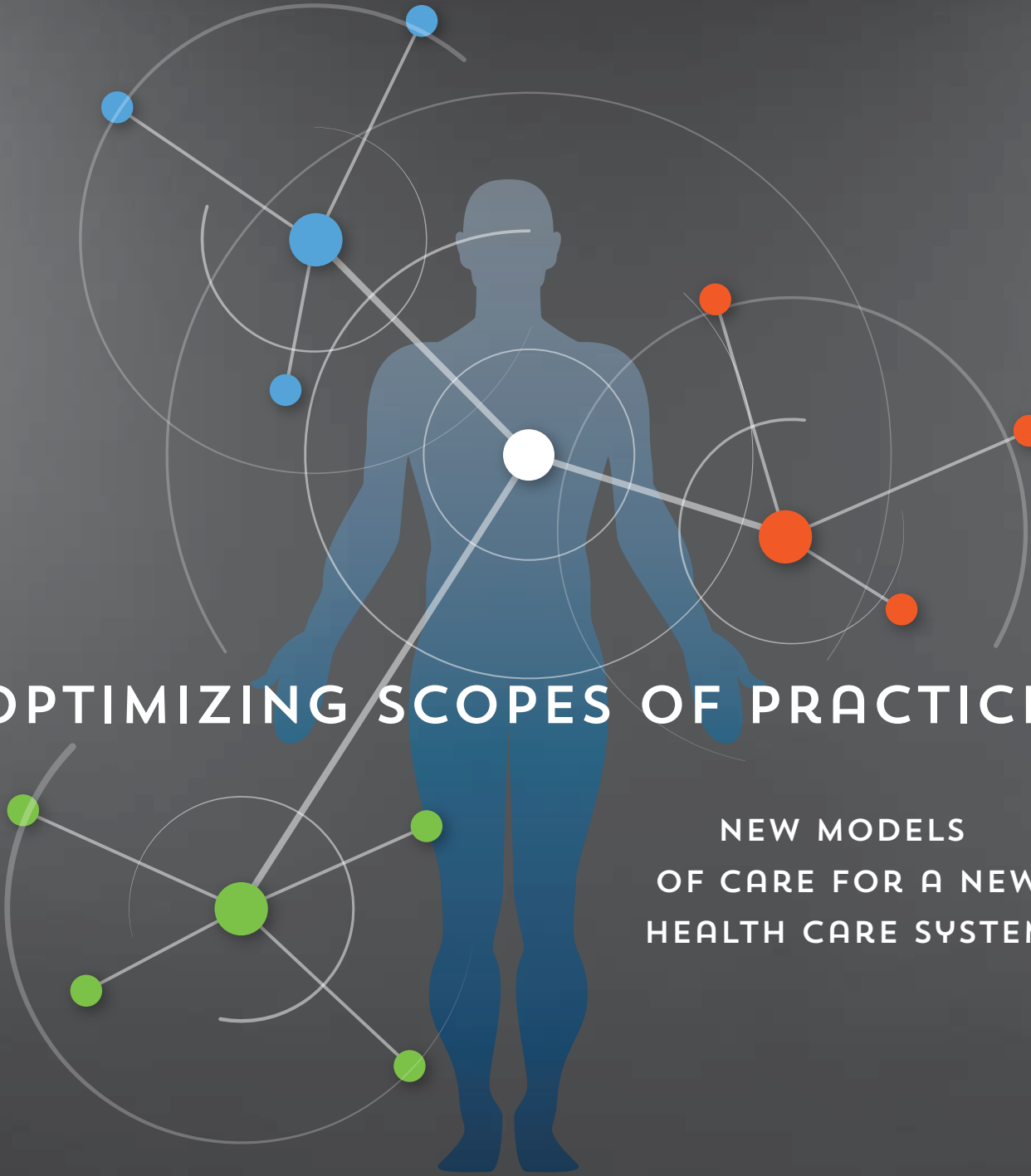




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OPTIMIZING SCOPES OF PRACTICE

NEW MODELS
OF CARE FOR A NEW
HEALTH CARE SYSTEM

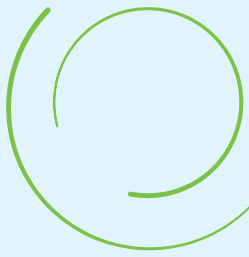
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LETTER FROM THE PRESIDENT OF THE CANADIAN ACADEMY OF HEALTH SCIENCES

*On behalf of the Canadian Academy of Health Sciences (CAHS), I am pleased to present this Assessment: **Optimizing Scopes of Practice: New Models of Care for a New Health Care System.** The Assessment had its origins in the CAHS Forum of September 2011, which focused on the future of Canada's health care system. Deliberations after the Forum led to a realization of the importance of scopes of practice to innovation in Canada's health care system.*

I wish to extend the sincere gratitude of the CAHS to the co-chairs, Jeff Turnbull, University of Ottawa, and Sioban Nelson, University of Toronto, and to the distinguished members of the Expert Panel. This publication is the culmination of their 24 months of careful review of the evidence and development of innovative recommendations. I wish also to thank Ivy Bourgeault, University of Ottawa, Scientific Director of the Canadian Health Human Resources Network, for vital contributions to this Assessment.

Appreciation is due also to Dale Dauphinee, McGill University, Past-Chair of the CAHS's Standing Committee on Assessments, for the guidance that he and his dedicated committee provided for this Assessment from its earliest phases to its successful conclusion. I wish to extend a sincere "thank you" to Carol Herbert, Western University, who provided critical oversight of the process as it neared conclusion. I wish also to acknowledge Tom Marrie, Past President of CAHS, for his leadership in building the early momentum and securing sponsors for this Assessment.

Every CAHS Assessment requires the financial sponsorship of visionary organizations. This Assessment was supported by a large number of organizations, which generously contributed anywhere from \$5,000 to \$50,000. The CAHS is profoundly grateful to each of these sponsoring organizations. They are acknowledged in the introductory pages of this report.

The leadership of the CAHS brings this Assessment to the attention of the Canadian public, confident that it will be of substantial value in national efforts to strengthen and sustain the health care system so highly valued by all Canadians.

John A. Cairns, MD, FRCPC, FCAHS
President (2013–2015),
Canadian Academy of Health Sciences



The Canadian Academy of Health Sciences (CAHS) provides “scientific advice for a healthy Canada” (Canadian Academy of Health Sciences, 2009, p. 1). It is a non-profit charitable organization, initiated in 2004 to work in partnership with the Royal Society of Canada and the Canadian Academy of Engineering. Collectively these three bodies comprise the founding three-member Council of Canadian Academies. The Canadian Institute of Academic Medicine played a leadership role in developing the Canadian Academy of Health Sciences, ensuring the inclusion of the broad range of other health science disciplines.

The Canadian Academy of Health Sciences is modeled on the Institute of Medicine in the United States and provides timely, informed, and unbiased Assessments of urgent issues affecting the health of Canadians. The process of the Canadian Academy of Health Sciences’ work is designed to ensure appropriate expertise, integration of the best science, and avoidance of the bias and conflict of interest that frequently confound solutions to difficult problems in the health sector. The Academy’s Assessments provide an objective weighing of the available scientific evidence at arm’s length from political considerations and with a focus on the public interest.

Assessment sponsors have input into framing the study question; however, they cannot influence the outcomes of an Assessment or the contents of a report. Each Academy Assessment is prepared by an Expert Panel

appointed by the Canadian Academy of Health Sciences and undergoes extensive evaluation by external reviewers who remain anonymous to the Panel until the study is released. Final approval for release and publication of an Academy report rests only with the Board of the Canadian Academy of Health Sciences.

The Canadian Academy of Health Sciences is composed of elected Fellows from diverse disciplines both within and external to the health sector. It is both an honorific membership organization and a policy research organization. The Fellows are elected to the Academy by a rigorous peer review process that recognizes demonstrated leadership, creativity, distinctive competencies, and a commitment to advance academic health sciences.

Expert Panel Members

This Expert Panel represents a diverse range of expertise and perspectives, exemplifying the reputation of the Canadian Academy of Health Sciences for objectivity, integrity, and competence:

Sioban Nelson (co-chair), University of Toronto

Jeff Turnbull (co-chair), Ottawa Hospital

Lesley Bainbridge, University of British Columbia

Timothy Caulfield, University of Alberta

Gilles Hudon, former Director of Health Policy and Professional Development, Federation of Medical Specialists of Quebec

Dennis Kendel, former Registrar of the College of Physicians and Surgeons of Saskatchewan

David Mowat, Medical Officer of Health for Peel Region, Ontario

Louise Nasmith, University of British Columbia

Brian Postl, University of Manitoba

Judith Shamian, International Council of Nurses, Ontario

Ingrid Sketris, Dalhousie University

Project Team: Canadian Health Human Resources Network (CHHRN)

Ivy Lynn Bourgeault, Scientific Director of CHHRN, University of Ottawa

Gillian Mulvale, McMaster University

Katelyn Merritt, Project Manager, CHHRN, University of Ottawa

Biographies of the Expert Panel members, Project Team, Legal Consultant and CAHS liaison are in Appendix 4*. All members volunteered their time and expertise to address this critical issue and were required to declare in writing any potential conflicts of interest. These are available for review on request.

Legal Consultant

Nola M. Ries, University of Alberta and University of Newcastle (Australia)

Biographies of the Expert Panel members, Project Team, Legal Consultant and CAHS liaison are in Appendix 4*. All members volunteered their time and expertise to address this critical issue and were required to declare in writing any potential conflicts of interest. These are available for review on request.

External Reviewers

External reviewers provided candid and constructive comments to assist the Canadian Academy of Health Sciences in ensuring that this report meets its standards for objectivity, evidence, and responsiveness to the study charge. The external reviewers were:

Dr. J. Lloyd Michener, Professor and Chairman, Department of Community and Family Medicine, and Clinical Professor, School of Nursing, Duke University

Dr. Nancy Edwards, Professor, School of Nursing and Institute of Population Health, University of Ottawa, Scientific Director of the Institute of Population and Public Health, CIHR

Dr. Julie Fairman, Nightingale Professor of Nursing and Director of the Barbara Bates Center for the Study of the History of Nursing, School of Nursing, University of Pennsylvania

Dr. Richard Reznick, Dean, Faculty of Health Sciences, Queen's University

* All appendices are available solely on the CAHS website: <http://www.cahs-acss.ca/completed-projects/>

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McMaster University



PREFACE: A MESSAGE FROM THE CO-CHAIRS

Over the last decade, it has become increasingly clear that our health care system in Canada is underperforming relative to investment. This has led to widespread calls for change and the recognition that a new health care system must be built upon collaborative care models, where the right professional provides the highest quality of care in the right setting and at the right time based upon the needs of the individual patient. Determining the optimal scopes of practice of these health care providers will be an essential element in leading health care transformation for the future. Unfortunately, the systems in place for determining and regulating scopes of practice have done more to preserve the status quo than promote change. As a result the Canadian Academy of Health Sciences commissioned a report towards the end of 2012 to address the following question: 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?

We were honoured to be named as co-chairs of a distinguished Expert Panel, which spent the next 18 months addressing this question. We were fortunate to partner with the Canadian Health Human Resources Network (CHHRN) which, through its extensive knowledge base and network, completed an exhaustive scoping review and conducted focused interviews with opinion leaders in the field.

During this process we recognized the importance of non-regulated and informal health providers as well as the need to consider health promotion strategies in any comprehensive plan for health care reform. However, this review focuses primarily upon regulated health professions and their contribution in supporting collaborative models of care and transforming our health care system.

The report calls for a new approach towards determining scopes of practice based upon community need. This approach would empower the collaborative practice team to determine the relative responsibilities of the different practitioners and the team would be held accountable through an accreditation process within a professional regulatory environment.

The report concludes with specific recommendations to those key stakeholders who are required to make this transformation a reality.

As co-chairs, we would like to take this opportunity to thank the members of the Expert Panel for their unlimited energy and expertise. We would also like to highlight the importance of those individuals who gave freely of their time as key informants and reviewers. This report would not have been possible without Ivy Bourgeault and the team at CHHRN, especially the tireless Katelyn Merritt. We thank them for their remarkable efforts. Finally, we would also like to thank the Academy for trusting us with such an important task.

We hope that this report will be the beginning of a process of thoughtful discussion and debate that must at all times put the future of the health care system and the welfare of our patients and communities first and foremost.

Sioban Nelson

Jeff Turnbull



TABLE OF CONTENTS

THE CANADIAN ACADEMY OF HEALTH SCIENCES	2	3. KEY FINDINGS	31
EXECUTIVE SUMMARY	8	A. Micro (Practice) Level Interventions.....	32
INTRODUCTION.....	15	B. Meso (Institution) Level Interventions.....	39
Overview of the Scope.....	17	C. Macro (Structure) Level: Educational Interventions	46
Outline of the Assessment Report	18	D. Macro (Structure) Level: Economic Interventions	49
1. WHY FOCUS ON SCOPES OF PRACTICE?.....	19	E. Macro (Structure) Level: Legal and Regulatory Interventions.....	54
What is the problem we are trying to address?	19	Summary of the Key Findings.....	59
Rationale for Investigating Scopes of Practice	19	Research Gaps	62
The Various Meanings of <i>Scope of Practice</i>	20	4. RECOMMENDATIONS	63
The Politics of Scopes of Practice	23	REFERENCE	66
Conceptual Framework.....	25	References Cited	66
2. METHODOLOGICAL APPROACH	27	References – Published Literature.....	69
Overview of the Scoping Review Process.....	28	References – Grey Literature	74
Overview of the Key Informant Interviews.....	30	APPENDICES.....	76

List of Case Studies, Figures, Tables, and Appendices

Case Studies

Case Study 1: Expanded Scope of Practice, Physiotherapist Triage Model	34	Case Study 4: Integration of Electronic Medical Records, Sault Ste. Marie Group Health Centre, Ontario	40
Case Study 2: Shared Care Model, Hamilton Family Health Team–Mental Health Program (HFHT-MHP), Ontario	36	Case Study 5: Integrated Evaluation and Monitoring, Taber Family Care Clinic, Alberta.....	42
Case Study 3: Nurse-led Model, 1 Quick Care Clinics, Manitoba	37	Case Study 6: Scalability of Innovations, Collaborative Emergency Centres (CECs), Nova Scotia.....	61

Figures

Figure 1: The *Triple Aim* Model 16

Figure 2: The Relationship between Scopes of Practice and Models of Care 23

Figure 3: Conceptual Framework 25

Figure 4: Overview of Key Informant Interview Participants 30

Figure 5: Overview of the Number of Citations of Practice-Level Interventions from the Literature 32

Figure 6: Number of Citations of Type of Intervention Studied in Intervention Literature 39

Tables

Table 1: Barriers and Enablers at the Micro, Meso and Macro Levels 60

Table 2: High-level Strategies for Optimal Scopes of Practice 64

Table 3: Detailed Strategies, Recommendations by Stakeholders 64

Appendices

Appendix 1: List of Acronyms 76

.....

Appendices – Appendix 1 is included with the bound version of this report. All additional appendices are available on the CAHS website:
<http://www.cahs-acss.ca/completed-projects/>
.....

Appendix 2: Original Prospectus

Appendix 3: Glossary of Terms

Appendix 4: Biographies of Assessment Team

Appendix 5: Screening Guidelines

Appendix 6: Health Care Professions Included

Appendix 7: Search Strategy

Appendix 8: List of Organizations Targeted for Grey Literature Search

Appendix 9: Literature Flowchart0

Appendix 10: Literature Extraction Tool

Appendix 11: List of Key Informants

Appendix 12: Ethics Approval from the University of Ottawa

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

Appendix 14: Semi-Structured Key Informant Interview Guide

Appendix 15: NVIVO Coding Scheme

Appendix 16: Overview of the Scopes of Practice Interventions Literature

Appendix 17: Types of Funding Mechanisms



EXECUTIVE SUMMARY

Recent shifts in the socio-demographic and epidemiologic profile of Canadians, transformations in technology, and the ongoing concern over the return on investment of health care dollars have led to a wide recognition of the need for health care system transformation. Efforts to both preserve and improve upon the successful elements of the Canadian health care system continue to be insufficient to meet the evolving health care needs of *all* Canadians. The various elements of the current system were largely created to respond to acute, episodic care provided in hospitals and most often by individual physicians. Over the decades, these elements have become enshrined in legislative, regulatory, and financial schemes that challenge adaptation to shifts in population health care needs. Health care organizations and personnel seeking innovative solutions must often work around these barriers in order to optimize resources and improve quality of care. These models typically remain localized and lack the structures or systematic supports that would enable broader scalability. This Assessment directly addresses the optimal scope of practice of health care providers through an examination of these issues and calls for system-wide transformation that builds upon ongoing quality improvement initiatives to better meet patient, community, and population needs.

With health care professionals at the frontline of service delivery, an examination of the utilization of health human resources (HHR) is required. This endeavour includes an investigation of the tasks and responsibilities outlined within each health profession (referred to as *scopes of practice*); the configurations in which health professionals interact (referred to as *models of care*); and the educational, legal, regulatory, and economic

contexts in which both scopes of practice and models of care are embedded. In response to the challenge of providing high-quality and accessible care, the scopes of practice of some health care professionals, such as pharmacists and nurse practitioners, have been extended and new professions and roles, such as pharmacy technicians and health navigators, have been developed in several jurisdictions across Canada. In some cases, however, these roles have been introduced without full articulation of how these new roles will be integrated into existing service delivery models or how they will impact the scopes of practice of existing health professions. Beyond extending scopes of practice for some health care professions, optimization of existing scopes of practice must be determined in alignment with the models of care in which they function. The misalignment of Health Human Resources capacities with the need to provide health care services relevant to population demands is a global issue for which we are seeking a Canadian solution.

Objectives and Research Question

The objectives of this Assessment were to conduct a review of the evidence regarding the optimization of health care professional scopes of practice, drawing upon the Canadian Academy of Health Sciences' network of scientists, professional leaders, and health care professionals to provide an expert analysis. Led by an Expert Panel and its two chairs, this Assessment

also represented the first time the Canadian Academy of Health Sciences (CAHS) had partnered with a knowledge exchange network in the relevant field, the Canadian Health Human Resources Network (CHHRN), which took the lead as the Project Team. CHHRN provided not only content expertise but also access to an extensive national and international network of scholars and Health Human Resources innovators. The charge developed by the Academy and assigned to the Expert Panel in partnership with CHHRN was to address the following question:

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?

