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

Optimizing Scopes of Practice:

New Models of Care

For a New Health Care System

REPORT OF THE EXPERT PANEL APPOINTED BY THE CANADIAN ACADEMY OF HEALTH SCIENCES:
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APPENDICES

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Appendix 1: List of Acronyms

AFMC	Association of Faculties of Medicine of Canada
AIPHE	Accreditation of Interprofessional Health Education
CAHS	Canadian Academy of Health Sciences
CAHSPR	Canadian Association for Health Services and Policy Research
CEHL	Canadian Electronic Health Library
CFNU	Canadian Federation of Nurses Unions
CHHRN	Canadian Health Human Resources Network
CHSRF	Canadian Health Services Research Foundation
CIHI	Canadian Institute of Health Information
CIHR	Canadian Institutes for Health Research
CINAHL	Cumulative Index to Nursing and Allied Health
CMA	Canadian Medical Association
CNA	Canadian Nurses Association
CPD	Continuing Professional Development
CPSO	College of Physicians and Surgeons Ontario
ERIC	Educational Resources Education Center
GP	General Practitioner
HCC	Health Council of Canada
HHR	Health Human Resources
HPRAC	Health care professional Regulatory Advisory Committee
ICTs	Information Communication Technologies
IPC	Interprofessional Collaboration
IPE	Interprofessional Education
LPN	Licensed Practical Nurse
MOHLTC	Ministry of Health and Long-term Care
MRT	Medical Radiation Technologist
NP	Nurse Practitioner
OECD	Organization for Economic Co-operation and Development
PA	Physician Assistant
RN	Registered Nurse
RNAO	Registered Nurses' Association of Ontario
RPN	Registered Psychiatric Nurse
SoP	Scopes of Practice

Appendix 2: Original Prospectus

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

Prospectus for a Major Assessment:

Future of Canada's Healthcare System

Prepared by the

Canadian Academy of Health Sciences

October 24, 2011

Future of Canada's Healthcare System- Question to be addressed

How can we contribute to the creation of a newly integrated and sustainable health care system that optimizes quality, access and expenditures through:

- Redesign of the scopes of practice of health professionals,
- Appropriate modifications to their education and training.

The Situation

Canada is viewed internationally as a country with a principle-centered health care system that cares for its citizens in an ecumenical fashion. This system, enshrined by the 1984 Canada Health Act and highly valued by Canadians across all regions of the country is seen as integral to our national character.

As we approach the 10 year anniversary of the 2004 federal-provincial health accord, relating to the transfer of tax payer dollars from the federal to provincial governments, it seems both prudent and timely to conduct an environmental scan of health care in Canada. Several fundamental trends will surely affect our future:

- A major shift towards ambulatory, community-based practice
- Increased focus on primary and secondary prevention
- More engagement and interest from better informed, internet-savvy individuals in assuming responsibility for their own health
- Longer life spans of Canadians with a commensurate proliferation of co-morbidities & chronic diseases stressing the health care system
- Advances in molecular medicine that promise novel enhanced diagnostic and therapeutic capabilities
- Increased utilization of sophisticated information technology to link patients and providers and to bring evidence of treatment effectiveness to both
- An ageing cadre of health care professionals inadequately prepared and organized to meet the health care challenges of tomorrow
- Growing concern about timely access to health care and its affordability.

The issues inherent in the provision of high quality, accessible healthcare for all Canadians at a sustainable societal cost are central to the thinking of politicians at every level and to leaders in every aspect of our society. Satisfactory solutions are of paramount importance to every Canadian. There are many strengths in the present Canadian healthcare system, but there are also significant areas of weakness that cause concern. The escalating costs, on both a per capita basis and as a proportion of GDP, coupled with the mounting challenges of accessibility and quality demand innovative solutions. It seems that incremental steps, primarily further resource commitments, are increasingly unlikely to be either feasible or successful. The vast and varied complexion of the healthcare system, accompanied by the huge current expenditures and seemingly insatiable requirements/demands of an aging population with high expectations for access to the latest technologies, drugs and systems of care are daunting. Simply put, the status quo in our health care system is unsustainable. It is not surprising that many stakeholder groups are reviewing these issues with the intent to bring recommendations for changes into the public realm.

The configuration of responsibilities ("scopes of practice") of Canadian health professionals is rooted in Victorian times. Only recently has this configuration shown much diversification. Physicians and nurses

formed the original core and were later joined by physical and occupational therapists, speech language pathologists, pharmacists and others. Slowly new roles and new types of providers have been created, including midwives, primary care and acute care nurse practitioners and physician assistants, but their introduction in Canada has lagged most other developed countries and has been piecemeal across the provinces. Canada has not been proactive in the creation of novel uses of our current workforce or new types of providers. There is limited understanding of whether we have the right configuration of professionals with appropriate scopes of practice to meet the needs of the current health care system or that of the future as far as it can be predicted, There has been no comprehensive analysis of the knowledge and skills required and whether these skills are present in the current workforce. We need answers to the questions of whether expanding the scope of some professions or introducing new types of providers such as physician assistants or health system navigators would provide cost-effective solutions to some health system accessibility issues, or whether some professions should reduce their participation in some care areas and focus their expertise in other areas to fill gaps and increase efficiency.

The issues of scope of practice and inter-professional collaboration are present not only in Canada, but also internationally. Many countries grapple with the challenges of moving systems and providing the right person to do the job at the right level. A review of the types of professions, their scopes of practice and their practice configurations in the health care systems of other countries such as the US, the UK, France and the Scandinavian countries would make a useful contribution to our understanding of whether we have the best configuration of professions deployed most effectively to achieve the quality and efficiency needed.

There is a long tradition of planning and forecasting manpower needs in our country, although there has been little follow through toward optimization of health human resources utilization and the development, recruitment and retention of qualified personnel. Team approaches and multidisciplinary care are well-understood as models and have been shown to lead to care outcomes that are better than those offered by any single health professional group. Successful and conclusive experiments and pilots have taken place, especially in primary care settings. Recently, attention has been paid to the implementation of supportive work environments, including organizational strategies for human resources development, as well as to adapted programs for initial and continuing training and education of health professionals. And yet, there has been only scattered implementation of new approaches to the distribution of responsibilities among health care professionals. Scaling up of innovative approaches appears to have met with myriad challenges posed by legislation and related regulatory frameworks, the organization of professional education and training programs, concerns about quality and safety, funding models and tradition. It could be that special practice environments (“innovation zones”), freed of some of the current constraints, might allow the wider deployment and evaluation of newer approaches to healthcare delivery by health professionals. Canada needs to move from conceptualization and testing of new models, to their incorporation in the healthcare system.

The CAHS proposes to contribute to the national dialogue on health care in Canada, by bringing its unique perspective to the development and implementation within the healthcare system, of innovative approaches to the provision of healthcare by health professionals:

- We will capitalize on the skills and experience of our member health scientists and academic clinicians, augmented by those of their colleagues from across the full spectrum of health disciplines.
- We will focus on conducting an assessment which includes an objective, systematic review of the evidence and makes practical recommendations for innovative change within the context of

FPT governance and the complex framework of relevant health care organizations, including licensing bodies, professional organizations and the insurance industry. In so doing we will call upon the best and brightest minds of seasoned health care leaders and change agents around the world.

Potential Scope

The scope and deliverables of the Assessment will be based on joint agreement between CAHS and the Sponsors.

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

A forum "Smarter Caring for a Healthier Canada: Embracing System Innovation" was held on September 15, 2011 in Ottawa to inform the Assessment. This provocative and stimulating full day symposium was led by Brian R. Golden, the Sandra Rotman Chaired Professor in Health Sector Strategy at the Rotman School of Management, The University of Toronto, and The University Health Network. An audience of 150 CAHS Fellows and invited guests interacted with panelists and speakers in this solutions-focused event that highlighted innovations that can truly change how the system operates and how care is experienced by Canadians. Adapting the model of the Citizens' Jury process, the event included a Community panel charged with responding to what they had heard about disruptive innovation, equity, efficiency and sustainability and how they saw the ideas and examples impacting on citizens who receive care from the health care system.

Program presenters included:

- **Keynote:** Brian R. Golden;
- **Equity:** Nancy Edwards (presenter and panel chair)*; Margo Greenwood; Louise Nasmith*
- **Efficiency:** Jack Kitts; Patricia Kosseim; Robyn Tamblyn*; panel chair – Bartha Knoppers*.
- **Sustainability:** Don Drummond; Jeremiah Hurley; Kevin McNamara panel chair – Pierre-Gerlier Forest*.
- **Citizen's Jury:** Cindy Blackstock; Sharon Sholzberg-Gray; Anne Snowdon;
- **Panel chair**: André Picard.

*=CAHS Fellows

Tentative Workplan

Phase I: **Study Definition:**
The CAHS Standing Committee on Assessments together with the Assessment Sponsors will define the precise nature of the question, the scope of the Assessment and the Assessment deliverables.

Phase II: **Panel Formation:**
All Sponsors, the CAHS Fellowship, other interested parties and the public will be invited to suggest potential members of the Assessment Panel. The Standing Committee on Assessments will propose a membership list of the Assessment Panel to the CAHS Board. The Chair and approximately 25% of the members will be Fellows of CAHS. The remaining 75% of members will be selected from the best Canadian and international

experts in the field and will include public representation.

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

Phase III: **Panel Deliberation:**

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

Phase IV: **External Review:**

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

Phase V: **Dissemination:**

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

Appendix 3: Glossary of Terms

Accessibility: "The fit between characteristics of providers and health services, and characteristics and expectations of clients" (Penchansky, 1981).

Accreditation: "The measurement of performance and ensuring that organisations satisfy pre-designated standards, are regularly examined and continuously improved" (Batalden, 2002).

Advanced practice nursing: "An advanced level of clinical nursing practice that maximizes the use of post basic education, in-depth nursing knowledge and expertise in meeting the health needs of patients" (College of Licensed Practical Nurses of Manitoba, 2011) ; this includes nurse practitioners, clinical nurse specialists, certified nurse-midwives, and certified registered nurse anesthetists.

Allied health professionals: The health workforce that is comprised of providers other than physicians, nurses, and pharmacists. This includes, but is not limited to therapists, dietitians, medical technologists, occupational therapists, physical therapists, radiographers, respiratory therapists, and speech language pathologists(HLWIKI International, 2013).

Alternative payment models: Remuneration schemes, other than the fee-for-service model, that cover different types of health care professionals (CIHI, 2005).

Appropriateness: The degree to which health services are relevant to the patients' needs and are based on accepted or evidence-based practice (Alberta Ministry of Health, 2012).

