collaborative patient-centered care for patients affected by chronic diseases. These model environments allow the teams to identify competencies necessary for collaborative patient-centered practice in chronic disease and the key success factors in communities of practice. This information can then be used to improve collaborative care more broadly in chronic disease management. In addition to university teachers, clinicians, and students, groups include patients and their families.

- *McGill Educational Initiative on Interprofessional Collaboration: Partnerships for Patient-Family Centered Practice (Quebec):* This initiative at McGill brings together clinicians, educators, and students from four professional groups in a program delivered in academic and clinical environments in order to enhance inter-professional collaborative patient- and family-centered practice. The goal of the initiative is to develop the understanding, knowledge, and skills necessary to work with other health care professionals, provide tools/resources to support inter-professional training, develop training programs based on patient-centered care and expand and improve mentoring programs. Inter-Professional Education is emerging as a strategic initiative at McGill and is being led by a senior patient care leader. This provides the opportunity to link with priorities for inter-professional collaborative care team redesign as care redesign is being led jointly by HR and Patient Care.

- Centre for Inter-Professional Education (IPE) (Ontario): A proposal has been developed to establish a Centre for Inter-Professional Education (IPE) as a joint Initiative of the University of Toronto, Toronto Rehabilitation Institute, University Health Network and Toronto Academic Health Science Network. The administrative leader will be jointly appointed by TRI and UHN with a vision to improve the health of patients by infusing inter-professional collaborative team practice in all University of Toronto health professional education programs.

- Academic Health Council (Ontario): The recently formed Academic Health Council (AHC) comprised of leading educators in the health services field committed to developing collaborative strategies to tackle some of the important issues in healthcare today. The University of Ottawa, Algonquin College, La Cité Collégiale and the Champlain Local Health Integration Network (LHIN) are the main players that have come together to promote and facilitate inter-professional practice in an effort to set a new standard for the coordination of this type of health services education and research on a national level.

- Interprofessional Education for Geriatric Care (Manitoba): This initiative at University of Manitoba brings together current and future health care professionals in medicine, nursing, pharmacy, occupational and physical therapy in community-based geriatric settings to develop collaborative patient-centred practices. Educational opportunities on interprofessional education are provided to students, hospital clinical team members, and faculty.

- Interprofessional Network of BC (In-BC): Health and education partners from across BC have joined together to form the Interprofessional Network of British Columbia (In-BC). In-BC networks many initiatives that provide interprofessional education opportunities for students and practitioners in health care fields in diverse rural and urban clinical settings. There are seven In-BC projects ranging from The Collaboration for Maternal & Newborn Health (CMNH) to Guided Interprofessional Field Study to the Interprofessional Rural Program of British Columbia (IRPbc).

- Interprofessional Health Collaborative of Saskatchewan: The Patient-Centred Interprofessional Team Experiences (P-CITE) project was launched in June 2005, facilitated by a successful project application to Health Canada for interprofessional education funding. P-CITE had the goal of improving the health of communities, families and individuals across the province of Saskatchewan through services delivered by effective interprofessional health care teams. The long-term goal was to effect a systemic, structural change in health service delivery and health professional education through collaborative practice, patient-centred care and interprofessional education.

As inter-professional education (IPE) is rapidly becoming central to new curriculum changes within Canada, it needs to be appropriately recognized and supported, with the confounding issue that one ministry supports education and one health. Models of Care require the continuing development of Clinical Units where collaborative practice is taught. This reinforces the need for cross-appointments of non-MD health care professionals, which will require teamwork and funding from all partners.

Physician Training Issues:

The provinces individually plan for the number of student placements and post-graduate training positions, in most cases in cooperation with medical schools. The Canadian Resident Matching Service (CaRMS) allows for flexibility for residents to move between provinces with potential for a gap in certain areas. With growth of the AHSC into a larger region or district, maintaining the necessary requirements for the number of placements and numbers required to maintain core-teaching models (e.g. internal medicine) throughout the academic region/district is of concern to many of the AHSCs. One of the contributing issues is that some Universities offer more residency positions than the number of MD graduates that they produce. This creates a competitive model that can lead to reduced numbers of residents to other Universities.