Approach

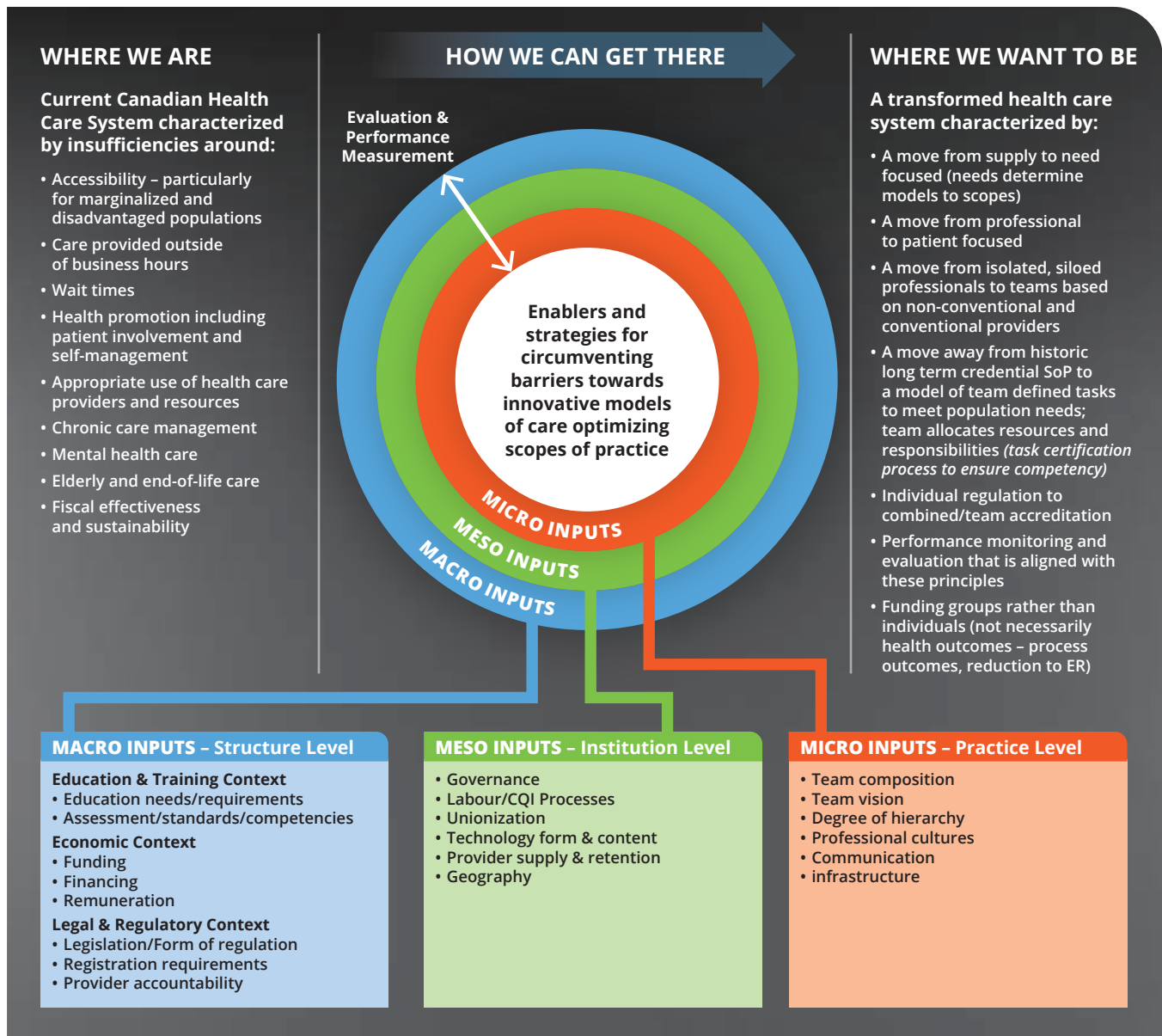
Using the Health Council of Canada's *Triple Aim Plus*, that comprises better health, better care, and better value presented through a health equity lens, the Project Team undertook a systematic process to identify promising approaches related to the optimization of health care professional scopes of practice. There were three elements to the data collection and synthesis: (1) a scoping review to systematically map out the existing literature relevant to scopes of practice from both published and unpublished sources, (2) 50 key informant interviews to augment findings from the literature, and (3) Expert Panel meetings to discuss the state of the evidence and implications for Health Human Resources planning and policy decision making. This report reflects the consensus of the Expert Panel members, which was developed over a series of in-person and teleconference deliberations over an 18-month period.

The conceptual framework, which was developed as part of the Assessment process, guided the data collection and analysis and is shown below. Briefly, it maps out **where we are**—describing the insufficiencies of the present health care system—and **where we want to be**—highlighting the Expert Panel's vision statement and target outcome indicators for patients, health care professionals, and the health care system. Depicted in the middle of the framework is a model of **how we can get there**—focusing on various levels of structural inputs that influence the optimization of health care professional scopes of practice and supportive models of care.

Our explicit focus was to synthesize ways through which the reconfigurations of scopes of practice and models of care, especially in a collaborative care environment, have the potential to initiate transformation of the health care system in order to better meet patient, community, and population needs.

CONCEPTUAL FRAMEWORK:

Scopes of practice that support innovative models of care that better address population health needs and a transformed Health Care System



List of insufficiencies from: Nosmith L., Bailem P., Baxter R., Bergman H., Colin-Thomé D., Herbert C., Keating N., Lessard R., Lyons R., McMurphy D., Ratner P., Rosenbaum P., Tamblin R., Wagner E., & Zimmerman B. (2010). *Transforming care for Canadians with chronic health conditions: Put people first, expect the best, manage for results*. Ottawa, ON, Canada: Canadian Academy of Health Sciences.

Findings

Recognizing the variability of both communities and practice circumstances and the need to support models of collaborative care, the Expert Panel felt that a new approach towards determining and assigning scopes of practice was required. This strategy, one that is focused on the patient and is flexible and accountable, would ensure that the right provider gives the best care in the most appropriate location. Critically, the model proposes that the health care team or institution be held accountable for assigning appropriate and optimal scopes of practice within a regulated structure.

The findings from the scoping review and key informant interviews were organized into micro (practice), meso

(institution), and macro (structure) levels based on the interventions assessed for quality improvement. In the table below, we depict the fluidity of key barriers that can provide an opportunity to become key enablers for optimizing scopes of practice and supporting innovative models of care through modification or circumvention of structure or function.

Over the course of this Assessment, we identified an emerging consensus that optimizing scopes of practice paired with supporting evolving models of shared care can provide a multidimensional approach to shift the health care system from one that is characteristically siloed to one that is collaborative and patient-focused.

BARRIERS AND ENABLERS: OPTIMAL SCOPES OF PRACTICE WITHIN COLLABORATIVE CARE ARRANGEMENTS AT THE MACRO, MESO, AND MICRO LEVELS

	BARRIERS	ENABLERS
MACRO	<i>Health care professional accountability/liability concerns</i>	• Educating professionals and courts on changes to legislation that recognize the principles of shared care models
	<i>Educational needs/requirements that inhibit professionals working to full or optimal scope</i>	• Establishing practicums and residencies that foster inter-professional competencies • Post-licensure credentialing for continued competency development over the course of a career
	<i>Rigid legislation/regulations</i>	• Expanding adoption of more flexible legislative frameworks that can be interpreted at the local setting
	<i>Payment models that do not support changes in scopes of practice</i>	• Alternative funding (e.g., bundled or mixed payment schemes) to include all health care professionals and to be aligned with desired outcomes
MESO	<i>Communication across multiple care settings</i>	• Implementation and upkeep of electronic medical records essential for all respective health care professionals (and for patients themselves) to have timely access to the most up-to-date information on treatment and status
	<i>Professional protectionism</i>	• Representation of the interests of professions in the context of collaborative care arrangements and inter-professional standards/overlapping scopes of practice
	<i>Accountability</i>	• Broader application of collaborative performance measures and an overall quality assurance framework through involvement of accrediting bodies
	<i>Availability of evidence</i>	• Systematic monitoring and evaluation (with specific focus on inputs and outputs) to estimate cost incurred for introducing change and the long-term return on investments
MICRO	<i>Professional hierarchies</i>	• Change management team: a designated role for managing changes in scopes of practice and models of care
	<i>Professional cultures</i> (lack of trust and role clarity; job protectionism, turf wars, task escalation)	• Continuing professional development to cultivate team thinking and develop levels of trust around relative competencies • Team vision: to reinforce that the ultimate goal is the improved well-being of the patient; who provides the care is secondary to the quality and accessibility of services provided
	<i>Communication among health care professionals</i>	• Instilling group mentality: internalization of shared responsibility across health care professions • Scheduling of regular meetings for health care team members to consult on appropriate care strategies and problem-solving strategies; integrating information communication technologies • Co-location to have different types of health care professionals and services functioning in a shared space

* The summary box above has been informed by data collected from both the scoping literature review and the key informant interviews. The points presented were selected based on emerging themes and discussions among the Expert Panel members.

Recommendations

The recommendations provide a blueprint for action that will lead to the creation of more flexible environments to enable the scalability of promising initiatives around optimal scopes of practice and innovative models of care. Beyond the issue of transforming barriers into enablers, our analysis of scopes of practice innovations revealed that a common characteristic of innovation is that it circumvents largely macro-level structural barriers. This finding supported our focus on the broader context of health professional scopes of practice that may be better able to address patient, community, and population health needs. We are calling for the implementation of an integrative structural framework that supports the optimization of health care professional scopes of practice and innovative models of care. At the same time, we recognize the unique skills and abilities specific to different professions as critical to best practice in collaborative care models. Rather than recommending changes to the scopes of practice of individual health care professions, we are proposing an evidence-based approach characterized by three overarching elements:

- The approach is supportive of innovative models of care.
- The approach is flexible in order to respond to the varying needs of patients and communities.
- The approach is accountable to the public and to funders.

This approach recognizes the importance of collaboration among health care professionals as a central feature of the future of the health care delivery system. This level of collaboration requires shared responsibility at the practice and institution levels with accountability for the quality of services provided, based on the needs of the respective communities. Entry-level scopes of practice should arise from pre-licensure professional training and then expanded scopes of practice should arise from supplemental training in special competencies and be formally recognized. We are proposing two levels of accountability that are interrelated and articulated: firstly, a regulatory model that ensures the individual

health care professional's competence and secondly, an accountability model embedded within collaborative health care practice through a proposed accreditation structure that ensures all members are working to their optimal scopes of practice in order to better meet patient, community, and population health needs.

To enable this transformation, the recommendations are directed at the multiple constituencies that define, fund, oversee, and regulate scopes of practice. Priority actions are set out under each recommendation.

A. The Federal Government: Provide leadership and support to encourage the expansion of collaborative care models and the evolution of scopes of practice.

Priority Actions

- A1. Convene a national summit of all stakeholders to discuss a coordinated and prioritized plan of action based on the recommendations in this document.
- A2. Develop an infrastructure that provides arm's-length evidence and evaluation of the health workforce with both HHR planning and deployment through optimal scopes of practice as its mandate.
- A3. Earmark research funds to address gaps in the literature, particularly those at the meso and macro levels.
- A4. Develop a national framework for guidelines and quality standards for optimal, expanded, and overlapping scopes of practice.
- A5. Promote best practices and facilitate subsequent scale-up and sustainability of initiatives across the country.
- A6. Support the development and ongoing implementation of umbrella health professional regulatory legislation across provinces and territories.

B. Provincial/Territorial Governments: Take the lead to create systems of funding, financing, and remuneration that enable collaborative models of care that align with patient outcomes.

Priority Actions

- B1. Adopt alternative funding structures to support collaborative practice among professionals within and across settings.
- B2. Initiate a review of professional and union collective agreements to examine their impact on flexibility in health professional scopes of practice.
- B3. Ensure accountability for collaborative, patient-oriented care through accreditation.
- B4. Develop mechanisms that support a move to team- or institution-based liability coverage.
- B5. Support system-wide adoption of information technologies that foster optimal scopes of practice.

C. Regulatory Bodies: Take the lead to align regulations in order to enable respective professionals to better meet population health needs within collaborative care models, particularly in cases of overlapping and expanded scopes of practice.

Priority Actions

- C1. Work collaboratively with professional certification bodies to create national standards and competency frameworks that recognize training and recertification in areas of overlapping and changing scopes of practice.
- C2. Recognize certificates for advanced competencies that enable expanded scopes of practice.

D. Accrediting Bodies: In partnership with Quality Councils wherever possible, take the lead in establishing an accountability model through the accreditation and performance measurement of collaborative care arrangements at the community, primary care, and institution levels.

Priority Actions

- D1. Build on existing standardized performance metrics for collaborative care models.
- D2. Build on existing metrics to inform lifelong learning and collaborative competency development for practitioners at pre- and post-licensure.

- D3. Expand accreditation to additional levels of health care service provision to include collaborative care models.

E. Pre-licensure and Continuing Professional Education Providers: Accelerate the ongoing development of pre- and post-licensure education practices that foster collaborative care and reflect the changing nature of required competencies.

Priority Actions

- E1. Mandate and embed interprofessional, competency-based education across the professions so that interprofessionalism is an essential competency (rather than an additional competency).
- E2. Develop certificates for advanced collaborative practice competencies.
- E3. Develop mechanisms to support widespread engagement in lifelong learning to build and enhance collaborative care competencies.

F. Professional Associations and Unions: Take the lead in supporting collaborative care practice models as meeting the needs of the individual professions represented and recognizing that this is the context in which most members work or will work.

Priority Action

- F1. Contribute to the establishment of evidence-informed guidelines for collaborative care models in which their members participate.

Although these recommended actions are provided in itemized format, their implementation cannot occur in isolation. There is an interactive and iterative relationship between each recommendation and its development that is based on a common vision of “where we want to be” to be implemented over time.

Conclusion

Increased flexibility around scopes of practice and models of care is required to meet the changing population health needs and the diversity represented in communities across Canada. To determine optimal scopes of practice, clearly defined roles and tasks are best delineated at the local practice level relative to community needs and resources. Enabling greater flexibility requires an approach that takes into consideration changes over the course of a health professional's career, including skills development, certification processes, skills mix, and professional interests. For such changes to be adopted and scaled up over time, there needs to be both a systematic, evidence-based approach to furthering individual- and team-level accountability and a new balance between regulated individual practice and the accreditation of

collaborative care arrangements. This is best afforded through the alignment of education, regulation, and funding models to optimize health professional scopes of practice. It is this collaborative practice model that must have the flexibility to best utilize the scopes of practice of team members within an accountable and regulated environment in the context of patient, community, and population health care needs.

In summary, the proposed recommendations provide a blueprint for action to align optimal scopes of practice with innovative models of care through educational, legal, regulatory, economic, and evaluative structures. Consideration and adoption of the recommendations will require time and cooperation from all stakeholders. The ultimate goal is for the transformation of scopes of practice and models of care to enable the future health care system to best meet the needs of Canadians.



INTRODUCTION

In the fall of 2011, the Canadian Academy of Health Sciences (CAHS)¹ accepted a prospectus to undertake a major Assessment of the current configurations of health care professionals, their respective scopes of practice, and their relationship to Canada's health care system (see Appendix 2).*

*Scopes of practice*²—the activities performed by a health care professional—have emerged as a critical point in policy discussions around health care transformation. The goal of this Assessment was to conduct a review of the scientific evidence regarding the optimization of health care professional scopes of practice, drawing upon the Academy's network of scientists, professional leaders, and health care providers to provide an expert analysis. This Assessment, under the responsibility of an Expert Panel and its Co-Chairs, also represented the first time the CAHS has partnered with a knowledge exchange network; the Canadian Health Human Resources Network (CHHRN) took the lead as the Project Team. CHHRN not only provided content expertise but access to an extensive national and international network of scholars and health human resource innovators. The charge developed by the Academy and assigned to the Expert Panel in partnership with CHHRN was to address the following question:

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?

To systematically approach the question, the Project Team examined the literature on health care professional scopes of practice to see how these could be optimized through

innovative models of care, interviewed an array of Canadian and international experts in the field, and at key junctures, worked closely with the Co-Chairs and the Expert Panel about these ongoing findings. In the remainder of this report, we will use we to refer to the combination of the Project Team, the CAHS Co-Chairs, and the Expert Panel.

From an initial scan of the literature and following the first Expert Panel meeting (and later confirmed by the key informant interviews), it was clear that answering the question as it was posed would be a challenging undertaking. We were confronted with ambiguity around the relationship between scopes of practice and models of care. This raised the following question: Are certain scopes of practice required to support innovative models of care or are certain models of care required to optimize scopes of practice?

Recognizing that we could not assert a linear relationship between scopes of practice and models of care, we considered the possibilities of their interdependent nature and we interpreted the research question from both directions.

To do so, first we built upon the current consensus among policymakers and clinicians alike that scopes of practice and models of care should be designed primarily to meet patient and population needs rather than the vested interests of the health care workforce. This was particularly relevant in the context of chronic disease management, where the 2010 CAHS report on chronic

¹ See Appendix 1 for List of Acronyms.

² See Appendix 3* for Glossary of Terms.

* All appendices are available solely on the CAHS website: <http://www.cahs-acss.ca/completed-projects/>

care (Nasmith et al., 2010) set out the key elements of an integrated health care system:

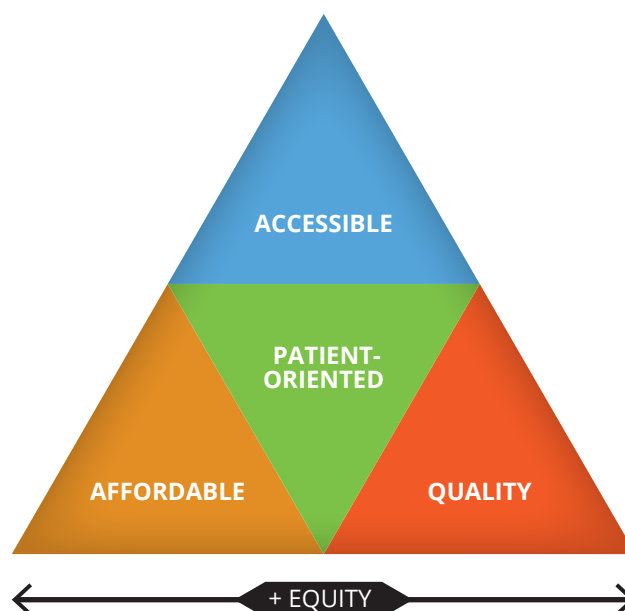
- *having primary care practices that are responsible for a defined population;*
- *being person-focused (and family or friend caregiver-focused);*
- *providing comprehensive services through interprofessional teams;*
- *linking with other sectors in health and social care; and*
- *being accountable for outcomes.*

Taking these elements from this earlier work as a starting point, we looked for configurations and approaches to scopes of practice that demonstrated innovation through (a) transcending or further optimizing traditional scopes of practice, (b) involving more collaborative practice environments, and/or (c) increasing patient and family engagement. A core principle that emerged from the literature was the necessity of institutional flexibility to reflect the changing needs of individuals, communities, and the broader population over time. We searched for integrative structural contexts that support rather than hinder the development and proliferation of innovative and flexible models of care that optimize health professional scopes of practice.