Collaboration/collaborative care: "When multiple health workers from different professional backgrounds provide comprehensive services by working with patients, their families, caregivers and communities to deliver the highest quality of care across settings"(Canadian Nurses Association, 2013). *This definition is often used interchangeably with interprofessional care and is considered to be inclusive of types of collaborative practice models such as* ***team-based care.***

Comprehensiveness: The provision of a range of health care services that address the holistic needs of a patient's physical, mental, and social needs (Dickinson, 2010).

Competence: "The ongoing development of an integrated set of knowledge, skills, attitudes, and judgements enabling [a health care professional] to effectively perform the activities required in a given occupation or function to the standards expected in knowing how to be in various and complex environments and situations"(Canadian Interprofessional Health Collaborative, 2010). *See also* ***interprofessional competencies.***

Continuity of care: "Care provided over time, across care settings, by a team of health care providers, with effective communication throughout transitions, particularly outside of medical institutions" (Dickinson, 2010).

Controlled acts: Controlled acts may only be performed by health professionals in their practice if the controlled act is authorized to them; or the controlled act is delegated to them by a health professional who is authorized to perform it; or an exemption exists (The College of Physicians and Surgeons of Ontario, 2012). *See also* ***Reserved acts.***

Chronic health condition: Conditions that require ongoing care or management by both health providers and family members, which persist over time regardless of treatment; this includes disabilities and mental health issues (Nasmith, 2010).

Delegation: "A mechanism that allows a physician who is authorized to perform a controlled act to confer that authority to another person (whether regulated or unregulated) who is not independently

authorized to perform the act. It is not considered delegation to authorize the initiation of a controlled act that is within the scope of practice of another health professional (The College of Physicians and Surgeons of Ontario, 2012).

Efficiency: "Maximum output that can be generated by a unit of input" (Hadad, 2013).

Effectiveness: The degree to which a given health ailment is resolved, a condition is well-managed, or well-being is improved**.**

[Health]**Equity**: "The absence of avoidable or remediable differences among groups of people, whether those groups are defined socially, economically, demographically, or geographically. *Health inequities* therefore involve more than inequality with respect to health determinants, access to the resources needed to improve and maintain health or health outcomes. They also entail a failure to avoid or overcome inequalities that infringe on fairness and human rights norms." (WHO, 2013). *See also [health]* ***inequality****.*

Electronic medical record: Computer-based systems that track individual histories and care which can be shared with and used by other health professionals and other sectors outside of health clinics including hospitals and home care settings (Nasmith, 2010).

Expanded scopes of practice: When health care providers take on a wider range of tasks in the practice setting that would be considered outside of their 'traditional' scopes of practice.

Health care system: The network of people, institutions and resources, arranged together in accordance with established policies, to improve the health of a designated population (WHO, 2010).

Home care: "An array of services for people of all ages, provided in the home and community setting, that encompasses health promotion and teaching, curative intervention, end-of-life care, rehabilitation, support and maintenance, social adaptation and integration and support for the informal (family) caregiver" (Canadian Home Care Association, 2009).

[Health]**Inequality: "**Differences in health status or in the distribution of health determinants between different population groups… Some health inequalities are attributable to biological variations or free choice and others are attributable to the external environment and conditions mainly outside the control of the individuals concerned. In the first case it may be impossible or ethically or ideologically unacceptable to change the health determinants and so the health inequalities are unavoidable. In the second, the uneven distribution may be unnecessary and avoidable as well as unjust and unfair, so that the resulting health inequalities also lead to inequity in health" (WHO, 2013). *See also [health]* ***equity****.*

Innovative models of care: Configurations of health care practices and service deliver that enable greater responsibility for patients' well-being across health care professionals to improve outcomes at patient, professional, and system levels.

Integrated care: "Holistic, population-based, person-centred approach to addressing the multiple needs of individuals with complex conditions who frequently suffer gaps in services, disjointed care, and suboptimal quality" (Kodner, 2012).

Interprofessional education: When two or more professionals learn with, from and about each other to improve collaboration, quality of care, and health outcomes. (HealthForceOntario, 2009)

Interprofessional competencies: "The complex integration of knowledge, skills, attitudes, values, and judgements that allow a health provider to apply these components into all collaborative situations. Competencies should guide growth and development throughout." These are developed throughout a

professional's life and enable the effective performance of activities required in various contexts. (Canadian Interprofessional Health Collaborative, 2010).

Interprofessionalism: *See* ***collaboration/collaborative practice*** *or* ***team-based care.***

Models of care: The way health care services are organized and delivered. (WA Health Networks, 2007). *See also* ***innovative models of care.***

New roles: Roles that have been introduced into the health care system within recent years, that have not been adopted across jurisdictions and may not yet be formally regulated (i.e., system navigators, pharmacy technicians, physician assistants, etc.).

Nurse Dose: "The level (number and type) of nursing staff required to provide care that produces intended patient outcomes…reflected in two attributes: 1) active ingredients representing the essential elements that distinguish nurses from other health care professionals and operationalized in nurses' theoretical and practical knowledge, and skill mix; and 2) intensity representing the potential for nurse-patient interactions and operations in terms of amount (indicated by full-time equivalent) and frequency (indicated by nurse-patient ratio and hours per patient day)" (Sidani, 2010).

Nurse practitioner: Experienced registered nurses with additional education who possess and demonstrate the competencies required for nurse practitioner registration or licensure in a province or territory…Nurse practitioners complement, rather than replace other healthcare providers (CNA, 2006).

Patient-oriented care: When patients are informed about their care options, their experiences are taken into consideration, and they are involved in decision-making processes throughout their care pathway (Canadian Association for People-Centred Health, 2013).

Patient navigation: "A system or professional role intended to facilitate a patient's access to services and resources, and improve continuity and coordination of care" (Doll, 2005). Professional navigation may involve persons with formal degrees such as social workers, registered nurses, or advanced practice nurses; peer or lay navigation is provided by non-clinicians with in-depth knowledge and experience with the health care system(Gilbert, 2011).

Quality improvement: "The combined and unceasing efforts of everyone—healthcare professionals, patients and their families, researchers, payers, planners and educators—to make the changes that will lead to better patient outcomes (health), better system performance (care), and better professional development (learning)" (Batalden, 2007).

Regulation: Designed to address requirements for registration and annual practice permits**,** continuing competence programs, and provide authority for restricted activities (Alberta Health and Wellness, 2002).

Reserved acts: Tasks and services involving a significant risk of harm that need to be restricted, and may only be performed by professions to whom they are, on a non-exclusive basis, assigned, and so long as those performing them are acting within the scope of practice of their profession (Health Professions Council, 2004). *See also* ***controlled acts.***

Scope of practice (for unregulated health care professionals): The activities a health care professional is educated and trained to perform.

Scope of practice (for regulated health care professionals): The activities a health care professional is educated, trained, and authorized to perform by law, licensing bodies, and regulations (College of Registered Nurses of British Columbia, 2013).

Social capital: The capacity of an individual to lead and advocate for a healthy life which is determined by their social network (i.e., friends and family members, health literacy, individual capabilities, often related to socio-economic status).

Shortage: A health human resource supply issue, relating to distribution, retention, organization, and supply of health care professionals relative to a designated population (Buchan, 2000).

Skills mix: "The mix of posts in the establishment; the mix of employees in a post; the combination of skills available at a specific time; or the combinations of activities that comprise each role, (rather than [the profession itself]). Mix can be examined within occupational groups, or across different groups, such as nurses and doctors, or between different sectors of the health system" (Buchan, 2000).

Supervised acts: "Although reserved acts may only be performed by certain professions, it may be appropriate for other persons to perform them, or aspects of them, under the supervision of members of those professions…Where the Council is satisfied that a reserved act may be performed under supervision, it may recommend training and qualification requirements, limitations regarding where the act may be performed and the degree of supervision which should be exercised" (College of Medical Laboratory Technologists of Ontario, 2013).

Task-shifting: When responsibility of performing a given health care task is shifted from one health professional or group to another to use professional resources at the highest possible level. This is typically regulated through delegated acts and from a more expensive to less expensive health professional.

Team-based care: The shared responsibility for cases and patients among all involved health care providers; this model of care "stresses interdependence, efficient care coordination, and a culture that encourages parity among all team members" (Institute of Medicine, 2011). *See also* ***collaboration/collaborative care.***

Appendix 4: Biographies of the Assessment Team

Co-Chairs:

Sioban Nelson
Ph.D.

Dr. Sioban Nelson is Vice-Provost Academic Programs and former dean of the Faculty of Nursing, at the University of Toronto and a fellow of the Canadian Academy of Health Sciences. She was previously Head of the School of Nursing, Faculty of Medicine, Dentistry and Health Sciences at the University of Melbourne, Australia. Dr. Nelson has practiced in acute care, critical care, home care and community nursing and has a background in international nursing.

Jeffrey Turnbull
M.D.

Dr. Jeffrey Turnbull is Ottawa Hospital Chief of Staff and a fellow of the Canadian Academy of Health Sciences. He is a former president of the Canadian Medical Association and the co-founder and medical director of the Ottawa Inner City Health Project, a program that provides care to the homeless population in Ottawa, ON. As well as his work in Canada, Dr. Turnbull has been involved in health service initiatives to enhance community and institutional capacity and sustainable development in Bangladesh, Africa and the Balkans.

Canadian Academy of Health Sciences Expert Panel:

Bainbridge, Lesley
Ph.D.

Dr. Lesley Bainbridge is Associate Principal, Interprofessional Education in the College of Health Disciplines and the Director of Interprofessional Education in the Faculty of Medicine at the University of British Columbia. She is a Co-Chair of the Canadian Interprofessional Health Collaborative and co-author of the National Competency Framework for Interprofessional Collaboration. Her research has made contributions in the areas of leadership, geriatrics, interprofessional education and collaborative practice, and the accreditation of physical therapy programs as well as interprofessional health education in Canada.

Caulfield, Timothy
LL.B, LL.M..

Timothy Caulfield is a professor in the Faculty of Law and the School of Public Health at the University of Alberta. He is also the Research Director for the Health Law Institute, a Canada Research Chair in Health Law and Policy, a Trudeau Fellow and a fellow of the Royal Society of Canada and the Canadian Academy of Health Sciences. He has published widely in the field of health law and has served on a variety of national and international policy committees including, the Canadian Biotechnology Advisory Committee, the OECD, and Genome Canada's Science Advisory Board.

Hudon, Gilles
M.D.

Dr. Gilles Hudon is the former Director of Health Policy and Professional Development for the Federation of Medical Specialists of Quebec. He has been widely involved in inter-specialty continuing professional development collaboration, health policy and health human resources payment policies and mechanisms.