Nursing Education:

Formal programs exist in multiple university and community college settings (e.g. in BC, there are 17 nursing schools but only one medical school). Clinical training must occur

in multiple settings. The perception exists that the mission to teach nurses is not seen to be as important as teaching medical students and residents in some AHSCs. There is no recognition for the teaching mandate within the roles of clinical nurses employed in hospitals or community health centres. Most often, nurses assume those responsibilities without payment and are not given "release time" in order to do so. In some cases, their time is purchased by the university but there is no government funding to support the costs of clinical supervision in university nursing education.

Health Disciplines:

Growing shortages in the health disciplines can only be addressed with the development of innovative models of care delivery. This has already begun in many parts of the country with the development of interprofessional collaborative care models.

Even with new care models, the health disciplines still face issues in terms of inadequate support and opportunities for training. A critical mass issue exists for the health disciplines relative to medicine and nursing. This exacerbates the issues noted under nursing (e.g. sense of not being valued or understood). With physician education viewed as highest priority by many, there is a disconnect in getting the regional health authorities to provide support for education of professional practice students. Limited resources are available from the universities to support clinical placements. Cross appointments between hospital clinicians and affiliated universities are least common for the health disciplines. With the increase in emphasis on knowledge translation, a mechanism is needed to bring the players from the organizations to a common table for planning. This should involve all professional training programs (medicine, rehabilitation sciences, nursing, pharmacy, dentistry, etc.) with emphasis on opportunities for both clinical and research training within the academic centres.

Emerging Issues Re: Research and Innovation Mandate

Research is a distinguishing characteristic of the Academic Health Science Centre. To patients it means that clinician-researchers provide leading edge treatment and care. Research creates new strategies for disease prevention and diagnosis, as well as new therapies for treatment. While the scope of the research varies between AHSCs or components of the AHSCs from the tertiary hospitals to the regional and community hospitals, it remains the glue that unites the partner organizations.

While research is viewed as the critical differentiator of the AHSC model (i.e. Education and Care are more widespread) that interdependence also leads to the subject that engenders the greatest number of issues between the affiliated organizations.

> "The value proposition of the Academic Health Science Centres is that they do research and focus on a culture of translating research into best clinical practice."

The value of the AHSC resides with the research mission and the ability to impact both population health and care delivery. Knowledge Translation is emerging as a major emphasis of the research mission which takes place throughout the Academic Health Science Centre from the tertiary and quaternary Hospitals to the larger regional and community based hospitals and service delivery units.

During the last decade significant restructuring of the management and governance of the healthcare system has taken place and continues to take place. The establishment of Regional Health Authorities has resulted in bringing together both the traditional "teaching and research hospitals" affiliated with a university and a Faculty of Medicine with smaller community and regional hospitals and community-based services. The traditional Academic Health Science Centre has now become a smaller part of a large organization whereas it used to be the whole organization. Health Authorities struggle with finding their Academic identity as they manage a complex system, with a focus on cost containment.

The growth of research activities at university-affiliated hospitals began to increase almost 20 years ago and currently 80% of health research from bench to bedside is conducted within Academic Health Science Centres. This has led to both partners, the university and the affiliated hospitals/health region, struggling with ownership of the research activities. Increasing costs of both health care and support for research has lead to tension between the partners as they deal with the competing interests of their joint tri-partite mandate of education, research and care. Specifically with respect to research, they both want to share the successes but, with funding of the partners coming from separate arms of government, it is very difficult to provide the necessary level of operating and infrastructure support. Moreover, universities are multidisciplinary with constantly competing priorities among faculties that need to be balanced. The Faculty of Medicine is often seen as the "rich" relative. University Presidents, Hospital/Health Region CEOs and their Boards are not sure how to manage the relationship for fear of having to pick up the bill for the "academic costs" within a funding formula that comes from separate arms of government.

> "Health Care sustainability depends on a strong connection between research and knowledge translation. The issue is not cost and should not be driven by cost because it will increase but by efficient and effective use of research that translates to delivery."

Some institutions have signalled the importance of the partnership between the University and the AHSC by the appointment of the Vice President Research/Institute Director as an Associate/ Assistant Dean Research of the Faculty of Medicine but this is not uniform across the country.