Second, we adhered to the *Triple Aim* philosophy of **better health, better care, better value**, developed by the Institute for Health Care Improvement (IHI, 2012) (see Figure 1). **Better health** refers to health promotion strategies and improving accessibility and therefore improved health outcomes at population levels; **better care** refers to improving the quality of care and overall patient experience; and **better value** refers to improving the affordability and controlling the per capita cost of care on a system level. More recently, the Health Council of Canada (HCC) has added the principle of **equity** to the framework; it is defined as “the absence of systematic disparities in health between social groups who have different levels of underlying social advantage/disadvantage.” This principle was added to ensure that improvements made affect *all* Canadians. The literature review and key informant interviews focused on the question of scopes of practice and models of care along the four axes presented in Figure 1. It then maps out

the issues and perspectives relating to enablers and barriers to health care transformation, with reference to health human resource capacities.

FIGURE 1: THE TRIPLE AIM MODEL [ADAPTED³]



The Necessity and Timeliness of an Assessment of Scopes of Practice

The need to inform health human resource (HHR) policy and planning with the best available evidence around promising models of care that better optimize health professional scopes of practice to ensure that patient, community, and population needs are met is becoming increasingly important. With health care professionals at the frontline of service delivery, a system-wide examination of the configurations of health care professions and respective scopes of practice, relevant to the current epidemiologic, socio-demographic, and technological landscape, is needed to inform the next steps towards transforming the Canadian health care system.

³ Visual representation was adapted from the original model developed by the Institute for Health Care Improvement (2012); outlined in the Health Care Innovation Working Group's Report and augmented with the Health Council of Canada's report *Better health, better care, better value for all: Refocusing health care reform in Canada* (2013).

The *A Framework for Collaborative Pan-Canadian Health Human Resources Planning* (2007) highlighted that “Canada’s ability to provide access to high quality, effective, patient-centred and safe health services depends on the right mix of health care professionals with the right skills in the right place at the right time” (p. 28). The Council of the Federation advanced this perspective by identifying the issue of scopes of practice in January, 2012, as one of the three priority areas of the Health Care Innovation Working Group. Specifically, the Working Group focused on “**Team-based Health Care Delivery Models** that encourage all health care professionals to work to their full professional capacity to better meet patient and population needs in a safe, competent, and cost effective manner” (p.4).

The Council’s interest in scopes of practice was threefold. It identified scopes of practice as integral to:

- *advancing pressing issues around chronic disease prevention and management, seniors’ care, and rural and remote health care delivery;*
- *developing strategies to scale up leading practices and innovative models of care across the country; and*
- *improving outcomes for patients through better access and more effective and efficient models of care.*

Health care transformation is at the heart of these discussions and prioritizes the optimization of health professional scopes of practice that systematically support health care innovations.

One feature of this Assessment has been to examine the evidence around changes to scopes of practice and traditional models of care that focus on *better responding to community needs and tackling the issues of accessibility, quality, equity, and financial sustainability*. We looked for examples of needs-based approaches that often reformulated traditional models of care. ***Our explicit focus was on ways to transform the health care system through the reconfigurations of scopes of practice and models of care that are informed by patient, community, or population needs.***

A second feature of the Assessment has been to investigate strategies with the potential for *scalability* in order to build upon previous successes. Information around ways of moving beyond pilot phases for broader and more sustainable adoption was primarily drawn from key informants. Although we did not systematically evaluate the literature that focused on the process of implementing or scaling up scopes of practice (an important issue for follow-up), these data were used to inform the recommendations, which are targeted at government, regulatory, professional, and education stakeholders at regional, provincial, territorial, and federal levels, including research-funding organizations like the Canadian Institutes of Health Research (CIHR).

Overview of the Scope of this Assessment

We recognize that population-based equity issues—referred to as *social determinants of health*—are fundamental to improving the overall health of Canadians across social strata. For pragmatic purposes, however, we have confined this Assessment to an examination of *the health care system* as a starting point for health system transformation. Improving the health of *all* Canadians will, by necessity, involve multiple measures that fall outside the structures of the health care sector, such as access to clean water, suitable housing, education, food security.

This Assessment also selectively focuses on the scopes of practice of *regulated health care professionals providing predominantly public services* and does not explicitly examine scopes of practice of unregulated and informal care providers, such as family members and personal support workers. We recognize that informal care providers are and will continue to be essential components to an effective health care system. Regulated health care professions were targeted in this Assessment as they tend to dominate discussions around fragmented service provision and siloed models of care.

Specific parameters for the scope of this Assessment are outlined in the summary points below.⁴

WHAT THIS ASSESSMENT DOES	WHAT THIS ASSESSMENT DOES NOT ADDRESS (but recognizes as important)
1. Addresses areas for improvement within the health care system that relate to scopes of practice	Social determinants of health—health factors outside of the health care system, such as education, housing, social capital.
2. Analyzes strategies for designing patient-oriented care models and aligned configurations of health care professional scopes of practice	Interventions related specifically to health promotion and more broadly to public health.
3. Outlines trends in changes to scopes of practice of regulated health care professionals, offering services predominantly in the public sector ⁵	Informal and unregulated caregivers
4. Identifies key elements—at the micro, meso, and macro levels—that are necessary to create changes in the practice setting that relate to scopes of practice, including both enablers and barriers to introducing such elements (see Figure 3)	A process-based analysis of how best to scale up promising interventions and models of care (separate analysis of this body of literature is required)
5. Assesses articles that reported on at least one of the following outcomes: quality of care, effectiveness, patient satisfaction, safety, comprehensiveness, continuity of care, compliance, job satisfaction, work burden, intercollegiate relations, role development, competence, collaboration, accessibility, cost-related outcomes, efficiency, equity	Cost-effective analysis
6. Provides a mapping out of the existing literature relevant to scopes of practice, identifying key gaps and areas of saturation, thereby fulfilling the definition and explicit purpose of a scoping review (Arksey and O'Malley, 2005)	Methodological analyses of individual studies as required by a systematic review
7. Offers recommendations, predominantly at the macro and meso levels, to be acted upon by respective stakeholders at national, provincial/territorial, and organizational levels	Micro-level recommendations, given the prominence of existing examples paired with challenges around applicability for context-specific needs

Outline of the Assessment Report

In Section 1, we begin our analysis by reviewing the present state of the health care system and the pivotal place that scopes of practice occupy in service delivery approaches. We then introduce our orienting conceptual model for the Assessment (see Figure 3). In Section 2, we describe the methodological approach taken, involving

the scoping review and complementary key informant interviews. In Section 3, we highlight the key findings in the sections that follow the conceptual framework (see Figure 3), beginning with the micro (practice) level inputs, followed by the meso (institution) level inputs, and finally the macro (structure) level inputs (educational, economic, and legislative). In the last section, we present key recommendations and strategies for next steps informed by these inputs.

⁴ See Appendix 5* for Screening Guidelines used in scoping literature review.

⁵ See Appendix 6* for included regulated health care professions.

* All appendices are available solely on the CAHS website: <http://www.cahs-acss.ca/completed-projects/>

1. WHY FOCUS ON SCOPES OF PRACTICE?

What is the problem we are trying to address?

The transformation of a health care system that is failing to address changing population health needs

The Canadian health care system falls short of achieving the *Triple Aim* of better health, better care, and better value (see Figure 1), particularly from a health equity perspective. Population health research suggests that stresses on the Canadian health care system will continue to grow as prevalence rates of chronic illnesses increase, the population ages (driving up health care demands and diminishing HHR supply), and technological and pharmaceutical innovations drive up relative costs, particularly within a tight economic climate. But change would be necessary even if economics did not warrant it. Our current health care model is failing to provide optimal care to marginalized and vulnerable populations (e.g., aboriginal, new immigrant, transient, homeless, and elderly populations) that are more likely to experience compounding ailments (e.g., mental and/or chronic illness) while at the same time facing multiple barriers (e.g., language, social capital, and/or geography) to accessing care.

Within public discourse around the Canadian health care system, one of the most commonly reported complaints concerns the issue of timely access to high-quality services. Data from a comparison of international surveys suggests that compared with respondents from the other countries examined (the United States, the United Kingdom, Australia), Canadians reported waiting longer at almost every point of the care journey (Duckett and Kempton, 2012). The CAHS report on chronic care that was released in 2010 (Nasmith et al.) also noted insufficiencies around access and long wait times, particularly for marginalized and disadvantaged populations and non-emergent

after-hours care. This 2010 report also identified a number of key insufficiencies related to the quality and comprehensiveness of the current health care system, including poor availability and quality of mental health care and addictions services, chronic care management, care of the elderly in the home, long-term care, end-of-life care, and effective health promotion. These insufficiencies highlight the need to change the system in which health care services are delivered. With health care professionals at the frontline of health care delivery, transformation within the health care system directly implicates health care professionals' scopes of practice. Meaningful change requires an examination of the optimal use of health human resources, a questioning of traditional hierarchies, and an understanding of how to create the best conditions for health care professionals to deliver accessible, high-quality care over time for *all* Canadians.

Rationale for Investigating Scopes of Practice

One of the key problems in the way health care is delivered in Canada today is that health professional scopes of practice and associated models of care tend to be organized on the basis of tradition and politics rather than in relation to the evidence of how best to meet contemporary population health needs (Tomblin Murphy and MacKenzie, 2013). That is, scopes of practice tend to reflect a time when health care was focused on acute, episodic care. Over the decades of the evolution of our current health care system, these scopes of practice have become enshrined into legislation, solidified by funding models, and made sacrosanct by labour contracts in spite of changes in epidemiologic and socio-demographic trends, as well as technological advances that have increased organizational and clinical capacities. The result has been a myriad of professional silos across Canada, varying from jurisdiction to jurisdiction. Consequently, we have come to live with a health care system that may prohibit individual health care professionals from

performing much-needed tasks (diagnosis, prescribing, suturing, medication administration, referral, medication dispensing, etc.) because of a complex system of legal and historical legacies. These legacies have left Canadians with structures for organizing, preparing, and regulating professional practice and models of care that are no longer fit for purpose, **fail to put the patient experience foremost**, and ignore the context of technological advances. Simply put, health and health care needs have changed, yet corresponding scopes of practice, and to a certain extent models of care, have not changed. The result is a health care system that is not well aligned with present population health needs and at the same time is systemically resistant to fundamental reform.

While the current institutionalization of scopes of practice has shielded the system from radical reform, there has been incremental change across micro, meso, and macro levels. In fact over the past several decades there have been multiple innovations involving a series of adjustments to scopes of practice in specific areas. These have included the development of new roles, such as patient navigators and pharmacy technicians, and the expansion of scopes of practice for professions such as nurse practitioners and pharmacists to address specific populations with higher needs or access issues. As reflected in the CAHS report on chronic care, there is optimism around the increased capacities these innovations could provide:

The potential to expand the scope of practice for other health professions has been suggested as a way to reduce pressure on the system and to provide more opportunities for person-focused care. (Nasmith et al., 2010, p. 23)

But unless designed to be integrated into health system transformation at the outset, many of these changes to health professional scopes of practice and models of care end up coexisting in parallel to mainstream practice. Reflecting on the potential for alterations in health care professional scopes of practice to help transform the system, the HCC convened a national summit on HHR in 2005. The gap analysis commissioned for the summit revealed the following set of limitations:

- *A lack of standardization of scopes, professional titles and licensure criteria for the same profession across jurisdictions;*
- *Inconsistency in scopes of practice, i.e. the need to expand existing scopes, and a resistance of working beyond existing scopes;*
- *The inconsistency of scope determination between regulatory bodies, employers and actual clinical practice; and*
- *The requirements of clarity of scopes, the appropriate determination and optimization of skill mix, and the potential liability issues due to new models of delivery and collaborative practice. (Health Council of Canada, 2005, p. 1)*

This gap analysis supports the undertaking of this Assessment to bring health human resource planning to the forefront of high-level policy discussions, thereby promoting health care transformation.

The Various Meanings of Scope of Practice⁶

One of the challenges in the field of scopes of practice is the lack of clarity and consistency in the use of this term and its related vocabulary. In 2005, the HCC called for a review of general definitions and position papers relating to scopes of practice. This review describes the nature of ambiguity around defining scopes of practice and outlines the variety of stakeholders involved:

While the term scope of practice is sometimes used in health care research, government policy documents, and professional position papers, no consistent definition was found. These documents more commonly refer to roles, functions, tasks and activities, professional competencies, standards of practice, entry to practice, registration requirements, the practice of medicine (nursing, pharmacy, etc.), domains of practice, scope of employment, or scope of enactment. (Baranek, 2005)

⁶ See Appendix 3* for Glossary of Terms.

* All appendices are available solely on the CAHS website: <http://www.cahs-acss.ca/completed-projects/>

The challenges highlighted in the HCC review were reflected throughout the data collection process of this Assessment. Depending on the profession, the jurisdiction, the structural context (i.e., education and training, economic, legal and regulatory), the term *scopes of practice* can encompass a range of professional parameters. Here we explain the working definition used throughout this Assessment.

Scope of practice (SoP)—the activities performed by a health care professional—encompasses multiple dimensions.

A profession's scope of practice encompasses the activities its practitioners are educated and authorized to perform. The overall scope of practice for the profession sets the outer limits of practice for all practitioners. The actual scope of practice of individual practitioners is influenced by the settings in which they practice, the requirements of the employer and the needs of their patients or clients. Although it can be difficult to define precisely, scope of practice is important because it is the base from which governing bodies prepare standards of practice, educational institutions prepare curricula, and employers prepare job descriptions. (Canadian Nurses Association, 2014)

From a legal perspective, scopes of practice have been defined as the health care services a regulated health care professional is formally authorized to perform by virtue of professional license, registration, or certification (College of Registered Nurses of British Columbia, 2013). The primary intent of legislation around scopes of practice is to protect public safety. The term is also used by regulatory bodies to define the procedures, actions, and processes within the remit of a registered individual professional. The scopes of practice employed are then theoretically limited to the skills for which the health care professional has received education, supervised practice, clinical experience, and demonstrated competence.

A health care professional's scope of practice is the product of a number of processes that are overseen by various stakeholder organizations at the provincial, territorial, or federal levels. These organizations include “ministries of health and education, regulatory bodies, professional associations, credentialing bodies, educational bodies, and employers” (HCC, 2005, p. 4). Under the auspices of these multiple overseeing bodies, pre-licensure education, as well as additional training and practice, varies by jurisdiction. Beyond the legal and regulatory dimensions of this issue, at a practical level scopes of practice outline the actual demarcation of particular tasks to ensure patient safety. The control of certain tasks, as well as the authority to delegate them, reflects historical legacies around contestations of scopes of practice.

In the literature, the term **health care roles** is sometimes used to describe the services a health care professional is able to actually perform by virtue of setting; available physical, technological, and human resources; staff mix; competencies; patient, community, or population demand; and so forth. These determinants of scopes of practice constitute the social or practical parameters of scopes of practice. For the purposes of this Assessment and clarity of language, we will use the term *scope of practice* to encompass the activities a health care professional is able to perform and then identify its legal, social, and/or practical dimensions. (The term *role* is reserved for situations where a new position is created altogether.)

Paralleling these distinctions, the review of health professional scopes of practice undertaken by the Health Professions Regulatory Advisory Council (HPRAC) in Ontario extrapolated the following layers from a number of sources:

- *How professionals are defined—who can call themselves a member of the profession;*
- *What professionals are trained to do;*
- *What professionals are authorized to do by legislation;*
- *What professionals actually do;*
- *How a professional does what he/she does; [and]*
- *What others expect a profession can do (i.e. delegation). (HPRAC, 2007, p. 2–3)*

At the forefront of the discussion around evolving scopes of practice is whether or not the scope of practice of some health care professions should be expanded, contracted, or left as historically determined. As was noted in the Canadian Medical Association (CMA) report *Roles of Physicians and Scope of Medical Practice: Future Prospects and Challenges* (2000), “The scope of a profession must be based on patient needs, and be supported by the educational preparation of the practitioners and demonstrated competence. ... A change in the scope of practice of any profession should be permitted if it enhances patient care.” (p.14)

Expanded scopes of practice occur in the practice setting when health care professionals take on a wider range of tasks that would be considered outside their traditional scopes of practice. This may involve the process of **task-shifting**, or delegation of tasks (i.e., use of medical directives), from the responsibility of one health care professional or group to another. This can be from a more expensive health care provider to a less expensive health care provider (theoretically improving accessibility and affordability), but it could also reflect the more appropriate utilization of the unique skills of different health care professionals. An increasingly common example of a scope of practice that is being expanded in some jurisdictions across Canada is pharmacists’ ability to prescribe a limited range of prescription drugs.

Similarly in recent years, **new roles** that tend to be specific to a setting or institution and have not been adopted across multiple jurisdictions have come into effect. Examples of new positions emerging in Canada include pharmacy technicians and patient navigators. Such positions therefore imply negotiation around their associated scopes of practice relative to the scopes of practice of existing health care personnel.

A final note about terminology is the distinction between **full scope** and **optimal scope**. Full scope denotes health care professionals practicing the full range of skills for which they have been trained and are competent to perform. The ultimate goal of enabling full scopes of practice is to create better-resourced teams to provide more accessible and patient-oriented care. With this end in mind, the principle of all health care professionals practising to their full scope in all

contexts may, in fact, work against the creation of a more efficient, cost-effective health care system.

Alternatively, working to optimal scope means achieving the most effective configuration of professional roles as determined by other health care professionals’ relative competencies. This means that in some settings, physicians, for example, may not work to their full scope of practice, but restrict their scope of practice to their unique high-level skills in order to facilitate the optimal contribution of other allied health professional team members. Assuming competencies are satisfactory, professionals such as nurse practitioners or medical assistants may increase accessibility of services and be less costly to the overall health care system if enabled to practice designated tasks in an integrated, collaborative approach. In this Assessment, we focus on approaches that *optimize scopes of practice* as an enabler for health care transformation.