Kendel, Dennis M.D.	Dr. Dennis Kendel serves on the Board of Directors of the Health Quality Council of Saskatchewan and on the Health Council of Canada. He was Registrar of the College of Physicians and Surgeons of Saskatchewan from 1986-2011 and is also a former President of the Federation of Medical Regulatory Authorities of Canada and the Medical Council of Canada. Dr. Kendel has worked to foster systemic health care quality improvement and to help other physicians develop leadership competencies and skills in quality improvement.
Mowat, David M.D.	Dr. David Mowat is Medical Officer of Health for Peel Region and an adjunct faculty member at Queen's University and the University of Ottawa. Previous to his current position, Dr. Mowat was the Director General, Office of Public Health Practice with responsibilities for surveillance systems, knowledge translation, the development of the public health workforce, and public health information policy, privacy and law.
Nasmith, Louise M.D.	Dr. Louise Nasmith has been Principal of the College of Health Disciplines at the University of British Columbia since 2007 and is a fellow of the Canadian Academy of Health Sciences. She was previously Chair of the Department of Family and Community Medicine at the University of Toronto, and the Chair of the Department of Family Medicine at McGill. Her scholarship has centered on medical education, the integration of care for chronic illness and on interprofessional care and education. Dr. Nasmith was also a member of the National Expert Committee on Interprofessional Education for Collaborative Patient-Centered Practice, a Health Canada initiative.
Postl, Brian M.D.	Dr. Brian Postl is Dean, Faculty of Medicine, Dean, Faculty of Health Sciences and Vice-Provost (Health Sciences) at the University of Manitobaand a fellow in the Canadian Academy of Health Sciences. His research and professional involvement focus on Aboriginal child health, circumpolar health and human resource planning. Nationally, he provides leadership as Board Chair of the Canadian Institute of Health Information (CIHI) and Board Chair of the Canadian Health Services Research Foundation.
Shamian, Judith Ph.D.	Dr. Judith Shamian is the President of International Council of Nurses, former President and CEO of the Victorian Order of Nurses and former President of the Canadian Nurses Association. She is also a professor at the Lawrence S. Bloomberg, Faculty of Nursing at the University of Toronto. Dr. Shamian has a wide range of experience in the field of community service needs, public policy and its implementation.
Sketris, Ingrid Pharm. D., MPA(HSA)	Dr. Ingrid Sketris is professor of pharmacy at Dalhousie University and a fellow of the Canadian Academy of Health Sciences, the Canadian Society of Hospital Pharmacists, and the American College of Clinical Pharmacy. She is a former President of the Association of Faculties of Pharmacy of Canada. Her research involves examining approaches to increase the uptake of evidence-based drug therapies and the effectiveness of policy levers used by pharmacare programs to provide effective and affordable drugs.

Canadian Academy of Health Sciences Assessments Committee Liaison:

Dale Dauphinee M.D.

Dr. Dale Dauphinee is Chair of the Standing Committee on Assessments for the Canadian Academy of Health Sciences. He is a former Chair and Professor in the Department of Medicine at McGill University and also served as the founding Director of the Division of Clinical Epidemiology at the Royal Victoria Hospital, and the Director of the McGill Center for Medical Education Research. From 1993-2006, Dr. Dauphinee was the Executive Director of the Medical Council of Canada where he established its first in-house research program, an external research grants program, directed their adaptive on-line assessment methods, and created the national physician identifier and physician credential verification services.

Project Leads at the Canadian Health Human Resources Network (CHHRN):

Ivy Lynn Bourgeault Ph.D.

Dr. Ivy Lynn Bourgeault is a Professor in the Interdisciplinary School of Health Sciences, University of Ottawa, and the Canadian Institutes of Health Research Chair in Health Human Resource Policy. She is the Scientific Director of the pan Canadian Health Human Resources Network and the Ontario Health Human Resource Research Network. Her recent research focuses on the migration of health care professionals and their integration into Canadian health care systems.

Gillian Mulvale Ph.D.

Dr. Gillian Mulvale is an assistant professor in the DeGroote School of Business, McMaster University and a former Director of Healthcare Financing, Innovation and Transformation at the Canadian Health Services Research Foundation. Previously, Dr. Mulvale was also a member of the Mental Health Commission's 'Mental Health Strategy for Canada' team and contributed to developing the public and stakeholder engagement process, the development of the strategy itself, and research to support the strategy. Her current research focuses on health policy and management.

Legal Consultant:

Nola M. Ries JD, MPA, LLM

Nola M. Ries, JD, MPA, LLM, is an External Research Fellow with the Health Law Institute, Faculty of Law, University of Alberta, and a Senior Lecturer in health law at the University of Newcastle, Australia. She recently held a research fellow post with the Global Public Health Unit, University of Edinburgh. She has also taught with the Faculty of Law and Faculty of Human & Social Development at the University of Victoria. Her work focuses on public health law, legal aspects of health system reform, privacy law, and research ethics. She has authored over 60 articles, book chapters and major reports and is co-editor of *Public Health Law and Policy in Canada*. Nola is a member of the Bar of British Columbia and has practiced in areas of constitutional, administrative and human rights law.

CHHRN Research Team:

Katelyn Merritt
BA (Hons), MSc

Katelyn is the Research Coordinator for this project. She completed a Master's in Global Health Science at the University of Oxford where she conducted research on scopes of practice of community health workers in Tanzania. As a post-graduate, Katelyn has worked with the World Health Organization in Geneva and the Cochrane Collaboration at the Centre for Global Health, Institute of Population Health, University of Ottawa.

MyuriManogaran
BSc, PhD Candidate

Myuri is a Research Assistant for this project and is currently pursuing a Ph.D. in Population Health at the University of Ottawa. She completed a Master's in Health Science at the University of Ontario, Institute of Technology that examined the role of interprofessional collaboration in the discharge planning process in neonatal intensive care units.

Kate MacNaughton
BSc, MSc

Kate is a Research Assistant for this project. She completed a Master's of Science in Health Systems at the Telfer School of Management, University of Ottawa. Her thesis research project focused on role construction in interprofessional primary health care teams.

Derek Rowsell
BA (Hons)

Derek is a Research Assistant for this project. He specializes in systematic grey literature searches and archiving. Derek Rowsell completed an Honours BA in Psychology at University of Ottawa. He is currently completing a Graduate Diploma in Program Evaluation at the University of Ottawa, while working as a project assistant for the Pan-Canadian Health Human Resources Network.

Stephanie Kornienko
BA (Hons)

Stephanie is a Research Assistant for this project and has provided translations for French documents. She has recently completed an Honours BA in Sociology at the University of Ottawa, and has worked concurrently for the Pan-Canadian Health Human Resources Network.

Appendix 5: Screening Guidelines

	INCLUSION CRITERIA	EXCLUSION CRITERIA
DATE	- Published between 2000 and 2013 for published Canadian literature and between 2008 and 2013 for international reviews and grey literature	- Published before 2000
LANGUAGE	- Published in English or French	- Published in languages other than English or French
STUDY DESIGN/ DOCUMENT TYPE	- Empirical or review articles involving systematic methodologies * - Must include description of methods indicating evaluative component involved **	- Commentatires or reviews without an evaluative component - No methods described
POPULATION	- All health care professions in Canada that are regulated in **more than one** province or territory and offer services *predominantly* in the public sector in the Canadian context (see attached)	- All non-regulated health care professions that do not *also* include regulatated health care professions (e.g. Papers focusing only on the role of personal support workers) - Health care professions offering services predominantly in the private sector (e.g. select alternative health care professions)
COUNTRY	- The main scoping review will captural all Canadian-based literature - An additional targeted search will be run for reviews relating to the outlined innovative model criteria (see logic model) drawing from the United States, the United Kingdom, and Australia	
CONTENT/ INTERVENTIONS	- Addresses **at least one** of three areas: (1) regulated health care profession as listed; (2) roles and scopes of practice; (3) change mechanisms relating to innovative health care models (e.g., Interprofessionalism, task-shifting, collaborative care models, expanding scopes of practice, etc.); Papers describing health care structures or practices; or educational, economic, or clinical interventions must **ALSO** include change mechanisms relating to innovative health care models (e.g., medical education training that incorporates interprofessional education components) - Papers must focus within the health care sector, including health promotion - For new technological interventions or relatively new areas of practice, paper must address roles and delegations or responsibilities (e.g., must describe who is doing what for telehealth initiatives or e-health systems introductions; roles and delegations in genetic counselling)	- Does not meet content criteria - Addresses health care structures or practices or educational, economic, or clinical interventions but does not include a change mechanism relating to innovative health care models (e.g., general socialization of health care professionals; transition from student to workforce, preceptorship, and mentoring; occupational health of health care professionals) - Papers that focus on health-related models but exist outside of health care sector (ie. Models oriented towards tackling social determinants of health) - Health care models or programmes relating to disaster preparedness or relief - Papers that focus predominantly on conducting or expanding research

*International studies were limited to those that were identified as a review articles and thus would have likely considered studies prior to those published in 2008.

PATIENT LEVEL

- quality of care
- effectiveness (resolution of health ailment)
- patient satisfaction
- safety

- comprehensiveness
- continuity of care
- adherence/compliance

HEALTH CARE PROFESSIONAL LEVEL

- job satisfaction/retention
- work burden/safety
- intercollegiate relations
- role development/delineation
- competence
- collaboration

SYSTEM LEVEL

- accessibility
- cost-related indicators
- efficiency
- equity

Appendix 6: Health Care Professions Included

Health professions regulated in more than one province and/or territory in Canada that provide services predominantly within the public sector

Professions	Provinces										Territories		
	NL	PE	NS	NB	QU	ON	MN	SK	AB	BC	YT	NT	NU
Audiologist	*	*		*	*	*	*		*	*			
Chiropractors	*	*	*	*		*	*	*	*	*	*		
Dental assistant, registered	*		*	*				*	*				
Dental hygienist, registered	*		*	*	*	*	*	*	*	*	*	*	*
Dental therapist								*			*		*
Dental/denture technician/technologist, registered	*			*	*	*		*		*	*		
Dentist/dental surgeon/dental specialist	*	*	*	*	*	*	*	*	*	*	*	*	*
Dietician			*	*	*	*	*	*	*	*			
Hearing aid/Instrument acoustician/practitioner	*				*				*	*			
Laboratory technologist	*	*	*	*		*	*	*	*				
Massage therapist, registered	*	*				*				*			
Midwife	*		*		*	*	*	*		*		*	*
Naturopath						*	*	*	*	*			
Nurse practitioner						*							*
Nurse, registered	*	*	*	*	*	*	*	*	*	*	*		*
Occupational therapist	*	*	*	*	*	*	*	*	*	*			
Ophthalmic medical assistant												*	*
Optician	*	*	*	*	*	*	*	*	*	*			
Optometrist	*	*	*	*	*	*	*	*	*	*	*	*	*
Paramedic/emergency medical assistant			*	*				*	*	*			
Pharmacist	*	*	*	*	*	*	*	*	*	*	*	*	
Pharmacy technician						*			*				
Physician and surgeon	*	*	*	*	*	*	*	*	*	*	*	*	*
Physiotherapist/physical therapist	*	*	*	*	*	*	*	*	*	*	*		
Podiatrist				*	*		*	*		*			
Practical nurse, registered/nursing assistant/LPN	*	*	*	*	*	*	*	*	*	*	*	*	*
Psychiatric nurse, registered							*	*	*	*	*		
Psychologist	*	*	*	*	*	*	*	*	*	*		*	*
Radiation technologist		*	*	*	*	*		*	*				
Respiratory therapist, registered	*		*	*	*	*	*	*	*				
Social worker	*	*	*	*	*	*	*	*	*	*			
Speech language pathologist	*	*		*	*	*	*	*	*	*			
Traditional Chinese medicine and acupuncture	*									*			

Note that this is a preliminary draft and asterisks (*) indicate that there is some *form* of regulation. Next steps will include describing which types of regulation are involved.