> "Future - need to continue to work at breaking down the two "silo" structure and create a horizontal structure for effective and efficient conversation and decision making."

Researchers located within hospital based research facilities/Institutes have faculty appointments with affiliated universities. Salaries for researchers vary from the entire salary being paid by the Research Institute to joint funding between the Institute (or affiliated hospital/health region) and the university. The university grants tenure for faculty as appropriate. As not all Research Institutes have a tenure policy, this leads to a financial impact on the university when an Institute based researcher is denied reappointment.

Many issues regarding the research mandate of the AHSC were identified as requiring a decision framework between partners to maintain and enhance the competitiveness of Canadian Health Research. The primary concern was the ineffective means of communication between the partner institutions that would lead to effective dialogue and decisions of a strategic nature.

As changes continue to take place about how health care is managed in Canada and specifically with the growth of the size of the Health Regions, this has lead to the need for a redefinition of the Academic Health Sciences Centre. As the Health Regions or Districts have grown they now include the continuum of care from a core of quaternary care and tertiary care hospitals to large regional and community hospitals, to long-term care facilities to specific service units within the community.

> "Research and care cannot be compartmentalized. The approach to the patient is holistic and includes organizational, clinical and outcomes research as well as basic science."

With respect to the research mission within these regions cell science research remains within the large hospitals where the infrastructure has been developed over many years. In addition these centres are in close proximity to their affiliated universities. Moreover, the regional and community hospitals are an excellent environment for knowledge transfer as well as providing a very rich environment for health outcomes research.

Conclusions

AHSC leaders have a clear leadership role to play in supporting distributed delivery of the integrated tripartite mission that is now occurring through a network model. Where the AHSC continues to be structured as its own organization (with its own board and leadership structures), the AHSC needs to continue to work collaboratively with others to provide this leadership. In regional settings, structures need to reflect and recognize the AHSC leaders and ensure that they are supported to provide leadership related to the missions.

The governance structure of the AHSC needs to reflect the paradigm shift of knowledge transfer and uptake as an embedded culture of evidence-based health care delivery with a common vision that supports research from the cell to society.

The AHSC needs to be the early adopter of the emerging inter-professional educational initiatives. AHSC leaders need to be supported and adequately resourced to fulfill this leadership mandate.

Training issues within professional groups need to be coordinated and managed within the AHSC model to ensure that new models are effectively integrated.

6.0 Resourcing the AHSCs

> *Financing the AHSCs comes from many sources and is extremely complex. There is no doubt that the traditional mix and methods of funding are an impediment to change. Very little of what [PCCCAR recommends] is do-able without changes in the way that AHSCs are funded… The issue of financing… must be resolved before the proposed AHSNs will be able to fulfill their potential.*
>
> Ontario Academic Health Science Centres
> Sustaining Ventures for Their Communities, August, 1995
> Report of the Provincial Coordinating Committee on Community
> and Academic Health Science Centre Relations (PCCCAR)
> Sub-Committee of the Role, Function and Financing of AHSCs

The above quote is nearly fifteen years old and yet is as true today as it was when written. The issue of financing remains complex – some people interviewed for this case study would say convoluted – and continues to be viewed as one of the most significant threats to ongoing sustainability of the AHSC model.

Provincial Funding

With multiple provincial and territorial ministries/departments that provide oversight for aspects of the AHSC missions, funding for the AHSCs is itself fragmented. Different rules and procedures exist across the country, but there are some common threads:

Research Funding

Funding sources for the research mission is provided through multiple venues:

1. Global budgets of hospitals that provide various types of infrastructure support or admin salaries for an Office of Research Administration
2. Discretionary revenue sources within the hospital (e.g. parking, preferred accommodation)
3. University salaries
4. Tithes on Practice Plans or Alternate Funding Plans
5. Awards / grants from multiple sources
6. Philanthropy

With regard to the first two items in the list above, funding from the provincial Ministry or Department of Health is intended to support care delivery, meaning that resources from the global budget should not be used to directly support research. Yet, it is clear from all discussions that research is both directly and indirectly supported by funds from the global budget. VPs of Research, for example, are salaried positions often paid out of the global budget as an administrative expense, as are the direct costs of supporting the

research administration office. Indirectly, research can be supported by having Finance and HR functions provided through the hospital departments that provide such services. Housekeeping and other services can also provide all or part of the support services required to address the needs of research.