The Relationship between Scopes of Practice and Models of Care

The term **model of care** is used to broadly describe the way health care services are designed and delivered. Without providing a comprehensive typology around models of care, this Assessment prioritizes innovative models of care with some degree of integration⁷ across sectors, professions, settings, and complementary scopes of practice in order to counteract the traditionally fragmented and siloed organization of health care services. (See Figure 2)

How *innovative models of care* relate to *optimal scopes of practice* is a relationship that needs to be understood as being complex and reciprocal rather than linear and causal. Modifications to one will have implications for the other. Innovative models for health care delivery typically optimize HHR through, for example, decreasing reliance on independent physicians while increasing the role of non-physician health care professionals (in some cases, the focus is on decreasing the reliance on nurses). At the same time, new health care professions with overlapping scopes of practice are changing health care delivery. These evolutions within the health care system need to be reflected in both the parameters of scopes of practice and the ways in which models of care are organized.

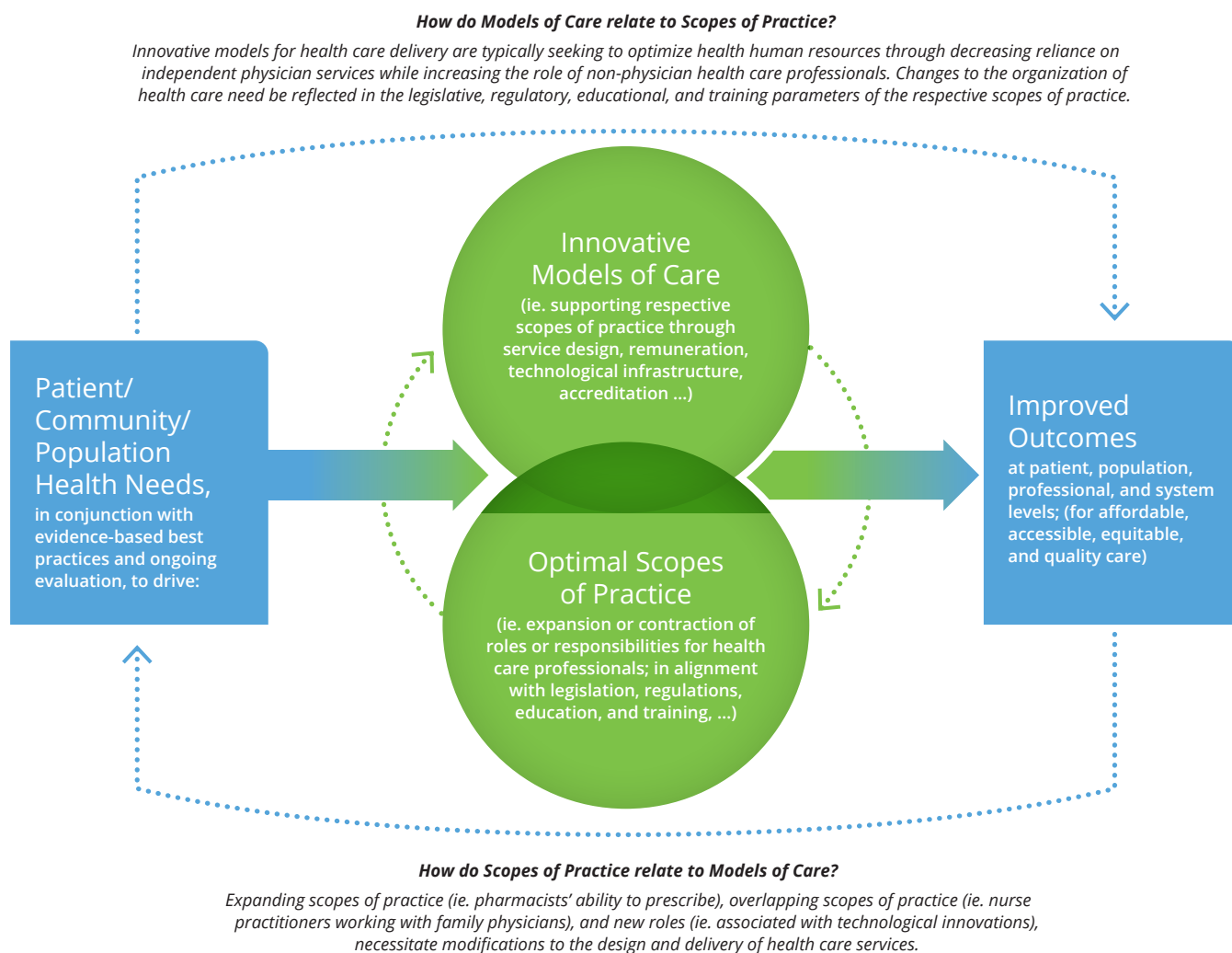
⁷ Integrated care can be defined as “holistic, population-based, person-centred approach to addressing the multiple needs of individuals with complex conditions who frequently suffer gaps in services, disjointed care, and suboptimal quality” (Kodner, 2012a in ECCO 2012).

Health care professionals need to be prepared and enabled to work at the top of their scope through appropriate education and training, and, if authorized by government legislation to act with standards, limits, and conditions outlined by the respective regulatory colleges or associations (depending on the province or territory). These formal parameters of scopes of practice are then subject to the particular model of care and associated practice-setting factors. Such determining factors include, but are not limited to, the configuration and skills mix of health care professionals, changing competencies over time, collaborative organization and management, interprofessional relations, available resources, patient needs, remuneration mechanisms, institutional bylaws, technology, communication, and patient record systems.

The Politics of Scopes of Practice

Beyond the need for clarity of terminology related to scopes of practice, it is also important to highlight its political nature. While recognizing that health care professionals have the best intentions for their individual patients, the field of scopes of practice itself has indeed been politicized as a proxy for professional advancement—focusing on the demarcation of tasks rather than on population needs and system-level efficiency. Additionally, perceptions of higher status or pay result in a jostling for positions, which in effect can distort the relation between health human resource supply and health care demand (e.g., generalization versus

FIGURE 2: THE RELATIONSHIP BETWEEN SCOPES OF PRACTICE AND MODELS OF CARE



specialization or rural/remote versus urban). This uneven distribution of health services based upon professionals' competing claims is a result of the reality that service provision is organized along health care professional lines. A clear indication of the problem with this situation is that during times of health worker shortage within particular cadres there is much more flexibility in expanding and overlapping scopes of practice, whereas in times of surplus, there is much more rigidity. This is particularly salient in rural and remote areas where shortages of health workers are endemic and scopes of practice must accommodate accordingly.

Given the persistence of professional legacies that entrench the traditional organization of models of care along predefined scopes of practice, it is not surprising that we have limited understanding of whether we have the right configuration of professionals with appropriate skills and scopes of practice to meet the current and future needs of all Canadian. To date, there has been no comprehensive analysis of the knowledge and skills required to meet changing population health needs and whether the range of knowledge and skills is present in the current Canadian health workforce.

As a society, we need answers to the questions around scopes of practice and models of care, specifically whether expanding the scopes of practice of some health care professionals or introducing new roles or scopes of practice would provide solutions to improve health outcomes at patient, professional, and system levels. Alternatively, it is not known if some health care professionals should reduce their participation in some care areas. We opted to focus this Assessment on the societal structures that could better address patient, community, and population health needs rather than on the specific scopes of practice of individual professions; it was felt that this focus would have the greatest potential for health care transformation.

There have been a number of promising initiatives that have shifted traditional scopes of practice and models of care to optimize health human resources and improve health outcomes. Across Canada the scaling up of these innovations appears to have been met with a myriad of

challenges posed by legislation and related regulatory frameworks, labour contracts, the organization of professional education and training programs, concerns about quality and safety, funding models, and tradition. In this report, we highlight six Canadian case studies as examples of health care innovations where corresponding changes to scopes of practice have been implemented⁸. Together these examples depict the limited extent to which they are integrated into the broader health care system and macro-level structures; rather than integration, the majority of health care innovations reviewed in this report describe parallel operations or actual circumvention of these macro-level structures. The recommendation scheme tries to address this directly by identifying the actions that would help create a more flexible environment, which in turn would enable the scalability of promising initiatives around optimal scopes of practice and innovative models of care.

Overarching Principles that Guided the Assessment

The following set of principles guided the work of the Assessment team and reflects the kind of transformational shift in our thinking:

- Scopes of practice and associated models of care must be informed by and designed for patient/community/population needs.
- Health care practice must involve some level of integrated collaborative mentality; the coordinated and internalized sense of group responsibility for a patient's well-being is essential for the effective provision of patient-oriented care.
- The determination of who does what task in health care is fundamentally a dynamic issue that must be adapted to different settings and over time to reflect epidemiologic, socio-demographic, and technological needs and changes.
- The contextual (educational, economic, legal) systems that define scopes of practice need to be aligned with these principles and complementary models of care.

8 These six case studies were identified through complementary work undertaken on behalf of the Canadian Health Human Resources Network in partnership with the Health Council of Canada. The inclusion criteria for these case studies differ slightly from those outlined in the screening guidelines for this Assessment but were selected based on their ability to depict the relationship between models of care and scopes of practice. More innovative practices of this nature can be found on the Health Innovations Portal website <http://innovation.healthcouncilcanada.ca/>.

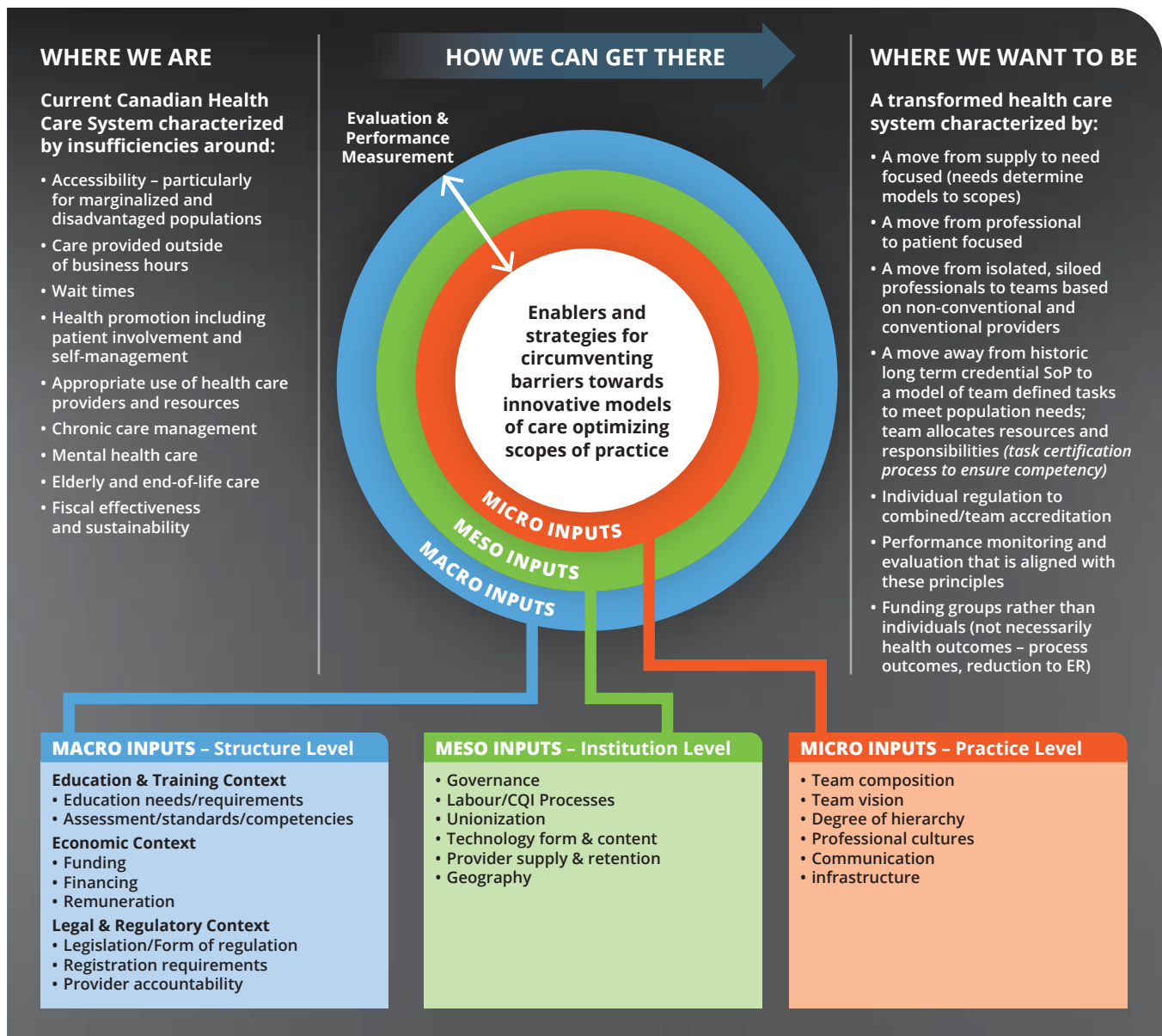
Conceptual Framework

Figure 3 outlines the conceptual framework that informed this study. It begins with **where we are**: the identification of the insufficiencies of the present health care system that attention to scopes of practice could

address. It ends with **where we want to be**: our vision statement and the target outcome indicators for patients, the health care system, and health care professionals themselves. In the middle of the framework is a model of **how we can get there**: the identification of inputs that influence the optimization of health care professional scopes of practice and supportive models of care.

FIGURE 3: CONCEPTUAL FRAMEWORK

Scopes of practice that support innovative models of care that better address population health needs and a transformed Health Care System



List of insufficiencies from: Nosmith L., Bailem P., Baxter R., Bergman H., Colin-Thomé D., Herbert C., Keating N., Lessard R., Lyons R., McMurphy D., Ratner P., Rosenbaum P., Tamblin R., Wagner E., & Zimmerman B. (2010). Transforming care for Canadians with chronic health conditions: Put people first, expect the best, manage for results. Ottawa, ON, Canada: Canadian Academy of Health Sciences.

The framework borrows and expands upon the conceptual model created from a series of studies on interprofessional teams and publications by Bourgeault and Mulvale (2006; Mulvale and Bourgeault, 2007). The concentric circles embody the various levels of inputs that acknowledge the complex, dynamic, and interdependent elements of the health care system. The framework builds on the statement framed in the CAHS report on chronic care:

It is important to recognize that health care in Canada is a complex adaptive system, achieved not from one central control mechanism, but rather functioning and changing through a complex network of federal, provincial, territorial, regional, and municipal policies and structures, research, and other evidence about improving practice, shared learning across professions and other groups, organizational frameworks, and on-the-ground adaptations. Complex systems, such as in health care, change, evolve, and grow through multiple parallel or divergent initiatives, responses, and changes. (Nasmith et al., 2010, p. 40)

The conceptual framework highlights how interventions that alter or optimize scopes of practice must address multiple layers of inputs—from the macro (structural) level to the meso (institution) level to the micro (practice) level.

At the macro (structure) level, we highlight legal and regulatory, education and training, economic, and political factors. At the meso (institution) level, we tease apart institutional, technological, and community factors. At the micro (practice) level, the factors of team composition and professional cultures are highlighted.

These elements are neither exhaustive nor mutually exclusive. It is important to note that scopes of practice interventions cannot be implemented or assessed in isolation. This acknowledges the underlying context of any intervention as a complex adaptive system that exemplifies our organization of health care services.

2. METHODOLOGICAL APPROACH

The Academy appointed Jeff Turnbull, Chief of Staff at The Ottawa Hospital, and Sioban Nelson, Vice-Provost of Academic Programs and Professor of Nursing at the University of Toronto, as the Co-Chairs of this Assessment. The Academy then appointed an Expert Panel comprised of members with unique and interdisciplinary expertise (see Appendix 4 for biographies).*

Through the Co-Chairs, the Academy then partnered with the pan-Canadian Health Human Resources Network (CHHRN), led by *Ivy Lynn Bourgeault*, CIHR/Health Canada Research Chair in Health Human Resource Policy; *Katelyn Merritt* at CHHRN; and *Gillian Mulvale*, Assistant Professor of Health Economics at McMaster University, to undertake the research to inform this Assessment. The methodological approach of the Assessment encompassed two key components:

- A **scoping review**⁹ was selected as the most appropriate form of literature review to map out the existing literature relevant to scopes of practice, thereby identifying areas of knowledge saturation and knowledge gaps where more research is required. The relevant literature was captured from both published and unpublished sources in Canada, as well as reviews from the United States, the United Kingdom, and Australia. A literature extraction tool was generated to systematically extract information on the key enablers and barriers to change, and to report on context, processes, and outcomes at the patient, professional, and system levels.

- **Key informant interviews**¹⁰ (n=50) were conducted to augment the insights (and gaps) from the scoping review around a range of issues, including patient experiences, highlighting cases of complex needs where individuals must navigate across multiple levels of the health care system; innovative models that may not be formally documented; and a more in-depth consideration of process, and contextual factors, and forces impacting upon implementation, scale-up, and sustainability.

After the data were collected from the literature and key informants, the Expert Panel members, over the course of four meetings, produced a comprehensive Assessment that addresses the research question of *identifying approaches to scopes of practice that will be most effective to support innovative models of care for a transformed health care system to serve all Canadians*.

During the later drafting stages, the document underwent formal internal and external reviews as a standard requirement of CAHS. A total of five internal reviews and four external reviews were completed and through a further series of teleconferences and face-to-face meetings the Expert Panel revised the document.

We provide more descriptive details of the scoping review and key informant interview components on the next page (28).

⁹ See Appendices 6–10* for more details behind the Scoping Review.

¹⁰ See Appendix 11* for the List of Key Informants.

* All appendices are available solely on the CAHS website: <http://www.cahs-acss.ca/completed-projects/>

Overview of the Scoping Review Process

A scoping review was selected as the most appropriate form of literature analysis given the limited understanding around scopes of practice of health care professionals across Canada. It was intended that this review would provide a preliminary mapping of the existing evidence around optimizing health care professional scopes of practice and innovative models of care in order to identify key lessons learned as well as key knowledge gaps. It should be noted that while rigorous systematic research methods were applied to retrieve and analyze the literature, the selection criteria for this Assessment included an examination of the evaluation components of each study, which scoping reviews do not typically include (Arksey, 2005).