Orange lines indicate public sector= all professions to be included in the Assessment.

Appendix 7: Search Strategy

Database: Ovid MEDLINE(R) In-Process & Other Non-Indexed Citations and Ovid MEDLINE(R) <1946 to Present>

Search Strategy:

1 exp Professional Role/ (62079)
2 exp Professional Competence/ (78592)
3 professional autonomy/ (8212)
4 Job Description/ (10356)
5 ((extended or scope$ or domain or range$ or boundar$ or clarif$) adj2 (work or role$ or practice or duty or duties or responsibilit$ or competenc$)).ab,ti. (13340)
6 or/1-5 (157124)
7 patient care team/ or nursing, team/ (51284)
8 Personnel Delegation/ (234)
9 models, nursing/ or models, organizational/ or Models, Theoretical/ (118353)
10 Cooperative Behavior/ (24709)
11 delegat$.ab,ti. (4420)
12 substitut$.ab,ti. (226377)
13 collaborat$.ab,ti. (72231)
14 transition$.ab,ti. (215876)
15 (multidisciplin$ or multi-disciplin$).ab,ti. (41286)
16 (interprofession$ or inter-profession$).ab,ti. (2850)
17 (interdisciplin$ or inter-disciplin$).ab,ti. (19008)
18 (multiprofession$ or multi-profession$).ab,ti. (1226)
19 (intraprofession$ or intra-profession$).ab,ti. (127)
20 (transdisciplin$ or trans-disciplin$).ab,ti. (760)
21 (model$ adj3 care).ab,ti. (9960)
22 configur$.ab,ti. (83914)
23 transfer$.ab,ti. (410641)
24 (expan$ adj5 role$).ab,ti. (5670)
25 (skill$ adj2 (mix or distribut$)).ab,ti. (621)
26 (task adj2 shift$).ab,ti. (635)
27 new role$.ab,ti. (5485)
28 or/7-27 (1196049)
29 6 and 28 (22045)
30 limit 29 to yr="2000 -Current" (16876)
31 team$.ab,ti. (81926)
32 31 or 28 (1243253)
33 6 and 32 (24592)
34 33 not 29 (2547)
35 limit 33 to yr="2000 -Current" (18857)

36 7 or 10 or 13 or 15 or 16 or 17 or 18 or 19 or 31 (233289)
37 6 and 36 (14822)
38 limit 37 to yr="2000 -Current" (11844)
39 35 not 38 (7013)
40 audiologist$.ab,ti. (829)
41 (dental adj2 assistant$).ab,ti. (1308)
42 (dental adj2 hygienist$).ab,ti. (1923)
43 (dent$ adj2 technician$).ab,ti. (1128)
44 (dent$ adj2 technologist$).ab,ti. (27)
45 dentist$.ab,ti. (51801)
46 (dental adj2 surgeon$).ab,ti. (609)
47 (dental adj2 specialist$).ab,ti. (366)
48 dietician$.ab,ti. (889)
49 (hearing adj2 (acoustician$ or practitioner$)).ab,ti. (17)
50 midwi#e$.ab,ti. (15025)
51 ((medical or clinical) adj2 (technologist$ or technician$)).ab,ti. (1698)
52 nurse$.ab,ti. (182567)
53 (nursing adj2 assistant$).ab,ti. (1083)
54 occupational therapist$.ab,ti. (3977)
55 pharmacist$.ab,ti. (18098)
56 pharmacy technician$.ab,ti. (388)
57 physician$.ab,ti. (256737)
58 doctor$.ab,ti. (83592)
59 surgeon$.ab,ti. (125669)
60 (physical adj2 therapist$).ab,ti. (3456)
61 physiotherapist$.ab,ti. (3627)
62 psychologist$.ab,ti. (9065)
63 psychiatrist$.ab,ti. (17117)
64 radiologist$.ab,ti. (26884)
65 radiotherapist$.ab,ti. (662)
66 (radiation adj2 (technologist$ or technician$)).ab,ti. (134)
67 social worker$.ab,ti. (6403)
68 (speech adj2 pathologist$).ab,ti. (1597)
69 or/40-68 (728698)
70 health personnel/ or allied health personnel/ or nurses' aides/ or pharmacists' aides/ or physical therapists/ or physician assistants/ (37546)
71 health personnel/ or medical laboratory personnel/ or nurses/ or nurse anesthetists/ or nurse clinicians/ or nurse midwives/ or nurse practitioners/ or pharmacists/ or physicians/ or general practitioners/ or hospitalists/ or physicians, family/ or physicians, primary care/ or laboratory personnel/ (155462)
72 69 or 70 or 71 (815473)
73 6 and 32 and 72 (14475)

74 limit 73 to yr="2000 -Current" (11229)
75 exp Canada/ (112234)
76 canad$.ab,ti. (74950)
77 britishcolumbia$.ab,ti. (5489)
78 yukon.ab,ti. (348)
79 northwest territor$.ab,ti. (340)
80 nunavut$.ab,ti. (236)
81 alberta$.ab,ti. (4795)
82 saskatchewan.ab,ti. (2016)
83 manitoba$.ab,ti. (2365)
84 ontari$.ab,ti. (15511)
85 quebec$.ab,ti. (8113)
86 new brunswick$.ab,ti. (783)
87 nova scotia$.ab,ti. (1644)
88 newfoundland$.ab,ti. (1163)
89 prince edward island$.ab,ti. (356)
90 pei.ab,ti. (3817)
91 or/75-90 (159287)
92 canada.cp. (250900)
93 91 or 92 (350154)
94 73 and 93

Appendix 8: List of Organizations Targeted for Grey Literature Search

- Alberta Health Services
- Canadian Electronic Library (Ebrary)
- Canadian Health Human Resource Network (CHHRN)
- Canadian Health Services Research Foundation
- Canadian Health Services Research Foundation
- Canadian Interprofessional Health Collaborative (CIHC)
- Canadian Virtual Health Library
- Capacity Plus
- Centre for Workforce Intelligence (UK)
- Health Canada: Synthesis Series on Sharing Insights - Collaborative Care
- Health Force Ontario
- Health Policy Monitor
- Health Team Nova Scotia
- Health Workforce Australia (AUS)
- Health Workforce Information Centre (USA)
- Health, Innovation, Policy and Evaluation (HIPE)
- HPRAC - Health Professions Regulatory Advisory Committee
- McMaster Health Systems Evidence
- Nova Scotia Government Site
- OECD
- The Competition Bureau
- World Bank
- World Health Organization and the Global Health Workforce Alliance

Appendix 9: Literature Flowchart

LITERATURE FLOWCHART														
	PUBLISHED : (CANADA + INTERNATIONAL)									GREY				
	Medline /int'l	Embase/int'l	PsychINFO/int'l	Healthstar/int'l	ERIC/int'l	CINAHL/int'l	SocyAbstracts//int'l	Legal- (Canada only)	Other	International (UIK, US,AUS, Global)	Canadian Electronic Library CHHRN)		Canadian (prov/terr./fed)	Other
	2344(C) + 1728 (I)									16826				
PRIMARY SEARCH	742 (C) + 658 (I)	184(C) + 146 (I)	32(C) + 7 (I)	620(C) + 552 (I)	81(C) + 40 (I)	590(C) + 229(I)	95(C) + 96 (I)	5789 (C)	7	9275	3250	3109	*652*	.
DEDUPLICATED	692 (C) + 632 (I)	73(C) + 76 (I)	16(C) + 2 (I)	6(C) + 22 (I)	73(C) + 40 (I)	418(C) + 201 (I)	83(C) + 88 (I)	-	7	-	-	-	-	-
TOTAL	1361(C) + 1061 (I)									-				
INCLUDED AFTER TITLE AND ABSTRACT SCREENING	342(C) + 180 (I)	47(C) + 26 (I)	35(C) + 15 (I)			189 (C) + 123	14 (C) + 19 (I)	45	7	106	186	406	55	6
TOTAL	438(C) + 90 (I)									736				
INCLUDED AFTER FULL TEXT SCREENING	159 (C) + 88 (I)	.	.			.	.	.	7	48	42	*26*	15	6
FULLY EXTRACTED	96									25				

*Note that the grey literature was retrieved from 2000 onwards but was screened at the full-text stages for papers from 2008 onwards.

Appendix 10: Literature Extraction Tool

ELEMENTS OF LITERATURE EXTRACTION TOOL: LITERATURE INVOLVING CHANGE MECHANISM AND REPORTED OUTCOMES			
Reviewed by			
Ref ID			
Ref title (last name of first author, year, title)			
Reporting grade			*A,B,C*
Region			*Provinces, territories, Canada, USA, UK, AUS*
City/area			
Sector			*Aboriginal healthcare, chronic care (including cancer care but not mental health), community care/home care, complimentary and alternative medicine, emergency care, health promotion (education-based), hospitals/tertiary care, long term care, maternal and child care, mental health care, minority or sub-population targeted-care (ie. new immigrant or homeless populations), palliative/terminal care, primary care (ie. medical clinics, family physician services), public health, rehabilitation, rural/remote care*
Profession(s) involved			*Audiology, dentistry, dietetics, general physician services and surgery, laboratory services, midwifery, nursing, occupational therapy, pharmacy, physiotherapy, psychiatry, psychology, radiology/radiotherapy, respirology, social work, speech language pathology and hearing aid services, unregulated*
Profession title			*Assistant, licensed, physician, practitioner, registered, surgeon, technician, community health worker, health care system navigator, health coach, health educator, home care support health care professional...*
Study description/ methods	*Study aim/research questions		
	Study design		
Interventions and Strategies	Change mechanism		*Collaboration/team-based care, competence, expanding roles, new medical domains, new roles, patient-or family-oriented care, skills mix/dose, task-shifting, technological innovations*
	Organization structural change		*(Description of organizational changes among health care professionals)*
	Education	Method	*Continuing education, training, practicum; primary education/training, practicum; recruitment*
		Quote (p.#)/summary statement	
	Economic	Method	*Funding, financing, remuneration*
		Quote (p.#)/summary statement	
	Legal and Regulatory	Method	*Ethics, federal regulation, institutional regulation, legislation (licensure, certification, controlled acts), liability/insurance, provincial regulation, regional regulation, registration requirements, regulatory body, territorial regulation*
		Quote (p.#)/summary statement	
	Other	Method	*Patient-,family-, community- engagement, communication, monitoring and evaluation, political will*
		Quote (p.#)/summary statement	
Identified enablers		Area	*Autonomy/decision-making, communication, competence, continuing education, education/training, financing/payment/remuneration/fees, fiscal constraint, human resources, intercollegiate respect/understanding, job*
		Quote (p.#)/summary statement	
Identified barriers		Area	