In addition, funding from discretionary revenues (e.g. parking, or revenue from commercial activities, preferred accommodation) is often directed within the AHSC to support research infrastructure or other aspects of the integrated tripartite mission. As funding pressures continue, there is significant concern that leaders will be forced to make resource choices to redirect current funding between missions, thereby threatening the research (and other AHSC) missions.

Philanthropy is also a source of funding that could be unpredictable and lead to issues of stability. The impacts of the recent downturns in the global economy are not yet fully known, but many interviewees are concerned that donor support will not be adequate in the long term to enable growth on the research enterprise.

Grant or award funding represents a significant source of money for the enterprise and is at least partially (and appropriately) linked to academic performance (i.e. successful researchers are able to build momentum and access additional grants). The challenge with the current model of grant finding is that they are focused on the direct cost of the project and do not allow for full recovery of any infrastructure costs. Therefore the infrastructure costs must be maintained by other sources and, as noted above, these are viewed to be somewhat unpredictable, unstable or at-risk in the current economic climate.

Education Funding

Funding sources for the formal educational missions is provided through multiple venues:

- The Ministry or Department of Education typically provides annual operating grants to universities, although in some cases these grants flow through the Ministry of Health.
- The Ministry or Department of Health (at least in most provinces) provides funding directly to hospitals to serve as paymasters for post-graduate trainees in Medicine through what is sometimes referred to as a clinical education budget.
- Hospital global budgets have historically included an adjustment factor (often grounded in a cost per square foot calculation) which was intended to cover the infrastructure costs in teaching hospitals associated with education and “academic space” (e.g. classrooms, labs, libraries, offices).
- Hospital global budgets have historically (at least in some provinces) also included a “teaching factor” to reflect the higher costs associated with being a teaching hospital, some of which is reflective of the education mandate (e.g. additional lab tests, longer OR times).

- Hospital global budgets pay for salaries of staff in multiple professions who serve "voluntarily" as teachers and preceptors to students. The salaries are typically not adjusted to reflect this role, and time spent teaching is often "lost" to direct patient care. This leads to some sense of lower productivity in AHSCs as staff spend less of their overall time delivering care to patients.

- Income sources for physicians reflect a range of models including: direct university salaries for Geographic Full Time (GFT) professors; direct hospital salaries for some specific roles; alternate financing or payment plans and fee-for-service (FFS) earnings to clinical staff; and some limited stipends from hospitals for administrative duties. All of these sources help to provide an income base for the physicians who deliver the formal teaching support in the clinical setting. In the case of AFPs and APPs, teaching time may be noted and deemed protected within the income source, but in the FFS world, physicians must earn adequate levels of income from patient care to support the time they spend teaching students.

The myriad of sources for funding for this component of the integrated mandate leads to a number of issues – most notably – (1) the underlying sense that the AHSC mission is not adequately funded and (2) some conflict about who is supposed to pay for what. Both of these issues can inhibit discussion and slow progress when trying to advance new models and new processes. As financial pressures heighten for provincial governments, and by extension, the agencies they fund, there is increased potential for conflicting policy directions with unplanned consequences for AHSCs. As an example, funding directions related to educational spending can force university leaders to make independent decisions to ensure that they balance their budgets. Processes to make these decisions may or may not involve AHSC partners and yet the impact can directly impact the ability to deliver the AHSC mandate by requiring limited funding to be redirected from one focus area to another (such as from research to education).

Federal Funding

The federal government has a limited direct funding role for the AHSC mission. Transfer payments are provided in a lump sum to the province and not directly identified for health, or the AHSC as a subset of health. Federal monies are provided to support research through agencies such as Canadian Institutes of Health Research, Genome Canada, Canada Foundation for Innovation, Canada Research Chairs and there is concern that these funds are subject to variability and an absence of long term commitment, largely reflecting the reality that the political environment can result in changing policy directions when changes in government occur.

Infrastructure Funding Issues

Regardless of the potential source of funds, there are some underlying issues related to infrastructure funding that impact the AHSC mission.