Search Strategy

1. Published Literature

The following databases were searched with a core search strategy (for Medline) (see Appendix 7*), which was then modified for each subsequent database accordingly (Embase, PsycInfo, Healthstar, CINAHL, ERIC, and Sociological Abstracts). Together, these databases provide a comprehensive source to search all published literature from the medical, health sciences, education, economic, and sociological domains. Output items were restricted by year, language, and geography to produce articles from 2000 onwards, published in either English or French, and based in Canada only. Given the breadth of the topic, output from the primary search was substantive (2344 articles identified before removing duplicate results). A secondary search was run to identify reviews from the United States, the United Kingdom, and Australia. The same search terms and language parameters were used except that the year was restricted to 2008 onwards, considering that reviews would capture research predating this year (1728 reviews identified before removing duplicate results).

2. Grey Literature

A systematic search of the grey literature was conducted employing a three-phase strategy. In the first phase, the research team, co-chairs, and Expert Panel members identified sources of high-quality grey literature

to target for searching. Sources included health human resources organizations in Canada, the United States, the United Kingdom, and Australia as well as organizations with a global focus (see Appendix 8*). Within Canada, the Canadian Electronic Library and the CHHRN Library produced the majority of the relevant grey literature; provincial and territorial government websites yielded few results, with the vast majority of results coming from Ontario.

In the second phase, identified databases/sources/websites were searched using the following terms that were derived from the peer-reviewed literature search and were validated by our research librarian: “inter-professional,” “interdisciplinary,” “multidisciplinary,” “collaborative,” “job satisfaction,” “organizational model,” “model of care,” “model,” “scope of practice,” “professional role,” “delegate,” “task-shifting,” “reform,” “change,” and “transform” († for truncated variations). Depending on the source, search tools, databases and websites were determined based on respective systematic search capacities. For less-populated grey sources (i.e., typically with fewer than 2000 unique items), comprehensive searches were conducted through title and abstract screening. The number of articles identified during the second-phase search was recorded by source. For a summary of the output from the search strategy and screening, please refer to Appendix 9* for a detailed breakdown by source.

Screening, Extraction and Analysis

After collecting all potentially relevant literature, we conducted title and abstract screening to determine potentially eligible articles. As outlined in the screening guidelines (see Appendix 5*), articles were included if they addressed at least one of the three following areas: (1) regulated health care profession as listed, (2) roles and scopes of practice, and (3) change mechanisms relating to innovative health care models (e.g., interprofessionalism, task-shifting, collaborative care models, and expanding scopes of practice, as well as the inclusion of information regarding the evaluative methodology used in the study).

Title and abstract screening of the literature was performed by a team of five analysts. Discrepancies were discussed among the analysts for final decision. Full-text screening was conducted concurrently with the literature extraction process (described below).

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Articles that included an evaluative component and reported on at least one of the patient, professional, or system-level outcomes as listed in the screening guidelines were identified to be of primary interest. A total of 96 published articles and 29 grey literature items for **a total of 125 sources** were fully extracted and synthesized in this report. Complete references are provided in the References section.

We then developed a Literature Extraction Tool (see Appendix 10*) in order to provide a level of standardization for the extraction of data from these literatures. This tool was informed by the conceptual framework (see Figure 3). The extractions of the individual analysts were discussed regularly so that a standardized approach was maintained. An end-of-extraction analysis and review were also undertaken and some extractions revised accordingly. Extractions from each analyst were then collated and analyzed to provide descriptive and thematic summaries. This enabled the creation of key descriptive tabular summaries of the columns of extracted data. The data within the completed extraction tool were sorted according to the three key inputs: education and training, economic, and legal and regulatory, as outlined in the conceptual framework. Literature summaries were augmented with extractions from the key informant interviews (discussed more fully below) and with the deliberations of the Expert Panel.

3. *Legal and Regulatory Literature/Documents*

After consulting with various legal librarians and conducting a partial extraction process, it was clear that information regarding the legal and regulatory aspects of scopes of practice was sparse with existing search methods. We then commissioned a separate, yet integrated, process to access this literature by working with a legal expert who specializes in health law and health care professional scopes of practice (see Appendix 4* for biography of Nola Ries). The legal consultant performed a more targeted search to synthesize all relevant regulatory, legal, and case law documentation.

For this process, the Canadian Legal Information Institute (CanLII) website (www.canlii.org) was used to search for relevant legislation and court decisions. Health professions statutes and regulations were identified for each province and territory. Provincial and territorial health ministry websites were also searched

to identify reports and updates on health professions regulatory reform. Court decisions were identified using combinations of search terms: “health care,” “negligence,” “team,” “interdisciplinary care,” “interprofessional collaboration,” and “scope of practice”. Decisions were reviewed for relevance and illustrative cases were selected. Scholarly articles and grey literature were identified using online databases (PubMed, Google Scholar, Index to Legal Periodicals, Index to Canadian Legal Literature) that use combinations of terms: “health profession,” “regulation,” “scope of practice,” “interdisciplinary care,” and “interprofessional collaboration”. The draft report was distributed to ten legal academics and practitioners for expert feedback.

Limitations

Due to the nature of the research question and the volume of relevant literature produced, selective inclusion was required. Articles included for analysis were prioritized based on their inclusion of a change mechanism relating to scopes of practice, an evaluative methodology, and reported outcomes and impact. It is important to reiterate that because this was a scoping review, individual methodological qualities of the included articles were not assessed. This would be an important next step on the research agenda.

An extraction tool was developed to facilitate the systematic approach of retrieving the usable data from the literature. Given that five research analysts were involved at this stage, there was room for inconsistencies in data reporting. Throughout the review process we conducted several check-ins to reconcile potential discrepancies.

A challenge for extractions and analysis was the lack of clarity in the literature around terminology with respect to scopes of practice and professional roles. Terms such as “task-shifting,” “delegation,” and “substituted acts” are inconsistently defined in the literature. There is also wide variance in the terminology used outside of Canada to describe the skills profile and regulated scope of health professionals, and terms such as “skills-mix,” “skills-dose,” and “skills-laddering” are commonly and inconsistently used. This heterogeneity creates challenges for the examination of scopes of practice, particularly with respect to the meanings associated with new or expanded roles.

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During the screening process, identified articles that met the inclusion criteria, but may not have reported on the outcomes outlined, were identified. These articles were grouped as either *process-based*, if they described innovations and mechanisms for implementation, or *context-based*, if they described the evolution of a role or particular education and training, economic, or legal and regulatory contexts.¹¹

Overview of the Key Informant Interviews

To augment the knowledge gaps that we anticipated would remain after conducting the scoping review, we conducted 50 key informant interviews. Ethics approval for these interviews was secured by the University of Ottawa (see Appendix 12*). The approach to the identification and selection of the key informants was purposive, starting with national and international health workforce experts, scope of practice innovators, and government policymakers at the local/regional, provincial, and federal levels, and continuing with representatives of professional stakeholders and patient/community groups (see Figure 4).

FIGURE 4: OVERVIEW OF KEY INFORMANT INTERVIEW PARTICIPANTS



The list of key informants was generated from a variety of sources, including the scoping review, and a snowball sampling strategy where key informants suggested other key persons. The intention of the sampling strategy was to represent the diversity of the health care domains and regions in Canada and stratify by respective involvement (i.e., expert or stakeholder). The recruitment strategy followed a clockwise approach noted in the diagram. Participants were recruited by email and provided with an e-letter of information and a consent form for the study (see Appendix 12*).

Using a series of semi-structured interview guides tailored to the area of expertise of the key informant, interviews were conducted by phone by members of the project team (Ivy Lynn Bourgeault, Gillian Mulvale, or Katelyn Merritt), digitally recorded, transcribed verbatim, and coded for thematic analysis using NVivo qualitative analysis software (see Appendix 14* for the standard interview guide and Appendix 15* for the coding scheme). The structure of the interview guide and the subsequent coding scheme followed the thematic areas identified in the conceptual framework and the literature extraction tool for consistency of integrating the findings in this Assessment. Because the literature was dominated by the micro-level inputs, the content of the key informant interviews tended to emphasize the meso- and macro-level inputs. Many of the interviews were loosely structured conversations allowing for maximal exploration of issues not presently under consideration. Due to time limitations, we had to strategically select the most relevant questions for the individual key informant based on his or her particular area of expertise.

11 It is suggested that these articles undergo separate investigation to provide additional background to the intervention-oriented analysis included in this Assessment.

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3. KEY FINDINGS

Overall, we found that the scopes of practice intervention literature focused largely on

- descriptive studies with an emphasis on survey methods;
- primary, tertiary, and then chronic care, including the overlap between these levels;
- the professions of nursing, medicine, and pharmacy;
- the practice-level change mechanisms; and
- health care professional outcomes, followed by patient outcomes and then system-level outcomes, most of which were reported positively.¹²

We found general biases and research limitations to affect the following areas:

- There was a particularly strong reporting bias towards positive outcomes with relatively little discussion around lack of or no change after an intervention had been introduced. This was found equally across published and grey literatures. It is also important to consider that the work of many HHR projects may not be documented, as scholarly output may not have been a priority for the project team; rather, efforts were concentrated on local implementation and sustaining the innovation without needing to document or promote it for a wider audience (Evans, Schneider and Barer, 2010).
- The findings from the literature were quite modest, which is perhaps reflective of the generally conservative nature of the publication and research funding associated with the innovation. Related to this, there was very little research retrieved on health equity and addressing issues of disproportionate accessibility for particularly marginalized or vulnerable populations, such as immigrant, aboriginal, or homeless populations.
- Language and geographical biases are important to consider given that the inclusion criteria was for English and French papers only, which may have

excluded some of the international reviews in particular. We also recognized that a significant proportion of innovations-based literature was missed by limiting international sources to the United Kingdom, the United States, and Australia. However, for the purposes of this study, it was necessary to define limits and consider health care systems and structures most comparable and relevant to the Canadian context.

There were few comprehensive studies that report on outcomes that can serve as a framework for guiding the redesign of future health professional scopes of practice. The key informant interviews and Expert Panel debates propelled the discussion from what is currently known in the literature to a recommendation scheme to guide the process of better defining those scopes of practice that *will be most effective to support innovative models of care for a transformed health care system to serve all Canadians*.

We present our findings first by the micro-level inputs, followed by the meso-level inputs and then the macro-level inputs in the education and training, economic, and legal and regulatory contexts (see Figure 3). In general, a focus on the micro level dominates the literature—covering nearly half of the articles extracted. The next largest category of articles covers educational interventions with a minority discussing the macro-level factors of economic and regulatory/liability issues. We identify at each of these levels: key features, reported outcomes, and any enablers or barriers associated with the intervention. The information gathered from the key informants is then presented, and used to draw out points of consistency with the literature and also fill in gaps not addressed in the literature. Summary boxes are presented at the end of each section, which are informed by both the data drawn from the literature and key informants, and synthesized after the Expert Panel meetings. In the last section, these summaries are used to inform the recommendations.

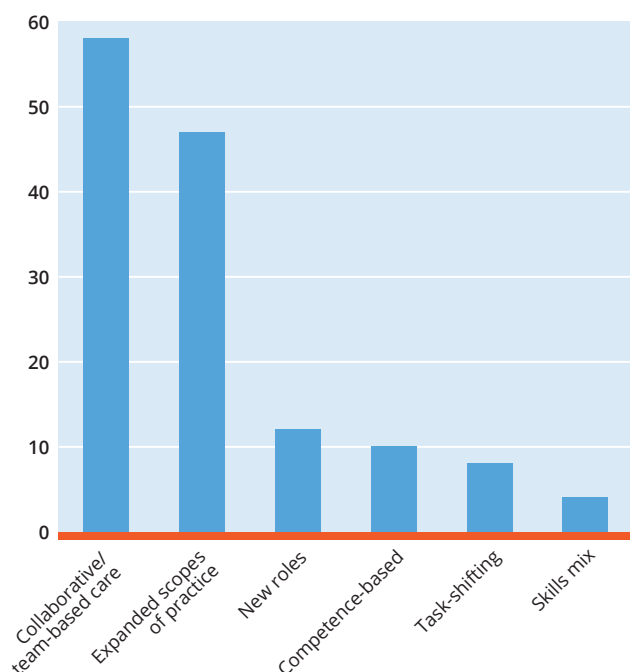
¹² Additional graphs describing the overview of the literature are provided in Appendix 16*

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A. Micro (Practice) Level Interventions

In 2010, The World Health Organization (WHO) recognized “interprofessional collaboration in education and practice as an innovative strategy that will play an important role in mitigating the global health workforce crisis” (WHO, *Framework for Action on Interprofessional Education and Collaborative Practice*, p.7). The literature captured in this scoping review is consistent with this statement, demonstrating the degree of attention towards interprofessional collaborative care models as one promising strategy to improve quality of care. Among the 125 sources identified in the scoping review, there were 58 that involved an interprofessional, collaborative, team-based change mechanism. Classification for these models was guided by the WHO’s definition of collaborative practice: “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” (2010, p.7). Along with collaborative or team-based change mechanisms, other approaches to intervention at the practice level are depicted in Figure 5 and described below.

FIGURE 5: OVERVIEW OF THE NUMBER OF CITATIONS OF PRACTICE-LEVEL INTERVENTIONS FROM THE LITERATURE¹³



13 Categories are not mutually exclusive.

Collaborative or team-based care: Two or more health care professionals of different professional backgrounds working together to meet patient needs.

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.

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.

Competence-based development: Interventions designed around improving the skills of health care professionals to improve quality of care.

Task-shifting: When a health care task is assigned to another health care professional to use professional resources at the highest possible level within the regulatory framework of delegated acts.

Skills mix: The mix of skills both across professions and within professions in a given setting.

From the literature, key features associated with successful **interprofessional, collaborative, or team-based care models include**

- Regular communication protocols, such as daily meetings or patient-specific consultations (Aziz, 2005; Carter, 2009; Eiser, 2008; Kates, 2002; Health Systems and Workforce Research Unit, 2011; Howard, 2003; Lalonde, 2011; Sargeant, 2011; Tomblin Murphy, 2010; Tomblin Murphy, 2012; Zwarenstein, 2009)
- Designated management team or coordinator role (Eiser, 2008; Kates, 2002; Kilner, 2010; Kisely, 2006; Moe, 2010; Tomblin Murphy, 2010; Tomblin Murphy, 2012; Trojan, 2009; Santé Québec, 2012)
- Sense of shared responsibility; shared decision making (Bonin, 2012; Buckley, 2009; Irvine Doran, 2002; Isetts, 2012; Health Systems and Workforce Research Unit, 2011); role clarification (D'Amour, 2008)
- Collaborative care competence development (Boulet, 2008; Charles, 2011; Dumont, 2010; Gagliardi, 2007; Gaines, 2008; Health Council of Canada, 2009; Johnston, 2000; Kenaszchuk, 2012; Laprise, 2012; MacDonald, 2008; Reeves, 2009; Suter, 2008; Suter, 2010; Wheeler, 2011)
- Integrated evaluation (Health Council of Canada, 2009; MacPhee, 2012; Zwarenstein, 2009)

Barriers to **interprofessional collaborative care models** were related to the following:

- Professional cultures, including role uncertainty (Doran, 2009; Howard, 2003)
- Intercollegiate respect or trust in relative competencies (Aziz, 2005; Besner, 2011; D'Amour, 2008; Farrell, 2008)
- Job protectionism (Kilner, 2010; Lalonde, 2011)
- Physical space or organizational slack (Health Council of Canada-ON, 2009; Kates, 2002; Trojan, 2009)
- Appropriate compensation (Blash, 2011; Tomblin Murphy, 2010)

In addition to the sources discussing interprofessional collaborative care models, there were 47 articles that referred to **expanded scopes of practice**, which tended to come from the perspective of a given health care profession rather than from the perspective of an interprofessional health care team. Articles involving expanded scopes of practice referred to pharmacy, nursing, or physiotherapy professions exclusively. There were 12 sources that described **new roles**, which included patient navigators, clinical associates, mental health liaisons, physician assistants, and other roles associated with technological innovations. Seven sources included **task-shifting** models where there was some form of routine delegation involved, typically from a physician to another (less-expensive) health care professional. All of these practice-level interventions had implications on both the scopes of practice of the health care professionals involved as well as the model of care through which the services were delivered.

The enabler most commonly reported under **expanding scopes of practice** or **new roles** was in reference to intercollegiate respect and understanding of respective roles among other health care professionals (Browne, 2012; Farrell, 2008; Higuchi, 2006; Jensen, 2004). Interestingly, this was also the most commonly reported barrier associated with **expanding scopes of practice** and **new roles** (Bryant, 2007; Farrell, 2008; Hoskins, 2011; Howard, 2003; Irvine, 2000; Musclow, 2002). Additionally, appropriate remuneration systems and fiscal constraint (Canadian Health Infoway, 2013; Bonsall, 2008; Lalonde, 2008; Salgado, 2012), as well as concerns around liability (Bonsall, 2008; Hooker, 2010) were also noted.

Added to these Canadian-focused articles, there were two systematic reviews drawing from international settings that focused on practice-level interventions and reported inconclusive outcomes:

- Zwarenstein et al. (2009) included five studies that examined the effect of interprofessional practice-based interventions on patient satisfaction and health care processes; findings on effectiveness and efficiency were inconclusive.
- Kilner et al. (2010) examined 14 studies of the role of teamwork and communication in the emergency department; studies demonstrated high levels of staff satisfaction but provided moderate evidence that the introduction of multidisciplinary teams to the emergency department improved access.

And one meta-analysis in this category reported significantly positive health outcomes:

- Carter et al. (2009) reviewed 37 studies of team-based care interventions for hypertension where nurses and/or pharmacists were integrated into the primary care setting; studies showed significant reductions in systolic blood pressure.

Overall, interventions involving collaborative care models, expanding scopes of practice, new roles, task-shifting, and skills mix configurations were consistently associated with positive outcomes. The majority of these outcomes were reported at the professional level, describing increased collaboration and job satisfaction; the latter of which was correlated with decreased workload among physicians and a greater sense of influence over the patient's well-being among non-physicians (Lalonde, 2011). Several sources reported increased patient satisfaction, commonly attributed to health care professionals with an expanded scope of practice or a new role being able to spend more time with the patient as compared to usual care where visits with physicians or specialists are often described by patients as rushed and/or less frequent (Bonsall, 2008; Dumont, 2009; Parrish, 2009).

With respect to economic considerations, while a number of studies did present evidence around cost-effectiveness, in general the findings remain inconclusive. It is important to acknowledge that any interpretation of cost-effectiveness must recognize that decision makers may have different objectives that sometimes align, but may also compete

when introducing an intervention. For some, the objective of the scopes of practice intervention is primarily to improve the effectiveness of a service in terms of a particular outcome (e.g., patient health status, interprofessional collaboration. In these situations, the intervention may be more costly, but it is considered worthwhile relative to the associated outcomes. In other cases, the objective of the scopes of practice intervention may be to achieve cost savings for a current (or potentially improved) level of effectiveness; here the

expectation would be a lower cost-effectiveness ratio and an intervention that would be cheaper to deliver than standard care. For scopes of practice interventions, policymakers must consider the relative weight given to objectives of cost control and service improvement in their particular context, including the time horizon over which they would like to achieve these objectives. This underscores the importance of interpreting cost-effectiveness ratios relative to a specified alternative and set of objectives.