		Quote (p.#)/summary statement	*protectionism/erosion, job security, legislation, liability/insurance, monitoring and evaluation, organizational management capacity, political will, professional development, regulation, regulatory bodies, role uncertainty, work environment....*
Outcomes	Patient level	Accessibility	
		Quality of care	*(including appropriate prescribing practices)*
		Safety	
		Patient satisfaction	
		Comprehensiveness	*(e.g., patient-adapted care, holistic care)*
		Continuity of care	*(e.g., post-treatment, outpatient status, home care)*
		Adherence/compliance	*(as an intermediate outcome)*
		Effectiveness	*(resolution of health ailment, QALY, DALY, morbidity/mortality)*
	Health care professional level	Intercollegiate relations	
		Role delineation/ development/clarification	
		Collaboration	
		Competence	
		Job satisfaction and retention	
		Work burden and safety	
	System level	Cost-effectiveness	
		Efficiency	*(e.g.,reduced readmission rates)*
		Equity	*['PROGRESS+'(O'Neill, 2014)– outcome indicators according to socio-demographic]*
		Scalability	*(supportive elements or limitations reported or inferred)*
FINAL SUGGESTIONS/RECOMMENDATIONS/CONCLUSIONS (reported)			*What to take from this?*
Summary Notes (paraphrased)			*Helpful? Promising? Trends noticed?*
Grading system			*(*- not great, **- mediocre, ***- should read)*

Appendix 11: List of Key Informants

	Name	Affiliation
1	Alba DiCenso	McMaster University, School of Nursing
2	Anne Sales	University of Michigan, School of Nursing- United States
3	Arthur Sweetman	McMaster University, Department of Economics
4	Boris Kralj	Ontario Medical Association
5	Brad Sinclair	College of Dental Hygienists of Ontario
6	Carol Kushner	Patients for Patient Safety Canada
7	Catherine Dower	Centre for Health Professions
8	Christine Bond	University of Aberdeen, School of Medicine and Dentistry- Scotland
9	Dianne Millette	Canadian Alliance of Physiotherapy Regulators
10	Doris Grinspun	Registered Nurses' Association of Ontario
11	Gilles Dussault	Institute of Hygiene and Tropical Medicine (prev. World Bank)
12	Glenn Brimacombe	The Health Action Lobby (HEAL)
13	Graham Willis	Centre for Workforce Intelligence- United Kingdom
14	Herb Emery	University of Calgary, Departments of Economics/Community Health Sciences
15	Jeanne Besner	College and Association of Registered Nurses of Alberta
16	Jim Buchan	Queen Mary University, School of Health Sciences- Scotland
17	John Gilbert	University of British Columbia, College of Health Disciplines
18	Joshua Tepper	Sunnybrook Health Sciences Centre
19	Karen Lawford	Aboriginal Midwives
20	Kim McGrail	Univeristy of British Columbia, School of Population and Public Health
21	Linda Woodhouse	University of Alberta, Rehabilitative Medicine
22	Lyne St Pierre Ellis	New Brunswick Ministry of Health
23	Malcolm King	Institute of Aboriginal Peoples' Health; Simon Fraser University
24	Mark Cormack	Health Workforce Australia- Australia
25	Martin Vogel	Canadian Medical Association
26	Michael Rachlis	University of Toronto, Dalla Lana School of Public Health
27	Michel Grignon	McMaster University, Centre for Health Economics and Policy Analysis
28	Nick Busing	Association of Faculties of Medicine of Canada
29	Nick Kates	McMaster University, Department of Family Medicine
30	Owen Adams	Canadian Medical Association
31	Pam Fralick	Canadian Cancer Society
32	Pat Campbell	Ontario Hospital Association
33	Raisa Deber	University of Toronto, Institute of Health Policy, Management and Evaluation
34	Ron Sapsford	Ontario Medical Association
35	Sholom Globerman	Patients' Association of Canada
36	Simon Brascoupe	National Aboriginal Health Organization
37	Steven Lewis	Simon Fraser University, Faculty of Health Sciences
38	Stuart Soroka	McGill University, Department of Political Science
39	Terry Goerzten	Manitoba Ministry of Health
40	Theresa Oswald	Manitoba Ministry of Health
41	Thy Dinh	Conference Board of Canada

**9 additional key informants were included (4 of which were international), whom requested not to have their names and affiliations listed: 2- Health workforce experts; 3- Scope of practice innovators; 1- Professional stakholder; 3- Governement representatives.*

	Health workforce expert
	Scope of practice innovator
	Professional stakeholder
	Patient/community group representative
	Government member

Appendix 12: Ethics Approval - the University of Ottawa

File Number: H11-12-06B **Date (mm/dd/yyyy)**: 01/24/2013

Université d'Ottawa
Bureau d'éthique et d'intégrité de la recherche

University of Ottawa
Office of Research Ethics and Integrity

Ethics Approval Notice

Health Sciences and Science REB

Principal Investigator / Supervisor / Co-investigator(s) / Student(s)

First Name	Last Name	Affiliation	Role
Ivy	Bourgeault	Health Sciences / Others	Principal Investigator
Katelyn	Merritt	Health Sciences / Others	Project Coordinator

File Number: H11-12-06B

Type of Project: Professor

Title: Scopes of Practice that Support Innovative Models of Care for a Transformed Health Care System

Approval Date (mm/dd/yyyy)	Expiry Date (mm/dd/yyyy)	Approval Type
01/24/2013	01/23/2014	Ia

(Ia: Approval, Ib: Approval for initial stage only)

Special Conditions / Comments:
N/A

Appendix 13: Letter of Information and Consent Form for Key Informant Interviews

LETTER OF INVITATION TO PARTICIPATE IN INTERVIEW

Study title: Scopes of Practice that Support Innovative Models of Care for a Transformed Health Care System

You are being invited to participate in the above-mentioned research study. This study is funded by the Canadian Academy of Health Sciences.

Study Rationale: There is limited understanding of whether we have the right configuration of health care professionals with the appropriate scopes of practice to meet the needs of the current health care system or those of the future. To date, there has been no comprehensive analysis of the necessary skills, competencies, and roles in the current workforce in Canada. Moreover, the scaling up of innovative approaches appears to have been met with a myriad of challenges posed by legislation and related regulatory frameworks, the organization of professional education and training programs, concerns about quality and safety, funding models and tradition. We need answers to the questions of whether expanding the scope of some professions or introducing new types of health care professionals such as physician assistants or health system navigators would provide cost-effective solutions to some health system accessibility issues, or whether some professions should reduce their participation in some care areas and focus their expertise in other areas to fill gaps and increase efficiency.

Specific study objectives: What are the scopes of practice that will be most effective to support innovative models of care for a transformed health care system to serve all Canadians? Stated in another way, we aim to address how we can contribute to the creation of a newly integrated and sustainable health care system that optimizes quality, access and expenditures through the redesign of the scopes of practice of health care professionals, including those which enable interprofessional collaboration; appropriate modifications to their education and training, which may include interprofessional opportunities; and appropriate legislative, regulatory and funding frameworks necessary to enable this redesign.

Participation: In light of your position and expertise within your health care system, we would like to conduct an interview to discuss your experiences and perspectives regarding the development of models of care that optimize health care professionals' scope of practice and respond to patients' needs. In particular, we are seeking to identify barriers and enablers, inefficiencies, and opportunity areas for improvement. The interview will be conducted by telephone in English only, and will take approximately 30 to 45 minutes. All interviews will be audio-recorded for transcription purposes. You may be interviewed at a time deemed convenient and appropriate for you, from now until **April 19th, 2013**.

Please RSVP to this invitation by contacting the Research Coordinator, Katelyn Merritt (*see below for details), by next Thursday, March 28th. Should you accept our invitation to be interviewed, we will then send you an electronic copy of the interview questions and consent form for your review. Should you feel that you require consent to participate from your employer/affiliation, a second consent form will be available. You will only need to answer the questions you feel comfortable answering; you can refuse to answer any questions.

A transcript of the interview will be sent to you for your review and approval. Transcripts will be sent via e-mail, solely and directly to your e-mail address. The title of the e-mail will be marked "Confidential" and will include a confidentiality notice at the end of the text in the e-mail. We ask that you reply to this e-mail upon reviewing the transcript to inform us whether you approve the text of the transcript, or by requesting edits. If edits are requested, the transcript will be revised and sent as above for your final approval. As noted below under "Voluntary Participation", you may withdraw from this study at any time, including upon your review of the interview transcript.

Risks: There is minimal risk involved in participating in this study. You may feel uneasy about volunteering some information requested. The investigators will minimize these risks by ensuring that your participation in this study remains voluntary, anonymous and confidential. Again, you need not answer any questions you feel uncomfortable answering. Quotes will not be used and no identifying information will be included in the research findings.

Benefits: This study will give you the opportunity to contribute to a network of knowledge-sharing to improve effectiveness of human health resources. By drawing upon comparative policies and strategies from other countries, you may be able to provide innovative ideas for transforming Canadian health care systems, which may in turn have implications on the globalized health work force.

Confidentiality and anonymity: Any information you share will remain strictly confidential, and will only be discussed among members of the research team. To protect your anonymity, your name will not be recorded with your responses or identified in any way. A unique code number or pseudonym will be assigned to you to identify your taped interview. Aggregate results will be published so your identity will not be revealed in any reports or publications. Your name will not be identified in any of the research publications and presentations.

Conservation of data: All information collected from your interview will be kept in a locked filing system in locked offices at the University of Ottawa, Canada. All computers on which study data will be stored will be password-protected. The data will be accessible only to the study's investigator and research staff. All team members accessing the raw data will sign a confidentiality agreement. The study data will be stored for five (5) years following completion of the study, after which time it will be destroyed.

Compensation: There will be no monetary or other compensation for your participation in the study.

Voluntary Participation: Your participation is strictly voluntary. You are under no obligation to participate and if you choose to participate, you can withdraw from the study at any time, for any reason, without consequence. If you choose to withdraw from the study, all data gathered until the time of your withdrawal be destroyed.