With respect to research, indirect costs for research are not included directly in grant funding. The federal government's indirect funding program for research infrastructure is provided directly to the universities and left to the affiliated organizations to decide on the

sharing formula. The funds provided are insufficient to cover the true costs leaving a gap that generally comes out of the overall budget of the AHSC.

Significant components of the educational mission are unfunded and delivered through the goodwill of employees and physicians who participate in teaching without any formal recognition of the time requirements or the impact it has on the clinical care delivery components of their work. Ongoing pressures to demonstrate cost effectiveness and productivity are placing increased pressure on staff, which has the potential to have negative consequences on the ongoing viability of some aspects of this mission.

The problem with maintaining the differentiating features of the AHSC (education and research) lies not in the requirement to be accountable and demonstrate productivity, but in the expectation that this can be done effectively with no additional support, in an environment of diminishing resources and increased workloads.

7.0 Concluding Comments

The opportunities exist within the environment of the Academic Health Science Centres for Canada to be a world leader in providing a seamless integration of the highest quality of education of health care professionals with knowledge translation of the most advanced research to provide the highest quality health care delivery. In order to do this, AHSCs will need to evolve to Academic Health Science Networks that develop complementary education, research and patient care strengths in each component part within their region.

A significant collision of changes in all three mandates has emerged over the last two decades. There has recently been a rapid increase in advances in educational models for health professionals, as well as an increasing rapidity in the translation of research discoveries to patient care. Many of the changes which have taken place have been made possible by federal and provincially funded programs for research and clinical services. The societal impact of these changes is reflected in innovative diagnostic tools to detect diseases such as cancer at very early stages, development of minimally invasive surgery resulting in less stress for patients with a faster return to normal life activities, the development of new therapeutics, resulting in overall improved health outcomes for Canadians.

However with rising cost of health care due to our aging population and other factors, governments have responded with changes to the management and governance of the health care system. These changes have not been accompanied by changes in the governance and funding of the partner organizations that deliver the education, research and care through the AHSC.

A new integrated model should be established that reflects the critical partnerships that exist between the country's post-secondary institutions and the health regions. Federal government programs must recognize the funding needs of AHSC partners through support for the indirect costs of research in a manner that reduces jurisdictional disputes among the partners.

Both the Federal and Provincial governments must recognize the value of the contribution of the partnership between the post-secondary institutions and the health regions which contribute in a significant and unique way to the innovation agenda and economic growth of the country through the development and commercialization of new therapeutics and devices. Together they provide the essential continuum for knowledge translation from the bench to society.

In addition, provincial government programs of funding for the post-secondary institutions and the health regions must reflect the partnership and not be encumbered by the lack of cohesion across ministries from a policy perspective and the complexity of funding mechanisms from separate ministries.