CASE STUDY 1: EXPANDED SCOPE OF PRACTICE

Physiotherapist Triage Model

Model of Care: In this model, physiotherapists are involved in the consultation process to determine appropriate care pathways for patients presenting with musculoskeletal disorders. This is different from usual care models where the orthopaedic surgeon performs all musculoskeletal-related consultations, which are becoming a growing health care demand with the aging population and prevalence of obesity. The physiotherapist triage model is designed to reduce consultation wait times, reduce the number of unnecessary surgeries, and improve system-level cost-effectiveness by transferring initial Assessment responsibilities from a higher-cost professional to a lower-cost professional. This model has been explored sporadically throughout the country (most notably in Alberta, Ontario, and Quebec) since the late 1990s.

Implications for Scopes of Practice:

- In one particular case in Quebec, the advanced practice physiotherapists are responsible for formulating a diagnosis, triaging potential surgical candidates, ordering imaging or laboratory tests, and prescribing medication for patients with musculoskeletal disorders.
- General musculoskeletal consultations conducted by physiotherapists include spinal injuries, joint pain (particularly knees and hips), and post-osteoplastic services.
- Scope and workload of orthopaedic surgeons previously providing these services is consequently shifted.
- Additional training is required for advanced practice physiotherapists.

Enablers:

- Community-/institution-based support
- Professional collaboration between orthopaedic surgeons and physiotherapists
- Competency-based education initiatives

Take-Away Evidence is promising around treatment concordance between physiotherapists and orthopaedic surgeons. Physiotherapists tend to spend more time with patients, which may be related to the increased patient satisfaction levels reported.

Desmeules, F., Toliopoulos, P., Roy, J-S., Woodhouse, L., Lacelle, M., Leroux, M., Girard, S., Feldman, D., Fernandes, J. (2013). Validation of an advanced practice physiotherapy model of care in an orthopaedic outpatient clinic. BMC Musculoskeletal Disorders, 14:162.

Bath, B., Grana, S., Janze, B. (2012). A Spinal Triage Programme Delivered by Physiotherapists in Collaboration with Orthopaedic Surgeons. Physiotherapy Canada., 64(4): 356-366.

Key Informant Interviews

During key informant interviews, we were careful to inquire about *innovative models of care* and *modifications to scopes of practice* without leading key informants in a particular direction. Consistent with the literature, interprofessional collaborative care models emerged as the most common change mechanism. A number of key features were raised:

- The benefits of collaboration for patients and health care professionals are increasingly recognized.

“In terms of the innovative models, I mean it is so crystal clear that we have to have functionally integrated multidisciplinary teams of the right providers giving the right service at the right time in the right place. And the composition of those teams really will depend on the needs of the population.”

“So all health care professionals believe yes, collaborative care is important to provide better health outcomes (or patient outcomes) but also can improve efficiency and all these other benefits that we know [interprofessional care] teams can provide.”

- A clear understanding of the roles and competencies of each of the professionals in the health care team is necessary for effective team collaboration.

“Understanding each other, respecting each other, appreciating what each other can do.”

- Team leadership is of critical importance and this role does not necessarily need to be held by the physician on an interprofessional team.

“If I had one piece of advice, it’s really to build up capable management and leadership structures, from the team all the way up through the senior level leaders, that include both physicians and other health team workers working collaboratively, or leaders working collaboratively. I don’t think you’re going to get that far without having that leadership and management.”

Some examples of different types of collaborative care models were highlighted.

Shared Care: *“So that is where instead of... I mean what typically happens in health care, or what often happens, ...is when a patient is referred to a specialist, it can happen that that specialist takes over their primary care as well, which is a very great misuse of the specialist’s expertise... so this is the opposite. This is the idea of the specialist supporting the primary care physician to provide a better level, a better quality of care by helping that clinician tease out some diagnostic issues or provide help with managing medications, that kind of thing, or conducting in-services with the doctor, the health care team, the nurses, etc.”*

CASE STUDY 2: SHARED CARE MODEL

Hamilton Family Health Team–Mental Health Program (HFHT–MHP), Ontario

Model of Care: Since 1994, HFHT–MHP has integrated mental health counsellors and psychiatrists into primary care settings. Reaching over 80 family practice clinics, this shared care model addresses issues of poor accessibility and availability of mental health services. Its practice structure is unique in its specialized referral system, where psychiatrists see new cases and select follow-ups, review cases with other medical staff, and provide educational support, and physicians can refer patients directly to counsellors who are available onsite. After initial intake, patients can continue seeing a counsellor on an intermittent basis without needing to make an appointment with a physician or a psychiatrist.

Implications for Scopes of Practice:

- Responsibilities of shared care between psychiatrists, physicians, and counsellors depending on patient needs are facilitated through communication sessions and an open referral system.
- A designated program coordinator is needed to manage clinic operations, human resource processes, monitoring, and evaluation.

Enablers:

- Blended capitation payment system
- Regular, structured communication processes between health care professionals
- Central coordinating team
- Active involvement of family physicians
- Strong support network for counsellors (workshops and direct access to health services)

Take-Away: This program has demonstrated improved health outcomes for patients, with better coordination of care, reduced wait times, less stigmatization for persons seeking service, and high satisfaction reported among participating health care professionals and patients. This model of care is considered to be highly transferable to other settings.

Kates, N., Crusstolo, A.M., Farrar, S., Nikolaou, L. (2002) Counsellors in Primary Care: Benefits and Lessons Learned. *Canadian Journal of Psychiatry*, 47(9): 6.

Website: <http://hamiltonfht.ca/i-am-a-patient/mental-health>

Nurse-Led Primary Care: *“And in the nurse practitioner-led clinic, regardless of how many patients you had rostered, you started off with a pre-built team of interprofessional workers that were designed to figure out how to extend*

care for this patient... That requires them to articulate what were the needs of the community and how would a team of individuals better serve the needs of the community.”

CASE STUDY 3: NURSE-LED MODEL

1. Quick Care Clinics, Manitoba

Model of Care: The Quick Care Clinics in Manitoba are designed to meet low-complexity, primary health care needs, thereby addressing unnecessary visits to the emergency room, duplicated diagnostics/testing/imaging, and shortages around availability of family physicians. The Quick Care Clinics operate as nurse-led care models, meaning that there is no physician located on site; rather, patient visits are shared between registered nurses and nurse practitioners. Basic services include treating eye infections, rashes, sprains, etc.; prescribing birth control; and administering immunizations. The clinics provide extended-hour options by delivering services during weekends, evenings, and holidays. Steinbach Quick Care Clinic was the first of four clinics to open in Manitoba in 2012.

Implications for Scopes of Practice:

- Socio-cultural changes associated with level of authority for advanced practice nurses
- Coordinated care with family physicians; streamlined referral system for more complex needs
- Education and training designed for nurses working without physicians alongside.

Enablers:

- Electronic medical record system established from the beginning
- Coordination with Regional Health Authority
- Block funding
- Centralized clinic locations for improved accessibility
- Support from the broader provincial agenda to increase access to family physicians by 2015

Take-Away: In order to match health human resource supply with population health needs, educational programming needs to be aligned with current service delivery models.

Source: personal communications.

In terms of barriers to introducing practice-level changes, each key informant presented competing, or rather multiplicative, challenges (related to his or her area of work and expertise); these focused largely on economic issues but also acknowledged the role of liability, regulation, and employment contracts.

“[T]hat is probably the biggest barrier to change—is changing how people do things after having done it one way for so long.”

“So in hospitals, the biggest barrier for [collaborative care] right now ... is that physicians are by far and away the cheapest labour for us to bring in because they just bill OHIP [the Ontario Health Insurance Plan] ... The challenge is the billing. It’s not the legislation that allows access, it’s the billing.”

“It’s always an issue with the physicians, because traditionally...a physician is always the ultimate bearer of the liability.”

“The biggest thing they could do is to align the incentives so they make sense.”

“So we have some processes that are now built into our union contract that really undermine the ability to move people to full scope of practice if they’re doing anything other than an RN role.”

Depending on the context and framing, and as shown from the summary of the literature findings, some of these barriers were also viewed as **enablers**.

“And so those models of legislation have the ability to either enable change in practice or present a huge barrier to change in practice.”

Overall, the critical barriers raised by key informants that had an impact on the practice-level configurations of health care professionals and their scopes of practice crossed micro, meso, *and* macro levels. This reinforces the complexity of the interaction of *multi-level inputs* and their potential to serve as both *enablers* and *barriers* (see Figure 3, Conceptual Framework, and Table 1, Barriers and Enablers at the Micro, Meso, and Macro Levels). The barriers ranged over legislation, certification, liability, education and training, transition to practice, turf protection, colleges, associations, unions, cohesive vision, leadership, monitoring, evaluation, information technology, professional cultures, tradition, and sustainable programming. These areas were all raised in the literature (Blash, 2011; Doran, 2009) with the exception of unions, which were largely perceived as being impediments to change (unions are discussed further in the next section).

SUMMARY (A): MICRO (PRACTICE) LEVEL INTERVENTIONS

Key feature: Collaborative care models are widely accepted as essential characteristics of innovative models of care and support changes to scope of practice in order to improve health care delivery. Commonly linked to collaborative care models are **expanded scopes of practice** of some health care professionals and the development of **new roles** altogether, both of which require a renegotiation of responsibilities, implying task-shifting or delegation.

Outcomes: The associated outcomes with these interventions were consistently positive, particularly for reports on both provider and patient satisfaction. There is little evidence around system-level outcomes and more systematic research would be required to determine any kind of causal effect.

Enablers:

- Regular communication and space for collaborative work practices
- Designated team leadership and management
- Awareness of respective professional roles

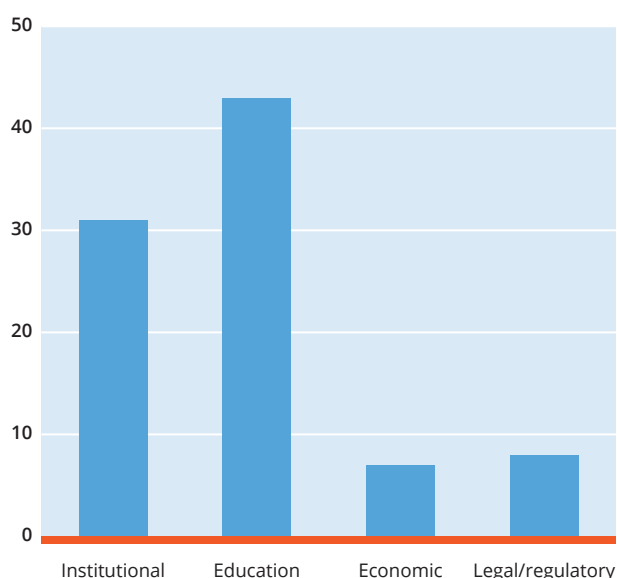
Barriers:

- Professional cultures and traditional hierarchies
- Unions and professional protectionism
- Remuneration systems that create disincentives

* The summary box above has been informed by data collected from both the scoping literature review and the key informant interviews. The points presented were selected based on emerging themes and discussions among the Expert Panel members. Together, the summary boxes from all levels of findings are used to inform the Recommendations.

In the next section, we turn to the less-studied meso-level and macro-level interventions. In terms of processes to enable change to scopes of practice and models of care, educational interventions (macro level) were most commonly studied (n=43), at both the pre-licensure and post-licensure phases, as compared to institutional interventions (meso level) (n=31), legal-/regulatory interventions (macro level) (n=8), and economic interventions (macro level) (n=7) (see Figure 6 below).

FIGURE 6: NUMBER OF CITATIONS OF TYPE OF INTERVENTION STUDIED IN INTERVENTION LITERATURE



B. Meso (Institution) Level Interventions

Institution-level, or organization-level, inputs described in the literature included interventions involving specific reference to communication systems, electronic medical or health record systems¹⁴, accreditation, and performance monitoring and evaluation. Most notable of the 125 sources were 9 articles that described the integration of technological innovations, including electronic health records, and 17 that described integrated performance monitoring and evaluation. While many articles supported the rhetoric around the need for patient-oriented care, only 3 sources in this review actually articulated how they were able to enact patient integration.

Examples of studies describing promising institution-level **technological innovations** included

- the sharing of laboratory results available through networked computer programs (Lalonde, 2008) and
- the integration of nurse-led telemedicine, which reported mixed outcomes and highlighted the need for aligned structures, such as appropriate remuneration models (Carter, 2012).

Interventions that included some form of integrated **performance monitoring and evaluation** assessed

- the measure of the composition and mix of skills of a health care team, the level of perceived interprofessional team collaboration, and daily activities among interprofessional team members (Lineker, 2009; Latimer, 2009; Orchard, 2012; Eiser, 2008; London, 2009; Legault, 2012). The integration of performance monitoring and evaluation was not linked to impact on outcomes but was considered an important process element in practice change.

One of the included studies that examined a **patient engagement model** found that

- patient focus groups were a helpful tool to inform different kinds of health care delivery models during design stages; evaluation of the study showed improved health outcomes for patients when compared across performance benchmarks for diabetes management (Isetts, 2012).

¹⁴ Note that in the literature and interviews, the terms *electronic medical records* and *electronic health records* are often not distinguished from one another. *Electronic medical records* are considered to be a replacement for physicians' charts, notably for the purposes of tracking diagnoses and treatment; whereas *electronic health records* are considered to encompass all types of health records across settings and providers (Canada Health Infoway, 2011). Ideally a person would have one electronic health record for all health-related histories and care. Throughout this Assessment, we use *electronic health records* most commonly, but refer to *electronic medical records* to appropriately reference specific interventions

CASE STUDY 4: INTEGRATION OF ELECTRONIC MEDICAL RECORDS

Sault Ste. Marie Group Health Centre, Ontario

Model of Care: Originally established in 1962, the Group Health Centre has evolved into an interdisciplinary ambulatory health care organization, now serving over 70,000 residents of Sault Ste. Marie and Algoma District (95% of the population). This innovative model of care addresses issues around accessibility and comprehensiveness of primary care service delivery through the provision of same-day care as well as longer-term chronic care support. There are diagnostic services and laboratory facilities on site that are also used by other primary and secondary care services. The most distinctive feature of this model is the use of EPIC—a large-scale electronic medical record system where each patient has a single record. This allows for different types of health care professionals to access patient data as needed, make real-time referrals to specialists, generate treatment plans based on algorithms, and aggregate data for population-level monitoring and evaluation. This system also enables patient engagement through the accessibility of an online patient portal.

Implications for Scopes of Practice:

- A range of health care professionals are located onsite, including doctors, nurses, nurse educators, physiotherapists, optometrists, kinesiologists, dietitians, and lab technicians, which facilitates collaborative practice styles throughout the organization.

Enablers:

- Alternative payment structure
- Support from the Ontario Ministry of Health and Long-Term Care
- Electronic medical record system
- Ongoing monitoring and evaluation

Take-Away: The Sault Ste. Marie Group Health Centre has the largest primary care electronic medical record system in Canada. The system-level improvements made in continuity, integration, and comprehensiveness of care and associated patient health outcomes are largely attributed to the capacity of this electronic infrastructure.

Sault Ste. Marie Group Health Centre: Big Success in a Small Community. Government of Ontario.

Shaw, N., Ward, A. (2011) Case Study: A look into the Group Health Centre's Electronic Medical Record Procurement Process

Website: <http://www.ghc.on.ca/>

There was one scoping review (Canada Health Infoway, 2013) that assessed the impact of technological innovation of **electronic medical records** across Canada, which by association, also involved performance monitoring and evaluation, and even patient engagement. Electronic medical records were found to be efficient through the substitution of time-consuming administrative tasks such as chart pulling, managing lab results, scheduling, billing, clinical documentation, and order entry. On patient-and system-level outcomes, the findings showed that electronic medical records were considered to be an enabler for improving quality of care by increasing communication among health care professionals, ensuring appropriateness of diagnostic tests, improving the monitoring for chronic disease management, increasing patient satisfaction, supporting the continuity of care, and integrating with web-based patient engagement models. The primary barrier noted in reference to the implementation of electronic medical records was hesitation, particularly among clinicians, in regard to the relative return on investment relative to the time and cost of implementation and upkeep. This hesitation was reinforced by the lack of available evidence showing the direct cost benefits; however, authors indicated the importance of having realistic expectations around the timelines for return on investment, recognizing that it could take several years to see any major impact on function let alone patient outcomes. The integration of electronic medical records or electronic health records has a direct organizational impact on scopes of practice as it enables health care professionals (and in some cases, patients themselves) to share patient information more easily, particularly across health care settings.

A second scoping review focused on examining the current status and estimated impact of **telehealth services** across Canada (Gartner, 2011). New clinical services provided through telehealth initiatives included telepsychiatry, telecrisis, telestroke, teleophthalmology, teledermatology, teleoncology, telehomecare, and telemonitoring (live videoconferencing and “store and forward solutions” for the transmission of images or video to a specialist clinician for interpretation). These new services enabled expanded programming capabilities such as scheduling, knowledge sharing, and interprofessional communications. Most importantly, the new approaches to service delivery were found to improve timeliness and accessibility of care. Improved outcomes were described by the capacity to offer better support for chronic disease management, enable improved coordination of care across settings, improve equitable accessibility to specialized clinical services, particularly for patients in rural and aboriginal settings, and contain escalating and unnecessary costs to the health care system and patients. Despite telehealth services being identified as a *catalyst* for leading other innovative practices, the largest barrier to their broader adoption was noted as the lack of existing or consistent electronic health record systems into which these services could be integrated. This reiterates the intent of the conceptual framework—that none of the interventions considered in this scoping review can be assessed in isolation.

CASE STUDY 5: INTEGRATED EVALUATION AND MONITORING

Taber Family Care Clinic, Alberta

Model of Care: Established in 1999 in Taber, Alberta, the Taber Clinic was designed to address issues of accessibility to primary care services. Through a team-based model of care, the family clinic is able to link over 16,000 patients to a health care professional. Key features enabling the broader capacities of this clinic include improved patient intake processes so that the data collected at each point of care can be used to inform appropriate care pathways and health care professional allocation. This patient data collection also enables the generation of algorithms for screening depending on patient profiles as well as aggregate comparisons of clinic functioning to population health benchmarks.