***

For More Information:
If you have any other questions or require more information about the study itself, please contact the Research Coordinator or the Principal Investigator via the contact details listed below.

Research Coordinator:
Katelyn Merritt, MSc, Interdisciplinary School of Health Sciences, University of Ottawa, (001)613-562-5800 ext.2316, kmerritt@uottawa.ca

Principal Investigator:
Ivy Bourgeault, PhD, Professor, Interdisciplinary School of Health Sciences, University of Ottawa, (001) 613-562-5800ext. 8614, ivy.bourgeault@uottawa.ca

Co-Investigator:
Gillian Mulvale, PhD, Assistant Professor, DeGroote School of Business, McMaster University, (905) 525-9140 ext. 24707 (Office) mulvale@mcmaster.ca

If you have any questions regarding the ethical conduct of this study, you may contact:

Protocol Officer for Ethics in Research, University of Ottawa, Tabaret Hall, 550 Cumberland Street, Room 154, Ottawa, Ontario K1N 6N5, Canada, telephone: (001) 613-562-5800or ethics@uottawa.ca

Thank you for your time and consideration!

WRITTEN CONSENT FORM FOR INTERVIEWS (signed by individual interviewed)

I (please print name): _____ agree to participate in the study: *Scopes of Practice that Support Innovative Models of Care for a Transformed Health Care System.*

I understand that the interview will be conducted over the phone and will be audio-recorded for transcription purposes.

Yes ☐ No ☐

I understand that participation in the interview is entirely voluntary and that I am free to stop at any time. I do not have to give a reason for doing this and any information I provided will be destroyed.

Yes ☐ No ☐

I understand that by completing and submitting this form I may be contacted by the research coordinator, to arrange a time (convenient and appropriate for me) to be interviewed.

Yes ☐ No ☐

I understand that I do not have to answer any question I do not wish to answer for any reason.

Yes ☐ No ☐

I agree that data may be used for pedagogical purposes such as in classes by professors, workshops, presentations and case studies. All personally identifying information will be removed or altered and data shall not reveal my identity or the identity of my employing organization.

Yes ☐ No ☐

I agree that the information I provide may be passed on to the Principal Investigator or the Project Coordinator for analysis and storage.

Yes ☐ No ☐

I understand that there will be no compensation provided for my involvement in this research.

Yes ☐ No ☐

I have retained a copy of this Consent Form for my records.

Yes ☐ No ☐

Your signature on this form indicates that you have understood to your satisfaction the information regarding your participation in the research project and agree to participate as a subject. In no way does this waive your legal rights nor release the investigators, or involved institutions from their legal and professional responsibilities:

Participant's signature: _____ Date: _____

Participant's contact information: _____
_____
_____

Researcher's signature: _____ Date: _____

Please return this completed consent form to Research Coordinator, Katelyn Merritt, either by post, scanned attachment or fax as follows:

The Institute of Population Health

1 Stewart Street, Room 227

Ottawa, Ontario, Canada; K1N 6N5

Email: kmerritt@uottawa.ca; Fax: (001) 613-562-5659

***

If you have any other questions or require more information about the study itself, please contact the Research Coordinator or the Principle Investigator through information listed below.

Project Coordinator
Katelyn Merritt, MSc, Interdisciplinary School of Health Sciences, University of Ottawa, (001) 613- 562-5800 ext. 2361, kmerritt@uottawa.ca

Principal Investigator:
Ivy Bourgeault, *PhD*, Professor, Interdisciplinary School of Health Sciences, University of Ottawa,
(001) 613-562-5800 ext. 8614, ivy.bourgeault@uottawa.ca

Co-Investigator:
Gillian Mulvale, PhD, Assistant Professor, DeGroote School of Business, McMaster University, (905) 525-9140 ext. 24707 (Office) mulvale@mcmaster.ca

If you have any questions regarding the ethical conduct of this study, you may contact: Protocol Officer for Ethics in Research, University of Ottawa, Tabaret Hall, 550 Cumberland Street, Room 154, Ottawa, Ontario K1N 6N5, Canada, telephone: (001) 613-562-5387 or ethics@uottawa.ca

Thank you for your time and consideration!

Appendix 14: Semi-Structured Key Informant Interview Guide

Informing the study: Scopes of Practice that Support Innovative Models of Care for a Transformed Health Care System

(*This draft was intended for health workforce experts however there were six other versions designed specifically for health care professionals; unions, colleges, or associations' representatives; policymakers and government representatives; educators, and change innovators).*

Through this research, we are seeking to address inefficiencies within Canadian health care systems—including barriers to access, navigation, quality, and continuity of care—by examining the supply and configuration of human health resources. We are interested in gaining a better understanding of on-the-ground experiences with the development of innovative models of care that support optimal scopes of practice for health care professionals. (Such innovative models might include team-based care, interprofessionalism, patient engagement, or the generation of new roles or expanded scopes of practice).

****Note. That not all questions will be asked to each key informant; questions will be selected with respect to area of expertise.***

Overview of the issue:

1. What changes are needed in the health care system to support innovative models of care that optimize scopes of practice and prioritize patients' needs?

    - *What innovative models of care come to mind and merit further attention?*
    - *What would you consider to be the most pertinent issues to be addressed through innovative models of care?*
    - *What do you think are the main challenges to and opportunities for the development and broader implementation of such innovative models of care in the Canadian context?*
    - *If you could design a more optimal set of circumstances for effective delivery of care, or develop innovative models of care, what would they look like? What barriers would have to be overcome? What are the opportunities for such models in Canada at the present time?*

The role of contextual factors in shaping scopes of practice and innovative models of care:

2. **Education:** How well do you feel education and training for health care professionals incorporates a culture of flexibility around different models of practice? Or, to what degree are particular models of care implied at the education and training levels?

- *Does training provide an adequate understanding of the practice scopes of different health professions?*
- *Do training programs address how to handle situations where there are overlapping scopes of practice across professions?*
- *If not, how do you think these issues play out in practice? Is there a way we could address this to facilitate innovative models of healthcare delivery?*
- *Does the education/training system provide sense of location within the greater human health resource supply? (e.g., Hierarchies, work burden, retention, deployment, relativity to patients' needs)*
- *Are there sufficient opportunities through continuing education programs to learn about alternative practice models or modified scopes of practice that could be applied to the existing health work force?*

3. **Regulation/Legal*:*** How do regulatory or legal frameworks affect the way in which health care professionals practice in your area/sector?

    - *Are there concerns around models of care that involve overlap of roles or the delegation of tasks where the primary responsibility typically lies under the physician? What issues or opportunities are associated with these types of models? Can you provide examples?*
    - *How does liability insurance affect health care professionals operating to their full scope of practice in a team-based care setting? What is needed to facilitate the kind of trust among health care professional capabilities that supports each professions full contribution to the delivery of health care within their setting?*
    - *Is there a good understanding of all team members' scopes of practice as defined by regulatory frameworks? Are there areas of overlap in practice? How do changes in the regulatory frameworks that involve expanding scopes of practice affect the ways in which health care is delivered on the ground?*

4. **Geography*:*** From your experience, how does the geographic location of health system delivery (e.g. rural, remote, urban) influence the way formally defined scopes of practice are interpreted and implemented for different health care professionals?

    - *Is the physical space in which services provided an important consideration for changes to scopes of practice and models of care? (i.e., The poly-clinic model)*

5. **Supply of Health care professionals*:*** How do supplier shortages in a region or availability of services offered in a community (i.e,. hospital closures) influence the effective scopes of practice for different health care professions?
    - *Can you speak about perceptions of work burden and how this affects the organization of health care professionals? Do perceptions of strained resources, (human- or finance-based), facilitate or hinder opportunities to develop innovative models of care?*

6. **Economic Factors:** In your experience, to what extent do economic factors (e.g., how different health care professionals are paid, what is covered under public insurance in Canada, how we fund healthcare teams) determine who does what in a health care delivery setting?

   - *What is needed in terms of health care professional payment, funding and public coverage to support innovative models of care to better meet the needs of all population groups in Canada?*
   - *Do any of these economic factors result in tension across different health professions?*

7. **Technology*:*** What information systems can be used to help support communications and patient record- keeping in order to optimize treatment of a patients being cared for by multiple health care professionals?

8. **Social Factors:** What specific attributes within professional cultures help support or hinder interprofessional practice*?*

   - *How might greater understanding/respect be systematically incorporated into health care teams that involve a variety of types of health care professionals?*
   - *How do 'turf wars' or concerns around role erosion play into developments in models of care that involve expanded scopes of practice or interprofessional care?*

9. **Political Factors:** What is the role of policymakers at the federal/provincial/regional level in supporting innovative models of care? How can we better address the policy barriers and turn them into enablers to make changes to the current health care system?

   - *To what extent is political will necessary in order to scale-up or mainstream promising innovative models of care?*
   - *What might be some short-term and long-term steps to involve policymakers in the process of transforming the health care system to better meet patients' needs?*

10. "**Narratives":** Without disclosing any third party identities, can you think of any particular experiences or examples that may illustrate key issues with the current health care system or possible areas for transformation- either from a consumer, health care professional, or stakeholder perspective?

11. Do you have any other final thoughts?

Appendix 15: NVIVO Coding Scheme

- **Change Mechanism**
  - Case Examples
  - Context/General Comments
    - Problematic Areas
    - Terminology
  - Innovative Models (Sector or Target)
    - Aboriginal Healthcare
    - Chronic Care
    - Community Care or Home Care
    - Complementary and Alternative Medicine
    - Emergency Care
    - Health Promotion
    - Healthcare System
    - Hospitals or Tertiary Care
    - Long term Care
    - Maternal and Child Care
    - Mental Health Care
    - Minority or Sub-population Targeted-care
    - Palliative or Terminal Care
    - Primary Care
    - Public Health
    - Rehabilitation
    - Rural or Remote Care

- **Macro-Level Input**
  - Economic
    - Context
    - Innovation or Change
      - Financing
      - Funding
      - Remuneration
  - Education
    - Context
    - Innovation or Change
      - Continuing Education/Training/Practicum
      - Primary Education/Training/Practicum
      - Recruitment/Deployment/Retention
  - Legal and Regulatory
    - Context
    - Innovation or Change
      - Accountability
      - Ethics
      - Legal

        - Federal Regulation
        - Institutional Regulation
        - Provincial Regulation
        - Regional Regulation
        - Territorial Regulation
      - Legislation (Licensure, Certification, Controlled Acts)
      - Liability or Insurance
      - Registration Requirements
      - Regulatory Bodies
  - Mixed-Macro Level Inputs
    - Context
    - Innovation or Change
  - Other
    - Monitoring and Evaluation
      - Performance Management
    - Technological innovation (EMR)