Appendix 1.1 – AHSC Case Study - Interviewees List

Name	Title	Position	Organization	Province
Albritton, Bill	Dr.	Dean of Medicine	U of Saskatchewan	SK
Babiuk, Lorne	Dr.	Vice President Research	University of Alberta	AB
Baker, Carolyn	Ms.	CEO (TAHSN Meeting)	SJH	ON
Beaupre, Beth	Ms.	Executive Director, Joint Medical Staff Position	U of Manitoba & WRHA	MB
Bell, Robert	Mr.	CEO (TAHSN Meeting)	UHN	ON
Berg, Katherine - PhD, P.T.	Dr.	Chair and Associate Professor, Department of Physical Therapy, Executive Chair, Rehabilitation Sector, Chair, Graduate Program, Rehabilitation Sciences, Faculty of Medicine	U of T	ON
Bradwejn, Jacques	Dr.	Dean Faculty of Medicine	U of Ottawa	ON
Bryant, Helga	Ms.	Chief Nursing Officer, Health Sciences Centre	Winnipeg Regional Health Authority	MB
Buchan, Alison	Dr.	Senior Associate Dean Research, Faculty of Medicine	UBC	BC
Butler, Lorna	Dr.	Dean of Nursing	U of Saskatchewan	SK
Choy, Patrick	Dr.	Associate Dean of Medicine (Research), Faculty of Medicine	U of Manitoba	MB
Collins, Stephen	Dr.	Vice President Research	McMaster	ON
Collins, David M.	Dr.	Dean Faculty of Pharmacy	U of Manitoba	MB
Cooper, Juliette	Dr.	Former Director School of Rehabilitation Medicine	U of Manitoba	MB
Cranston, Lynda	Ms.	President and CEO	PHSA	BC
Crooks, Dauna	Dr.	Dean, Faculty of Nursing	U of Manitoba	MB
Davies, Maura	Ms.	President and CEO	Saskatoon Health Region	SK
Deeley, Roger	Dr.	VP Research (KGH) & Vice Dean Research QU	KGH & Queens University	ON
Devitt, Robert	Mr.	CEO (TAHSN Meeting)	Toronto East General Hospital	ON
Doyle, Dianne	Ms.	CEO	Providence Health Care	BC
Emery, Marilyn	Ms.	CEO (TAHSN Meeting)	Women's Hospital	ON
Etcheverry, Emily	Dr.	Director School of Medical Rehabilitation, Associate Dean Medical Rehabilitation and Allied Health, Faculty of Medicine	U of Manitoba	MB
Feasby, Tom	Dr.	Dean of Medicine	University of Calgary	AB
Fairbairn, Brett	Dr.	Vice President Academic and Provost	U of Saskatchewan	SK

Fergusan-Pare, Mary	Dr.	VP Professional Affairs and Chief Nursing Executive(UHN)/Associate Professor, Faculty of Nursing	UHN/U of T	ON
Fernie, Geoff	Dr.	Vice President Research	Toronto Rehabilitation Institute	ON
Ferris, Lori	Prof.	Associate Vice-Provost, Relations with Health Care Institutions	U of T	ON
Flattery, Brenda	Ms.	Exec VP Clinical Operations	Hamilton Health Sciences Centre	ON
Gaskin, Patrick	Mr.	Integrated VP	London	ON
Goldstein, Rose	Dr.	VP Research	University of Calgary	AB
Gorecki, Dennis	Dr.	Dean of Pharmacy and Nutrition	U of Saskatchewan	SK
Hendlisz, Jacques	Mr.	Director General	Douglas institute	QC
Hepburn, John	Dr.	VP Research	UBC	BC
Hill, David	Dr.	Scientific Director, Lawson Health Research Institute; Integrated Vice President, Research London Health Sciences Centre & St. Joseph's Health Care	Lawson Health Research Institute	ON
Horsburgh, M.E. (Beth)	Dr.	Associate Vice-President Research-Health (Uof S)/Vice President Research and Innovation (SHR)	U of Saskatchewan/ Saskatoon Health Region	SK
Julius, Michael	Dr.	Vice President	Sunnybrook Research Institute	ON
Karpa, Angela	Ms.	Finance	VCHA	BC
Keselman, Joanne	Dr.	Acting VP Academic and Provost	U of Manitoba	MB
King, John	Mr.	Exec. VP , Chief Admin Officer	SMH	ON
Kissoon, Niranjan	Dr.	Associate Head and Professor Senior Medical Director, Pediatric Acute & Critical Care Program VP Medical Affairs, BCCH and Sunny Hill Health Centre for Children, Faculty of Medicine Pediatrics	BCCH	BC
Kitts, Jack	Dr.	CEO	Ottawa Hospital	ON
Kreoger, Edwin	Dr.	Assistant Dean Graduate Studies, Faculty of Medicine	U of Manitoba	MB
LeBlanc, Ray	Dr.	VP Research	Capital Health	NS
Lefebvre, Yvonne	Dr.	VP Research and Academic Affairs	Providence Health Care	BC
Levin, Richard	Dr.	Dean of Medicine/VP Health Affairs	McGill	QC
Levitt, Robert	Mr.	CEO (TAHSN Meeting)	TEGH	ON
Lewis, Peter	Dr.	Vice-Dean Research, Faculty of Medicine	U of T	ON
Loveridge, Brenda	Dr.	Head, Department of Physical Therapy Faculty of medicine	UBC	BC
Lozon, Jeff	Mr.	CEO (TAHSN Meeting)	SMH	ON
Lye, Stephen	Dr.	Associate Director Research	Simon Lunenfeld Research Institute	ON
Mackenzie, Alex	Dr.	Director	CHEO Research Institute	ON
Mackenzie, Jennifer	Ms.	VP Innovation	PHSA	BC