Implications for Scopes of Practice:

- Dietitians, physicians, diabetes educators, asthma teams, public health nurses, and nurse practitioners operate under one roof to create a centralized patient information network.
- Medical office assistant plays a key role working directly with the physician, taking standard patient metrics.

Enablers:

- Block funding for closed population
- Integration with Chinook Primary Care Network
- Electronic medical record system for both patient information sharing and communication between providers
- Ongoing monitoring and evaluation

Take-Away: The effective provision of primary care services in Taber has had a positive impact on relative health services, reducing unnecessary or preventable visits to the emergency department and acute care services. There are possibilities for expansion to include public health, homecare, mental health, addictions, and family and community services.

Tholl, B., Grimes, K. (2012). Strengthening Primary Health Care in Alberta through Family Care Clinics: From concept to reality. Part One: Issue Brief.

Website: <http://www.chinookprimarycarenetwork.ab.ca/clinics/clinic.php?view=19>

Overall, from the literature, it is clear that information technologies such as the establishment of electronic medical record systems and telehealth services are becoming more common in health care delivery. Such information technologies have direct implications on scopes of practice as they enable expanded scopes of practice through improved communication systems (e.g., when pharmacists can take on greater responsibilities for patients through more direct communication with family physicians); new scopes of practice through the delivery of altogether new services (e.g., teleoncology) and the associated competencies required; and effective collaboration in cases of overlapping scopes of practice (e.g., sharing patient data across providers and settings). In some cases, these technologies have also

been able to involve patients in the provision of their own health care, such as the development of online patient portals where patients can directly access their own health records. These examples are depicted at the meso (institution) level. The important piece lacking across these information technology innovations is standardization within and across regions. This fragmentation has implications for continuity of care, particularly for patients travelling between rural and urban settings. Professional turnover also affected the sustainability of innovations.

Institutional features that were not discussed from this data source include institutional accreditation and the role of institutional and financial incentives.

Key Informant Interviews

In the key informant interviews, we inquired about institution-level inputs in order to facilitate innovative models of care and optimal scopes of practice. The role of technology was commonly discussed among key informants, noting that if done well it can be supportive, but new barriers can surface if the technology is not integrated with other structural enablers or designed with input from the users across settings.

"You know, a lot of health care organizations have spent a lot of money on creating electronic medical records, electronic health records. And certainly individual hospitals went their own way. So there are huge, huge questions of interoperability. But most of the resources spent on these systems went to, you know, closed proprietary programs."

Beyond the issue of the effective implementation of technology, there was also an acknowledgement that if unchecked, advances in technology can also lead to a consequent proliferation of roles or scopes of practice that also need to be coordinated.

"I think that new technology in that way can sometimes create a front-end demand for a new type of worker that can't be met by a current role or training a current role and enhancing that role."

Performance monitoring and evaluation were raised positively by a number of key informants regarding quality, safety, and efficacy.

"Using accountability or performance measurement, or even [electronic health record] investment, all of those other things that you can do to make the system on a management level actually look like more of a system where you can look at what happens to patients when they

move across different parts of the system, where things fall through the cracks, and start solving problems in an integrated manner. So I think it actually comes more to a sense of stewardship and some form of accountability, which probably includes some kind of performance management or at least performance monitoring."

"And I think the literature is pretty clear—when you do public reporting, it doesn't necessarily change a lot of [patients'] behaviour but it does change the behaviour of the health care professionals knowing that what is happening will be reported publicly."

The impact of accreditation and performance management systems, however, is often challenged by the measurability of selected outcomes, particularly within shorter reporting time frames. This challenge speaks to the importance of distinguishing between short- and long-term impact relative to initial investments.

"One of the things that happens is that there's a real problem if things are not easily measurable; they get lost in the shuffle ... There's also some real places where it won't do what you want it to do ... We found that things like transitions and the systems of care, they just vanish on most of the matrix, because first they're hard to measure, and secondly, people don't control them as well."

This point is consistent with the argument in the CAHS report on chronic care, which emphasized that "a culture of accountability is needed in which ... all health professions recognize the importance of measuring their performance, compare their performance to their peers', and change their behaviour. However, ... [this requires] having access to the right data, being able to analyse and compare between health care professionals and the right outcomes, and ultimately changing practice" (Nasmith et al., 2010, p. 31).

Two accrediting bodies that were highlighted in the key informant interviews were the Association of Faculties of Medicine of Canada (AFMC) and Accreditation Canada—one largely for education and one for practice. The AFMC covers 17 Faculties of Medicine for undergraduate medical education through the Committee on Accreditation of Canadian Medical Schools in Canada and the Liaison Committee on Medical Education in the United States. It also has developed the Interim Accreditation Review Process for continuous quality improvement and the Accreditation of Interprofessional Health Education (AIPHE). Accreditation Canada, which focuses more on accreditation of practice, is certified under the International Society for Quality in Health Care and reaches beyond medicine, working with health care organizations that *elect* to undergo the accreditation process. It was suggested that these are two primary organizations to target for greater pan-Canadian impact on quality assurance.

Despite the optimism around the impact or potential impact of accreditation, it also has its caveats.

“Now, the problem with accreditation is, of course, it begins to set up boundaries that are defined by scopes of practice ... And once you have accreditation and legislation linking together, you can see how difficult it is to begin to break those walls down.”

Linking performance measurement to economic tools was cautioned by a number of our key informants. The preference was to deploy these tools in a manner of constructive criticism.

“Because these are driven, creative, massively capable people (that’s how they got to the jobs that they’re in), they’re internally motivated. What you need to do is find a way to capture that internal motivation and drive it towards the outcomes you want to see produced.”

“When you measure and give feedback to people in a non-threatening way, they will get better.”

Institutionalized forms of **patient-oriented care** were noted as promising.

“Patients can cut through a lot of the... Well, they can make their demands known. They can make their perspectives known. And in some cases, can break the logjam sometimes. So I would say that a more formal way of involving patients, patient groups, patient organizations in the development of policy and in the development of services would be a very good step in improving the quality and the safety of health care.”

However, there was concern in regards to the ambiguity around the term *patient-oriented care*—how it is defined and measured.

“But nobody has a good definition of it or a good understanding of what patient-centred care means.”

“So if we’re saying we’re doing patient-centred care, it has to be around the patient. And we’re not measuring things from the patient. And how do we know that what we’re doing is what we want to achieve?”

Another institution-level factor discussed by the key informants that did not emerge from the literature was the role **unions** play in determining scopes of practice. When it was mentioned, unions were often identified as challenging to the evolution of scopes of practice, which could be seen as being based on their traditional hierarchies and their inherent profession-protective nature.

"Most of them are busy protecting what they have rather than demanding creativity, innovation and a better future. And all of that has to change. People have to quit protecting and locking into place the status quo as if somehow it's the right answer because it's not the right answer."

"So both the protect-and-defence stance of unions and the protect-and-defence stance of regulatory people is just freezing in time what we have today with more and more strict limits on the ability to innovate and create change, and improve."

Meso (institution) level areas that were emphasized more often in the key informant interviews, and less so in the literature, included the role of institution-based accreditation and performance management. Interestingly, there was little suggestion about the linking of incentives to accreditation processes such as the pay-for-performance model that is becoming increasingly present in health care organizations in Canada. Unions were also recognized as key actors to involve in the discussion in regard to increasing flexibilities around scopes of practice and models of care. Successful mechanisms for engagement were not articulated.

SUMMARY (B): MESO INSTITUTIONAL LEVEL INTERVENTIONS

Key features:

- Technological infrastructures such as electronic medical record systems and telehealth services are becoming increasingly common to provide solutions around collaborative care models and accessibility of services
- Accreditation and performance management provide mechanisms to hold health care teams and institutions responsible for delivering high quality care

Outcomes:

- Electronic medical records are associated with increasing efficiency through the substitution of time consuming administrative tasks and mitigating duplicated services; and improving quality of care through better record keeping and collaborative capacity building
- Expanded services through telehealth models have been found to increase general accessibility of care
- While considered necessary for quality assurance and patient safety, the impact of accreditation processes and performance management is not well documented

Enablers:

- Electronic health records are viewed as an essential infrastructural element to enabling collaborative care models
- Remuneration models that match the institutional changes (ie. developing appropriate billing mechanisms for nurses providing telehealth services)

Barriers:

- Resistance among health care professionals to shift from traditional modes of operation to new communication and organizational systems
- In some cases, union contracts and internal interests

* The summary box above has been informed by data collected from both the scoping literature review and the key informant interviews. The points presented were selected based on emerging themes and discussions among the Expert Panel members. Together, the summary boxes from all levels of findings are used to inform the Recommendations.

C. Macro (Structure) Level: Educational Interventions

Educational programming for health care professionals has the potential to support the evolution of scopes of practice on a macro level through the systematic development and implementation of modified curricula and competencies to reflect different practice styles and changing epidemiologic trends. A number of studies cited (42 out of the 125 sources) report on educational interventions, which consistently refer to *interprofessional education* initiatives as a focus for preparing the incoming health care workforce and/or continuing the professional development of the existing health care workforce for collaborative care models. It is important to note that based on the content of the literature, *interprofessional education* initiatives are used more-or-less interchangeably with broader educational interventions for this section.

Of the interprofessional education interventions, the majority (n=29) focused on the post-licensure stages, assessing the impact of workshops and continuing education and professional development programs. These studies highlighted how interprofessional education can

- be helpful in reshaping attitudes and understanding of other health care professional roles (Eiser, 2008)
- enhance communication skills to increase engagement in new models of care (Sargeant, 2011); and
- occur through an e-learning platform whereby new knowledge and skills can be obtained and transferred to the workplace (MacDonald, 2008).

Less common (n=13) were interventions reported at the pre-licensure education and training levels. Different views were presented around the degree of integration into existing programs, such that *mandatory* exposure to a team-based practice before students have formed strong professional identities provides an opportune time to positively shape attitudes towards collaborative practice. In this particular case, students were exposed to collaborative care practice while working with older patients with complex multi-morbidities, which also showed efficacy in breaking down apprehensions around working with this demographic (Basran, 2012). Alternatively, another study indicated that interprofessional education and training that target students who

are less inclined to select interprofessional coursework may be more effective than applying a one-size-fits-all approach (Kenaszchuk, 2012).

While most studies indicate broadly positive effects of interprofessional education, particularly on the degree of collaboration among health care professionals, one paper to highlight is a recently updated Cochrane systematic review by Reeves et al. (2013), which examines 15 different interprofessional education intervention studies. Seven of these studies indicated positive correlations in the following areas: “quality of diabetes care, emergency department culture, and patient satisfaction; collaborative team behaviour and reduction of clinical error rates for emergency department teams; and improved outcomes related to collaborative team behaviour in operating rooms; management of care delivered in cases of domestic violence; and mental health practitioner competencies related to the delivery of patient care” (p. 2). The remaining studies either reported mixed outcomes or that the interventions had no impact on either professional practice or patient care. The reviewers concluded that although overall results indicate some positive outcomes, the effectiveness of interprofessional education and what it entails remains unclear.

Helpful recommendations to move forward with continuing interprofessional education, suggested by Silver et al. (2009), include the development of designated faculty for interprofessional education, which would involve “careful needs Assessment, application of a systems approach [micro/meso/macro] to identifying the target audience of learners, incorporation of principles of effective learning, multimodal teaching methods, incorporation of interprofessional education-based curriculum and an outcomes-based curriculum design” (p. 176).

Arising out of the literature was the need for continuity and commitment throughout the change process, from pre-licensure phases on to advanced career stages. These findings were consistent with needs and subsequent recommendations outlined in the World Health Organization’s Framework for Action on Interprofessional Education and Collaborative Practice (2010). From the included studies, there was particular focus on the point of transition from the pre-licensure education setting into the workplace. Specific issues were raised about the culture shock experienced by recent graduates when, despite their intention of practising collaboratively they

were confronted by the realities of traditional, siloed care models. Some of the key barriers that were identified in the literature included concerns over professional competence, public acceptance, role uncertainty, protection of jobs, and professional autonomy. Factors that could be either barriers or enablers depended on the practice context. For example, poor communication was seen as a barrier in some cases whereas good communication was noted as an enabler in others. Similarly, lack of organizational management was seen as a barrier whereas presence of designated change management was seen as an enabler. Other enablers included the existence of dedicated mentors for clinical staff, supportive organizational leadership, the existence of resources and available evidence to draw upon.

Overall, from the literature on educational interventions, it is generally understood that interprofessional education at either the pre- or post-licensure stage is considered an essential element to improving the way health care is delivered for current and future patient populations. For professional level outcomes, there is positive correlational evidence between interprofessional education interventions and improved collaborative competencies as well as greater respect and understanding for other health care team members; however, the impact of these interventions on patient and system outcomes remains unclear.

Key Informant Interviews

The findings from key informant interviews resonate with the literature. Similarly, the informants raised important issues in regards to the **disconnection between the education and practice** contexts.

“So I think one of the things we need to include, and I do, is link the education system with the service delivery system, because whether or not you change the scope of practice or not, and their legislation and regulation, you fundamentally need to teach people to function differently.”

“And you know that in Canada, we still have educators and employers who don't understand each other's world. They don't do any joint planning. They don't do any

strategy development together. So how do we know that what is being taught in the faculty or education setting is palatable to the employers? How do we know that they're going to be able to actually put into practice what the educators are teaching?”

Another key informant lamented about the amount of time it will take for new graduates trained in pre-licensure interprofessional education to change the system.

“If we only focus on the pre-licensure education system, it's going to take an entire generation because you're not focusing on the people who are in the workforce already, who are actually the vast majority. I mean 90% of the current health care professionals are working, not in training. Proportionately, there are only a small number of people in training. So when you talk about education, you can't just say, oh well, let's get the next generation of nursing students; (a) it takes too long and (b) they won't have the role model they need. We need to focus on change for all health care professionals at all stages of the career.”

Nearly all key informants who discussed issues around the alignment of the education system felt interprofessional education may be **a necessary intervention, but in and of itself is insufficient.**

“But when you have a majority of people in the practice setting who are influencing the practice behaviours of the new graduates, they will always just adopt the behaviours of the dominant group, which is the current practitioners. So if we do not invest in continuing education or on-site learning or redevelopment of the current practitioners, we're never going to change the system.”

Others commented on the importance of the modes and structure through which continuing professional development initiatives are delivered.

“So a lot of people, they never come to the face-to-face training events. They tend to do all their [continuing professional development] online and through webinars and things. So they don’t get the benefit of that joint sharing of knowledge and joint learning.”

“So I’m always a bit careful about continuing education versus life-long learning, because if you talk to surgery, for example, about continuing education, they’ll say how many [continuing education] credits do I get?”

And that’s not what continuing means when it comes to interprofessional. It’s about learning and practising all the time interprofessionally.”

The concept of *lifelong learning* emerged more prominently in the key informant interviews and discussions with the Expert Panel members than it did in the literature; there was a fundamental appreciation that there will be constant change in professional competencies and scopes of practice relative to changing professional interests, competencies of other health care professionals, and population needs. These changes over one’s professional career need to be reflected in the way in which education and credentialing is delivered and recognized at post-licensure levels. There was little discussion around the establishment of feedback loops between accreditation criteria and educational programming.

SUMMARY (C): MACRO (STRUCTURE) LEVEL: EDUCATIONAL INTERVENTIONS

Key features: Interprofessional education—when two or more professionals learn with, from, and about each other—at either the pre- or post-licensure stage is considered an essential element to improving the way health care is delivered for current and future patient populations.

Outcomes: There is positive correlational evidence between interprofessional education interventions and improved collaborative competencies as well as greater respect and understanding for other health care team members; the impact of these interventions on patient and system- level outcomes remains unclear.

Enablers:

- Dedicated mentors, leaders, and resources to continue the development and promotion of interprofessional education
- Evidence demonstrating positive effects of interventions

Barriers:

- Lack of communication between pre-licensure training institutions and the practice setting regarding composition of human resource supply and appropriate competence development
- Lack of continuity for interprofessional education from the classroom to aligned residency/practicum trainings to practice settings

* The summary box above has been informed by data collected from both the scoping literature review and the key informant interviews. The points presented were selected based on emerging themes and discussions among the Expert Panel members. Together, the summary boxes from all levels of findings are used to inform the Recommendations.

D. Macro (Structure) Level: Economic Interventions

Economic interventions were identified in the literature if they described a modification to either funding (how funds are allocated to health care organizations or institutions) or remuneration approaches (how health care organizations or institutions pay their health care personnel), either directly by the government authority (province or territory in Canada) or indirectly through allocations from the government authority to a regional structure, which in turn allocates the funding to a health care organization¹⁵. These modifications were considered relevant if they were introduced in association with a change in professional scopes of practice, such as pharmacists taking on extra clinical tasks and therefore incurring more demanding workloads, or a model of care redesign, such as the introduction of public health nurses in the primary care setting. Consistent with the examination of other micro-, meso-, and macro-level interventions, this section focuses on economic *inputs* (e.g., funding allocation mechanisms and billing processes) rather than economic *outputs* (e.g., cost-effectiveness). When changes are made to how funds flow from the government authority to the provider (e.g., a provincial government paying physicians directly through fee-for-service in association with the provincial public health insurance plan) in order to support changes in scopes of practice, this would be considered a direct macro-level intervention that has an impact on delivery at the micro level.

Of the 125 articles, only five provided explanations of the way changes to remuneration models were introduced in the practice setting. In general, they did not provide details of the macro and meso funding structures within which these changes were made. For the purposes of this review, these were labeled as *economic interventions* and are briefly summarized here:

- An alternate payment system of **block funding**¹⁶ was introduced alongside the development of a multidisciplinary neonatal resuscitation team. This payment system contrasts to the traditional fee-for-service model and was considered an enabling input for the involvement of other non-physician professionals (Aziz, 2005).

- A primary health care team (comprised of an addiction counsellor, a community nutritionist, administrative staff, management team, mental health workers, psychiatrists, nurses, nurse practitioners, physicians, social workers, and community volunteers) was able to pay its allied health care professionals through the successful acquisition of **extra funds** from private partnerships, respiratory/ambulatory care services, and Public Health (HCC-Nova Scotia, 2009).
- With the expanded scope of practice of pharmacists, an **additional billing mechanism** was introduced in which the changes in prescribing practices the pharmacists' baseline *dispensing fees* were augmented by new *adaptation fees* to reflect their new role of offering prescription services (Marra, 2012). (This model could also be considered as a financial incentive to improve drug management among pharmacists.)
- The development of an anticipatory and preventative care team, in which family physicians were remunerated through a **capitation system** and all other health care professionals (notably, nurse practitioners and pharmacists) were **salaried** (Legault, 2012).
- Similarly, a mental health care team of family physicians, counsellors, and psychiatrists working in a primary care setting were paid through a **capitation system** (through the Alternate Payments Branch of the Ontario Ministry of Health and Long-Term Care and additional program funding for mental health and nutrition services) (Kates, 2002).