- **Process or Content**
  - Circumvention
    - Context
    - Innovation or Change
  - Organizational
    - Context
    - Innovation or Change
  - Political Will
    - Context
    - Innovation or Change
  - Social/Cultural
    - Community Engagement
    - Context
    - Innovation/Change

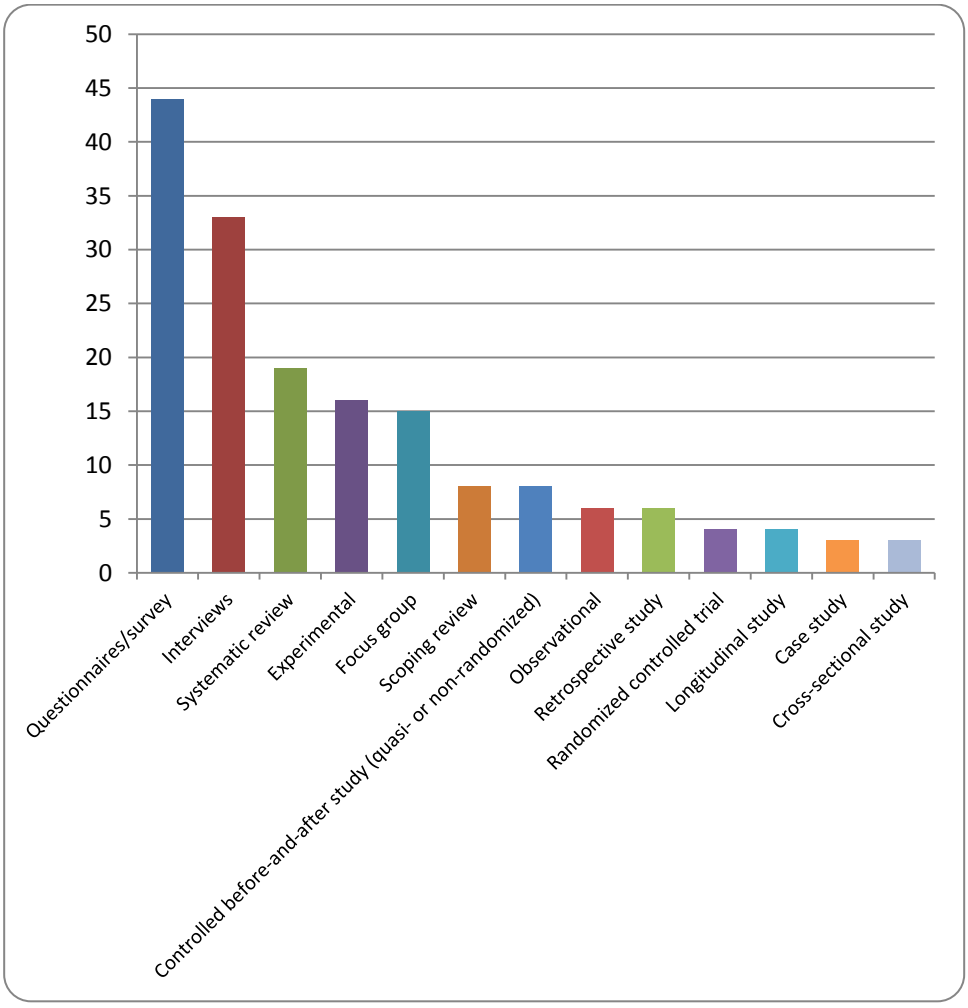
  - Knowledge Translation
  - Scale-up/transferability/sustainability

- **Within Team Factors**
  - Collaborative Care
  - Common Goal
  - Communication Strategies
  - Competence
  - Expanding Roles
  - New roles
  - Patient/Family/Community Engagement (including patient-self management)
  - Role Overlap or Clarity
  - Scopes of Practice
  - Skills Mix

Appendix 16: Overview of the Scopes of Practice Interventions Literature

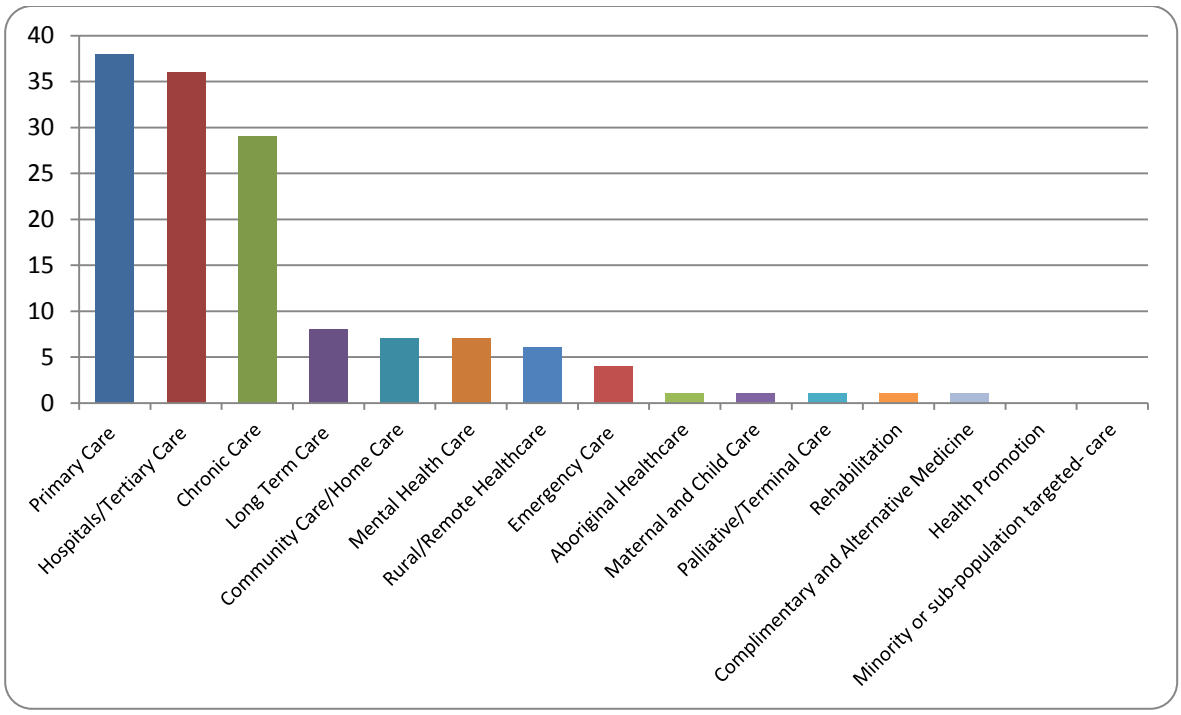
Below we present a series of charts that provide an overview first of the range of methods used in this literature followed by papers focused on sector, professional roles, focus and range of methods used in the published and grey scope of practice intervention literature. For all of the charts, the y axis refers to the number of articles with identified labels; in nearly all cases, there are overlapping codes across categories (*hence percentages were not used*).

Figure 7: Study Designs of the Intervention Literature



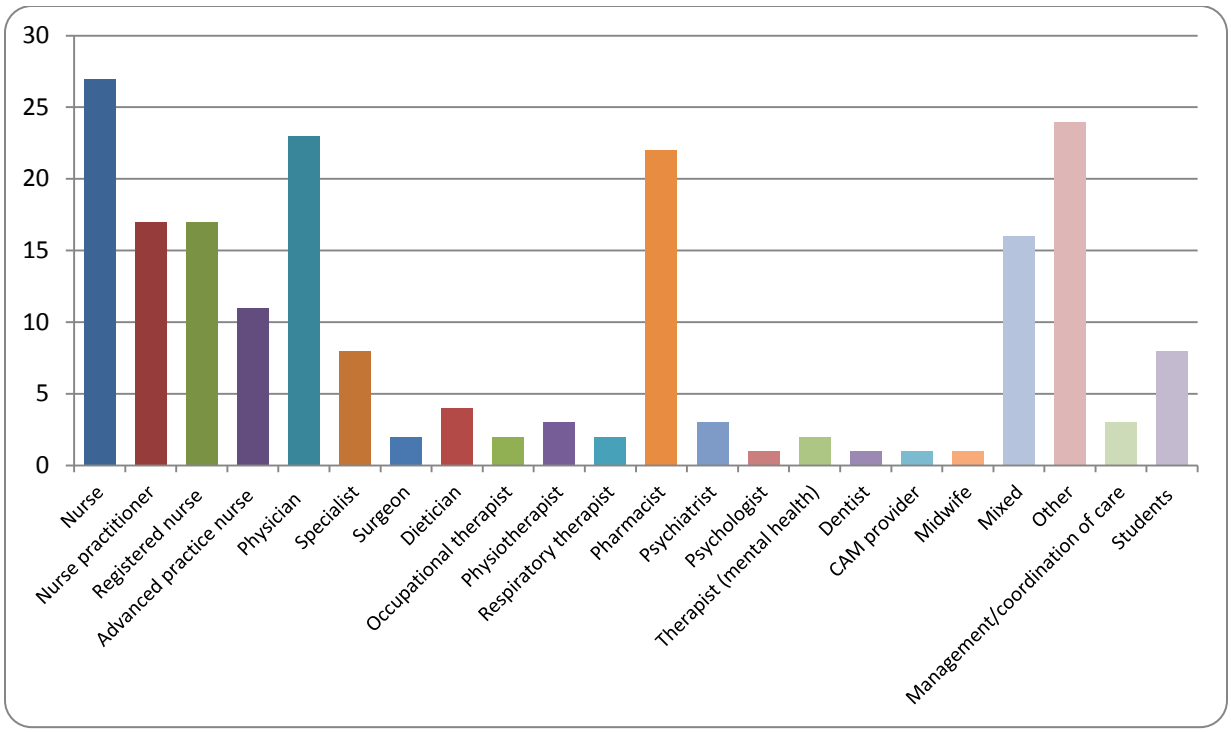
The bulk of the study designs were of a descriptive nature (either qualitative or quantitative) with survey/questionnaire research being by far the most common. Of note were 17 systematic reviews of which nine focused on expanded roles (most emphasizing pharmacy), six addressed team-based care, two on new roles and two on skill-mix/task-shifting.

Figure 8: The Intervention Literature by Sector of Care



If we look at institution type or sector within the health care system (*not mutually exclusive categorizations*), we see that primary and tertiary care dominates the literature on SoP. This is followed by a focus on chronic care (which could include both primary and secondary/tertiary care sectors). Much less of the literature focuses on home, community and long term care. It is also notable that within the SoP literature, very little focused explicitly on target or vulnerable populations. Where this was a focus, the orientation was towards issues of chronic care and rural orremote populations. This is an important gap which needs to be addressed in further research and practice.