MacLeod, Stuart	Dr.	VP Research and Academic	PHSA	BC
Marchbank, Michael	Mr.	Vice President	PHSA	BC
Marrie, Thomas	Dr.	Dean, Faculty of Medicine	U of A	AB
Martin, Murray	Mr.	CEO	Hamilton Health Sciences Centre	ON
McGrath, Patrick	Dr.	VP Research	IWK	NS
McGuire, Ann	Ms.	CEO	IWK	NS
McLellan, Barry	Mr.	CEO (TAHSN Meeting)	Sunnybrook Hospital	ON
Molzahn, Anita	Dr.	Dean of Nursing	U of A	AB
Nelson, Sioban - PhD	Dr.	RN, Dean and Professor, Faculty of Nursing	U of T	ON
Oppenheimer, Luis	Dr.	Provincial Director of Patient Access, Assistant Dean, Innovation in System Design and Quality, Faculty of Medicine	U of Manitoba	MB
Ostrow, David	Dr.	CEO (interim)	VCHA	BC
Paige, Chris	Dr.	Vice President Research	UHN	ON
Pollok, Bruce	Dr.	VP Research	CAMH	ON
Porter, Arthur	Dr.	CEO	McGill	QC
Postl, Brian	Dr.	President and CEO	WRHA	MB
Proctor, Mary		CFO	Providence Health Care	BC
Rhodes, Chuck	Dr.	Dean	Western College of Veterinary Medicine	SK
Ripstein, Ira	Dr.	Associate Dean Postgraduate Education, Faculty of Medicine	U of Manitoba	MB
Rochon, Mark	Mr.	CEO (TAHSN Meeting)	TRI	ON
Rodgers, Carol	Dr.	Dean of Kinesiology	U of Saskatchewan	SK
Rouleau, Jean	Dr.	Dean of Medicine	U of Montreal	QC
Rourke, James	Dr.	Dean, Faculty of Medicine	Memorial University	NFLD
Samarasekera, Indira	Dr.	President	U of A	AB
Sandham, Dean	Dr.	Dean, Faculty of Medicine	U of Manitoba	MB
Slutsky, Art	Dr.	VP Research	St Michael's Hospital	ON
Stewart, Duncan	Dr.	CEO and Scientific Director	Ottawa Health Research Institute	ON
Stuart, Gavin	Dr.	Dean, Faculty of Medicine	UBC	BC
Stuss, Donald	Dr.	Vice President Research, Director	Baycrest, Rotman Research Institute	ON
Thompson, David	Mr.	Board Chair	Vancouver Coastal Health Authority	BC
Thorne, Sally	Dr.	Director, School of Nursing	UBC	BC
Thornhill, Jim	Dr.	Associate Dean, Research and Graduate Studies, College of Medicine and Special Advisor to the Office of Dr. Beth Horsburgh	U of Saskatchewan	SK
Tulip, Danny	Mr.	CFO	Royal Roads University	BC
Turgeon, Jacques	Dr.	Director of Research	CHUM	QC

Tyrrell, Lorne	Dr.	Former Dean of Medicine/Special Advisor, Research	U of A/AHR	AB
Uswak, Gerry	Dr.	Dean of Dentistry	U of Saskatchewan	SK
Vincent, Leslie	Ms.	VP, Patient Services and Chief Nursing Executive	Mount Sinai Hospital	ON
Wainberg, Mark A. - Ph.D.	Dr.	Director	Lady Davis Institute for Medical Research Jewish General Hospital	QC
Watts, Kathy	Ms.	VP Finance	HHS	ON
Welsh, Alison	Ms.	CFO	Sunnybrook	ON
Whiteside, Catharine	Dr.	Dean, Faculty of Medicine, also attended the TAHSN meeting	U of T	ON
Woodgett, Jim	Dr.	Director of Research	Simon Lunenfeld Research Institute	ON
Young, Michael	Mr.	Executive VP	Sunnybrook	ON