Figure 9: The Intervention Literature by Profession



'Nurse' – general or otherwise unspecified
'CAM'- complementary and alternative medicine health care professional –.
'Mixed' – unspecified, involving a range of health care professionals
'Other'- included any of the following roles: health educator, clinical associate, mental health liaison, health care aide, medical or physician assistant, dental auxiliary, pharmacy technician, navigator, coordinator
'Management/coordination of care'- included leadership roles or administration where the personnel was dealing with other health care professionals, not patients directly
'Students'- from mixed disciplines

When we look at the professions considered in the SoP intervention literature, nursing-based literature was clearly dominant (*even after having removed the nursing-specific database, CINAHL, from the systematic search*), which was followed by medicine and pharmacy. Far fewer studies looked at the rehabilitation professions. When we dig deeper to look at specific professional title within the given professional area, we see that research around the roles of nurse practitioners is of predominant interest, followed by innovative models that involve varying categories of physicians.

Outcomes Reported and Extracted

Out of the 125 articles identified as having both a change mechanism introduced (intervention) and at least one of the outcomes listed at either the patient, health care professional, or system level, ninety-six of those articles were from published sources and twenty-five were from unpublished sources,(see methods section for details on sources). We were interested to determine if there was any publishing bias with the outcomes included in the analyses—that is,

if positive results were to be more likely reported in academic journals and negative or neutral results to be more likely reported in unpublished reports. This table breaks down frequencies of outcomes reported. Note that an individual article might report anywhere from one to eight of the included outcomes. Results that were labeled as neutral were those that either produced internally contradictory results (i.e., often in systematic reviews), unclear results where no conclusion could be drawn, or no change at all. For interventions where there was no change reported for patient-level outcomes (i.e., satisfaction of care received or resolution of ailment) and the study was investigating a substitution or a comparison of competencies between different types of health care professionals, this would have been labelled as positive as it suggests that an alternative health care professional could be introduced without compromising quality of care.

Interestingly, what this table shows is that there is no publishing bias to report. In fact there is a moderate suggestion of the reversed effect. As shown in the highlighted cells under system-level outcomes reported, the grey literature produced more positive results, less neutral or ambiguous results, and no negative results at all. This is important to consider when interpreting the overall results, as negative or neutral results are far less likely to be documented. It also reiterates the importance of conducting key informant interview to dig deeper into the failures—what hasn't worked, and the challenges—how they have been overcome.

This table also indicates that health care professional-level outcomes are the most commonly reported (46%) when compared to patient(35%), and system-level (24%) outcomes. While patient-level outcomes are not far behind, it does bring attention to the fact that in a political mode of advocating for 'patient-oriented care,' patient experiences and outcomes ought to receive proportionate attention. It is also interesting to note that the 'conservative' nature of the literature does not differ across type of outcome between the published and grey literature. For example, equity indicators—those that take into consideration socio-demographic characteristics of affected populations— have not been investigated among any of the studies identified in this review. Recommendations for further research would thus point to the importance of using an equity-lens to consider *who* is affected by modifications in delivery of care, particularly when seeking to improve accessibility, affordability, and societal inequalities.

As one of key informants pointed out, the literature has a tendency to report findings of a positive nature:

"We tend to see a lot more of the evaluations where we have positive results than the negative ones. We tend to hide the negative ones in our bottom drawer."

Figure 10: Patient Level Outcomes

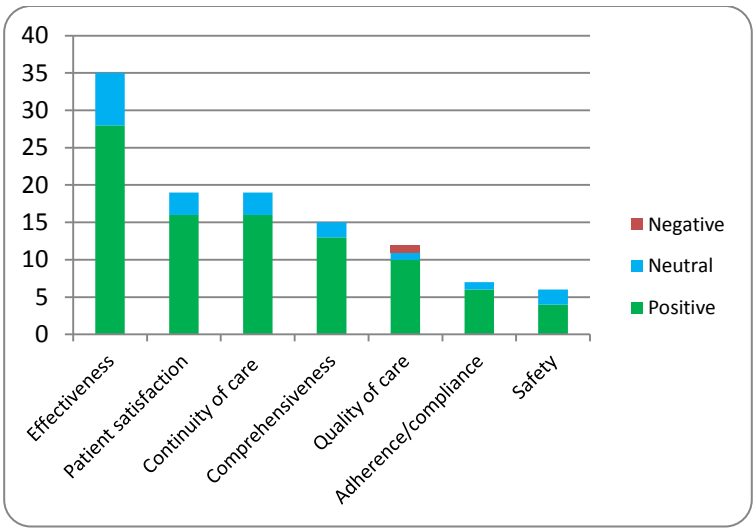


Figure 11: Health Care Professional Level Outcomes

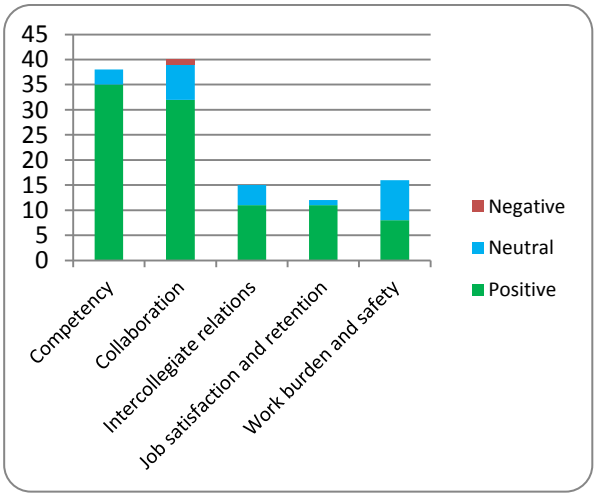
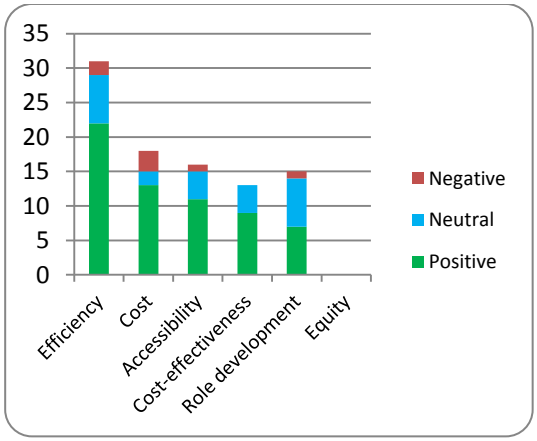


Figure 12: System Level Outcomes



Appendix 17: Types of Funding Mechanisms

Listed below are the typical approaches to funding health care that may be used separately or in combination in different parts of health care systems in Canada. Each creates a particular set of incentives and has associated policy challenges as described below.

Fee-for-Service: A fixed unit of payment per care service as defined in a fee schedule for different types of services.

- Creates an incentive to increase the number of services and decrease the resources used per service
- Policy challenges include overprovision of care, short visits, setting and revising appropriate fees
- (This has been the traditional approach to physician payment in Canada).

Capitation: Payment of a fixed amount of payment per enrolled person per month.

- Creates an incentive to increase the number of enrolled patients and decrease the resources used per enrolled patient.
- The associated policy challenges are: cream skimming healthy individuals as enrollees; under-providing care and calculating appropriate risk-adjusted capitation rates

Salary: A fixed amount of money or compensation paid to an employee by an employer in return for work performed; payment is typically made in installments (e.g., weekly, bi-weekly or monthly).

- Creates incentive to shirk by seeing fewer patients
- Currently used for many non-physician health care professionals

Pay for Performance: Payment is calculated on the extent to which a defined target is met.

- Creates incentive to provide the minimum level of services in order to achieve the target
- Policy challenges include: setting performance targets, measuring performance, gaming to meet targets, and diverting resources from other activities

Global Budget: A fixed budgeted amount to pay for all activities associated with a health care program or institution, typically for one year.

- Creates an incentive to increase those activities used as a basis for justifying the budget.
- Policy challenges include shirking on activities that are not used in justifying the budget; and frequent cost overruns and appeals for additional funding.
- (Has been the traditional approach to hospital funding in Canada).

Case-based Funding (Activity-Based Funding): A fixed payment per episode of illness that varies by severity, typically defined by in-patient admission.

- Creates an incentive to increase the number of cases and decrease the resources per case
- Policy challenges include cream skimming of less-severe cases within each illness category and/or the most 'profitable' diagnoses; up-coding severity of cases; under-providing care: too few services per case; setting expected cost per case of diagnoses
- (Currently being phased-in for some procedures in hospitals in several Canadian provinces).

Blended (Mixed): When one or more approaches are combined that individually create different incentives in order to attempt to encourage the desirable incentives and offset the undesirable incentives.

- Typically this involves a combination of an up-front payment (e.g. capitation) with a retrospective payment (like fee-for-service) to encourage provision of a full range of preventive as well as treatment services, while discouraging cream skimming or under provision of care.
- (An example of a blended or mixed payment approach is the funding of physicians within Family Health Teams in Ontario which includes a combination of capitation, fee-for-service and pay-for-performance payment schemes).

Population-based funding: Uses demographic or other characteristics of the population (such as age, gender, socio-economic status, etc.) to determine the relative propensity of different population groups to seek health services.

- Can be used to allocate funding to hospitals or health regions based on the population served

Health-based Allocation Model: An approach recently introduced in Ontario to share total hospital funding across institutions based on their relative performance compared with other hospitals with respect to utilization and efficiency measures as well as demographic considerations.

- An expected amount is calculated based on the provincial average for cost and utilization in five areas: acute care, emergency care, inpatient rehabilitation, complex continuing care and inpatient mental health. Each hospital's share is determined based on how its performance compares to these expected values and is adjusted for expected demographic changes (age/sex, SES and rurality).

Patient-based funding: Combines HBAM— which is a variation on a population-based funding approach and Quality-based Pricing (QBP)—which is a variation on case or activity-based pricing for selected services in addition to a smaller portion of global budget funding.

- This is the terminology being used for Ontario's current hospital funding reforms; these changes are being phased-in over a three year period beginning in April 2012.

Bundled Payment: An emerging approach in which funding includes a broad package of care across multiple providers and time periods, rather than a sector-based funding model; it is intended to encourage coordination of inpatient and post-acute care.

- The intention is to create incentives to reduce preventable admissions, unnecessary test and procedures.
- Is being used in Accountable Care Organizations in U.S. Medicare program wherein one or more hospitals with primary-care physicians, specialists and community providers together assume financial and clinical responsibility for the care (and cost) of a defined population and some efforts to use in Canada are at early stages.

Types of Funding Mechanisms—Sources:

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3. Leger, P-T. (2011) Physician Payment mechanisms: An overview of Policy options for Canada. Ottawa: Canadian Foundation for Healthcare Improvement
4. McKillop, I., Pink, G.H., and Johnson, L.M. (2001). The financial management of acute care in Canada: A review of funding, performance monitoring and reporting practices. Ottawa: Canadian Institute for Health Information.