Of the five sources cited, the economic interventions described challenges predominantly around lack of uptake, sustainability, and administrative support (Marra, 2012; HCC-Nova Scotia, 2009).

For enablers, the included economic interventions were made possible through the concurrent applications of other micro, meso, and macro inputs. Several examples follow:

- Prerequisites for the implementation of the intensive multidisciplinary neonatal care model with its alternate block funding included supportive provincial regulations, hospital bylaws, unit policies, staff training, staff recruitment, communication strategies, and re-evaluation of professional roles (Aziz, 2005).

¹⁵ See Appendix 17* for Types of Funding Mechanisms.

¹⁶ Annual budgets negotiated for a group of physicians, usually associated with an academic medical centre (CIHI, 2005; p.ii).

* All appendices are available solely on the CAHS website: <http://www.caHS-acss.ca/completed-projects/>

- In Nova Scotia, political support from the provincial government helped to enable the payment of all health care team members (HCC-Nova Scotia, 2009).
- Determining the appropriate incremental pay of pharmacists' prescription services in British Columbia required obtaining accurate information to calculate the incremental labour and investment costs in addition to establishing the legal changes in scopes of practice (Marra, 2012).
- Realistic time frames needed to be set for the transition to new scopes of practice and pay systems, the adaptation of personnel, and the capturing of associated outcomes (Legault, 2010).
- The involvement of mental health care professionals as part of the central coordinating team was considered essential to be responsible for problem solving around appropriate resource allocation (Kates, 2002).

The only economic intervention that also reported on cost outcomes was the additional billing mechanism for the expanded scope of practice of pharmacists. This intervention was reported as being more costly than the usual care, yet was considered to be valuable for improving patient health outcomes and promoting efficiencies in the system (Marra, 2012). This point reiterates the importance around defining *cost-effectiveness* and also looking to return-on-investment analyses¹⁷ to deconstruct the short- and long-term impacts. The remaining articles in this section reported on the correlation between supportive economic structures and improvements in health human resource efficiency and collaboration.

Overall, alternative remuneration schemes were considered to be *enablers* to support expanded scopes of practice and collaborative care models but were dependent upon the alignment with other organizational and technological inputs. More specifically, all of the alternative models of payment captured in the literature involved shifts away from the traditional fee-for-service model for physician services.

Key Informant Interviews

The key informant interviews addressed the barriers and enablers that a range of economic factors play in optimizing scopes of practice and enabling innovative models of care. They point out that public financing under the Canada Health Act¹⁸ focuses on physician and hospital services, but not the rest of health care delivery. The result is that payment is tied to particular health care professional types (e.g., physicians) or to certain settings (e.g., hospitals) but not to others and this can get in the way of collaboration across professions and service delivery settings.

"I find this question that you're posing to be about the most frustrating in all of Canadian health care policy. We have all of the tools available to us, with one exception, and that is that if I were to do anything, it would be to move physicians inside the tent [i.e., to include them in the same funding envelope as other health professionals]and that to me is the thing that absolutely has to change before anything else can happen."

"This inhibits the ability to optimize scopes of practice and maybe cheaper for the hospital, but ends up costing more when viewed from the broader budget of total public spending on health care."

When the funding for physicians is through direct fee-for-service payment, the lack of public financing for health professions other than physicians is a major barrier to collaboration.

17 To guide Assessments using a return-on-investment framework, the Canadian Academy of Health Sciences released the report *Making an Impact: A Preferred Framework and Indicators to Measure Returns on Investment in Health Research* (Panel on Return on Investment in Health Research) in 2009 and since then, the Institute on Governance drew upon this in its preparation of *The Return on Investment in Team: Return on investment analysis framework, indicators and data for interprofessional care and interprofessional education in health* in 2013 that is most relevant to collaborative models and changing scopes of practice (Nason).

18 The Canada Health Act, adopted in 1984, specifies the federal government standards to which provincial and territorial health insurance programs must conform in order to receive transfer payments for all insured persons. The five principles of terms are (1) public administration—health care insurance plan is administered and operated on a non-profit basis; (2) comprehensiveness—coverage of all insured health services; (3) universality—100% of insured persons receiving insured health services are covered; (4) portability—insured persons will be covered outside of home province or territory; and (5) accessibility—"provide for insured health services on uniform terms and conditions and on a basis that does not impede or preclude, either directly or indirectly [all that are subject to conditions]" (Manore, 2005).

“With fee-for-service, the fee is only paid if the service is provided by a physician. Even a well-intentioned practice won’t hire an allied health care professional to do the work because it’s a cost to the practice with no associated revenue stream.”

“So we’ve expanded scopes of practice for a number of them. We’ve created new professions in some cases. And we have no way to pay for them.”

Consistent with the literature, there was general consensus among the key informants around the need to move away from exclusive fee-for-service structures.

“Changing to non-fee-for-service physician payment is a necessary (but insufficient) condition for allowing greater substitution of care by or greater collaboration with other professions. If the practice is funded through capitation, salary, or global funding, they are provided with money to meet the needs of the population and will hire the appropriate mix of health care professionals to do so.”

There was general consensus across key informants, with some cautionary caveats, that approaches to alternative funding for optimizing scopes of practice and fostering collaboration typically involve a closed system where a health care organization is responsible for the care of an entire population.

“I think that the best evidence out there for success, if you’re talking about innovative practices and use of [health human resources] efficiently, it’s the closed systems that have any hope of doing it. And I’m thinking here about Group Health Cooperative and Kaiser and the Veterans Association, to some degree. So it’s the places that... again, it’s this defined

population, responsibility for a set population, and responsibility for the continuum of care.”

Key informants noted that there is a need to have a set budget in a closed system; population expectations about quality and need should be explicit and then funding provided to allow practices to experiment and evolve the system over time. This approach will enhance innovation.

“To the degree you get integrated funding, well, then the discussion around scopes and roles becomes that much more easily handled.”

Other emerging payment models include bundled payments that cover the care provided across settings. Work is being done on this in Ontario, Alberta, and the United States.

“If you think about surgical models that are innovating in Alberta, we’ve seen a few that are using physician extenders and more coordinated intake ... And the main innovation there seems to be that you’ve got alternative payment, that it isn’t so linked to who’s doing each particular step of the care pathway. They’re paying more from entry to exit through the entire pathway.”

Even more radical was the recommendation to consider funding that is not tied to a particular provider or setting but to the population needs.

“Start thinking about recommendations of payments for services that people need rather than services provided by a particular group in a particular place...physicians and centres leveraging private sources of funding which tend to be less specific about who provides the service and what for. Like think of the most generic form of a flexible spending account.”

Some key informants also noted the limitation of independent economic interventions that are not accompanied with coordinated inputs.

“Do not assume that you can change the way health care is delivered by changing the financial incentives that face individual health care professional groups. So you know, [general practitioner] incentives and incentives for chronic care management and so on, it doesn’t change anything about the fundamental structure of the system and the ways that the health care professionals and different organizations are expected to interact with each other. Individual financial incentives will not change the basic structure or organization of your health care system.”

There was some discussion of linking financial incentives to performance measures as one component to health care quality improvement.

“The biggest thing they could do is to align the incentives so they make sense. So that people are not being asked to do something or to make a change that isn’t supported by the financial and professional remunerations and perks that are out there.”

Specific strategies for performance-based incentives (including the pay-for-performance model) were not discussed in depth; however, there was concern around the impact on existing health inequities and the creation of perverse incentives.

“But I think one of the things that you’ve got to be careful about is this gaming business... You started getting incentives for treating diabetics and every margin person got classified as a diabetic. I mean most of the places that have played with this have found that it gets gamed. ”

“There’s an additional complication which is one size doesn’t fit all. And one of the things I didn’t see as much in the write-up was the difference between different types of patients, that some patients are much sicker and need a lot more care. Other patients don’t. And the model that will work for a relatively healthy population may not be the same as the model that will work for a sick population.”

“Money is an extrinsic driver. Doing a good job, having pride in your work, wanting to produce something better today than you produced yesterday, that’s intrinsic drive and motivation. And it turns out that all the research and every industry that’s ever looked at this, the places that are really successful and drive outstanding performance over time, figure out how to tap into people’s pride and intrinsic drivers. And as soon as you start to try to put in place, you know, checklists that add up to certain scores that then get you bonuses, or you withhold pay you’re trying to meet the requirements to get the money to which you think you are already deserving. And that de-professionalizes people.”

“The money is crazy. And it incentivizes people to just do one thing each visit. It creates lots of different subgroups that are separate from each other. It discourages integration, coordination, and team work. And it is increasingly becoming more and more extrinsically driven in how it manages its money and its incentives.”

From the key informant interviews, there were parallels with the literature around the focus on funding and remuneration and, in particular, the ways in which separate modes of payment for physicians from other health care professionals often directly inhibit the optimization of scopes of practice and innovative models of care. This appeared to be the case even when other changes were made at legal and regulatory levels.

Areas that were not discussed in the literature included suggestions of ways to think *outside the box* in terms of funding schemes. The ideas of integrated funding and bundled payments were raised favourably as they do not limit resources to a particular health care profession or place but rather enable support for health care professionals across care settings. There was also suggestion for closed-system funding, where a lump sum is provided to care for patients within an entire catchment

area, theoretically enabling greater flexibility to meet specific population needs. There was a considerable level of concern around external economic incentives being used to drive quality improvement initiatives due to other consequences of cost escalation and what the informants referred to as *cream skimming*; more discussion focused on how to build other incentives into the ways in which health care providers are paid.

Ultimately, there is no one perfect economic model that emerged from our research as each one must be adapted to the particular needs of a community or population (i.e., some models that work for a relatively healthy population may not be appropriate for patients with multiple, chronic conditions). Moreover, economic factors are only part of the solution; they alone are not enough to change the structure of delivery in the health care system.

SUMMARY (D): MACRO (STRUCTURE) LEVEL: ECONOMIC INTERVENTIONS

Key features: Alternative remuneration schemes were considered to be an essential component to support the optimization of scopes of practice and innovative models of care. In line with this, there was consensus around the need to move away from the traditional fee-for-service model in particular.

Outcomes:

- Positive correlation between supportive economic structures and improvements in health human resource efficiency and collaboration
- Limited correlational evidence between changes to economic structural inputs and the impact on cost at a system level
- Role and impact of external financial incentives unclear

Enablers:

- Bundled payments for all health care professions across settings
- Closed system for targeted population (rather than tied to provider)
- Alignment with other organizational and technological inputs, including broader provincial or territorial support

Barriers:

- Lack of sustainability beyond project-based funding terms
- Lack of administrative support to manage system changes

* The summary box above has been informed by data collected from both the scoping literature review and the key informant interviews. The points presented were selected based on emerging themes and discussions among the Expert Panel Members. Together, the summary boxes from all levels of findings are used to inform the Recommendations.

E. Macro (Structure) Level: Legal and Regulatory Interventions

One of the most commonly cited barriers (or perceived barriers) to altering scopes of practice of health care professionals is at the legal and regulatory level; that is, how do governing bodies ensure the safety of the patient and the responsibility of the health care professional when scopes of practice change, scopes of practice overlap, and/or there is general role or competence uncertainty among health care professionals? It is interesting, therefore, that of the 125 articles extracted, none explicitly evaluated legal or regulatory interventions; that is, if any legal or regulatory measure was described in an article, it was presented not as an intervention but as a contextual factor alongside organizational changes. One possible explanation of this gap in the literature is the nature of the regulatory *complex adaptive system*, a system which makes the linear thinking of *intervention and outcome* less applicable to the legal context.

Of the 125 articles, there were eight studies that described how the context of legal and regulatory changes formed the backdrop for their analysis of the impacts of other interventions involved (e.g., Marra, 2012; Parrish, 2009). Of these eight studies, four focused on changes at the legislative level, two at the provincial regulatory level, one at the regional regulatory level, and one at the institutional regulatory level. One reoccurring theme was the importance of legislative ability to enable expanded roles, such as advanced practice nurses and pharmacists.

The articles that did address outcomes of regulatory interventions (e.g., recent regulatory changes to pharmacy prescribing) highlighted that although there were some more immediate implications for professional practice, such as determining appropriate remuneration for new tasks, it was too soon to indicate what the impact would be on patients and the broader public (e.g., Marra, 2012). In a scoping review of physician assistants in the U.S., which involved past legal and regulatory

interventions, Hooker et al. (2012) highlights that “there are four major elements of malpractice risk for doctors who supervise a physician assistant: (1) lack of adequate supervision, (2) untimely referral to a consultant or the physician assistant’s failure to use a consultant, (3) failure of a physician assistant to make the correct diagnosis of a patient’s condition, and (4) inadequate examination of a patient by a physician assistant. A twenty-year analysis validated that physician assistants do not increase liability and in fact may even lower the liability of a medical practice” (p. 75–76).

Analysis of Case Law and Regulatory Models across Canada

As noted in the methodology section, we commissioned a targeted analysis of legislation affecting scope of practice as well as legal liability issues through case law. Highlighted below are the key insights garnered from this analysis.

Legislation Affecting Scopes of Practice and Collaborative Models of Care

An important trend in health care profession regulation in Canada is the move toward a common legislative framework for health care professions regulated in each province or territory. This move to *umbrella legislation* alters scope of practice statements to provide non-exclusive descriptions of each regulated profession’s activities and may include overlapping or shared scopes. Restricted or controlled practices remain but are only in the case of narrowly defined, higher-risk activities. Umbrella legislation with more flexible scopes of practice provides a possible foundation for collaborative models of care. The regulatory frameworks, and the practice cultures they influence, are “one of the determinants of the shift to a culture of interprofessional regulation” (Lahey and Currie, 2005, p.198). Health professions statutes in some provinces state that a regulatory college has a duty to collaborate interprofessionally with other professions and to promote collaborative practice among regulated professionals.

From Legal Frameworks to Health Profession Practice: Issues to Consider

- Changes to statutory instruments alone will not transform the traditional hierarchies and silos of health care practice. Legislation sets out broad principles but they are interpreted by health organizations and professionals who may have vested and conflicting interests.
- Disputes over professional turf are a barrier to change, particularly if health profession leaders focus on “[scope of] practice disputes and turf protection rather than the exploration of collaborative and interdisciplinary approaches.” (Jansen, 2008, p.222)
- While health care professions statutes may be reformed to promote professions working to broader scopes in collaborative models, older statutes may structure health care environments in ways that work against this modern approach (e.g., older rules that require physician orders for certain health care procedures, while new statutes authorize nurses to perform more actions without physician orders).¹⁹

Legal Liability Issues, Interprofessional Collaboration, and Working to Full Scope of Practice

The general principles of negligence in the health care context are well settled in Canadian law. To succeed with a negligence claim, a patient must establish the following elements: (1) the health care provider²⁰ owed the patient a duty of care; (2) the health care professional breached that duty of care; (3) the patient experienced harm; and (4) the health care provider’s breach of the duty caused the patient’s harm (Picard and Robertson, 2007).

Once the health care professional-patient relationship is established, the health care professional has a legal

obligation to provide appropriate care. A breach of the duty of care occurs when a health care professional falls below a reasonable standard of care. The law requires a health care professional to meet the standard of “a prudent and diligent” health care professional of the same profession.²¹ A court determines the standard of care and whether it was met in a specific case based on expert evidence. Expert evidence is provided through the oral or written evidence of persons who are presented and accepted as experts to the court for the purpose of the litigation.

Legal Liability Issues, Collaborative Care, and Working to Optimal Scope

Collaborative models of care, often in team-based structures, demand reliance on all health care professionals working to their appropriate scope and standard. Courts recognize that health care professionals must be able to rely on other professionals to discharge their duties at an acceptable standard: “The health care system in Canada mandates that these professionals work as a team with each individual having a role in the provision of care to a [patient]. Each person must carry out their role within their appropriate standard of care and each of these professionals is entitled to rely upon (and must rely upon) the others to fulfill their respective individual responsibilities.”²²

Impact of a team structure: The team structure adopted in a health care setting may be relevant to the interpretation of the standard of care expected of a health care professional. For example, a hospital policy may require one professional to be designated the “Most Responsible Practitioner”—a role that carries additional duties, but does not mean that the person will necessarily be held liable for the conduct of his or her colleagues who were working as a team to deliver care to the patient.²³

19 See e.g. S. Regan *et al.*, Policy Analysis of Interprofessional Collaborative Requirements under Bill 171 and Bill 179: Final Report (February 2013).

20 Note that depending on the country, different terms are used to describe a health worker that provides care to a patient. For clarity of terminology used internationally, we use *health care professional* throughout this Assessment; however, in Canadian legal documents, the term *health care provider* is used most prominently. For this legal and regulatory section, these two terms are used interchangeably, as relative to the Canadian context.

21 *terNeuzen v. Korn*, [1995] 3 SCR 674 at para. 33. See also *Crits v. Sylvester*, [1956] O.R. 132 (C.A.) at 143; *aff’d* [1956] S.C.R. 991.

22 *Bauer v. Seager et. al.*, 2000 MBQB 113.

23 For discussion, see e.g. *Manary v. Dr. Martin Strban*, et al., 2011 ONSC 176, para 37.

Delegation and liability: Delegation of tasks by a regulated health care professional to another person may raise issues about who bears responsibility, particularly if the person asked to carry out a task performs it at a substandard level. It is important to distinguish between situations involving statutory rules about delegation and situations where practitioners work collaboratively and their scopes of practice enable shared responsibility for some tasks. Reasonable reliance on a colleague to carry out a task that the colleague is qualified and legally permitted to perform should not attract liability.²⁴ A health care professional governed by specific statutory rules concerning delegation must not delegate tasks in contravention of a rule.²⁵

“Ultimate responsibility”: In a collaborative context, or more specifically a team context, some health care professionals, particularly medical doctors, express concern about being “ultimately responsible” for the actions of other professionals. Canadian law does not support the notion that based on statutory scope of practice alone, a doctor should be legally liable for the acts of other regulated professions (with the exception of situations described above where a doctor has specific legal obligations as an employer) (Kielley, 1997).

Professional liability insurance: Legislation, practice guidelines, and professional policy statements all address requirements for regulated health practitioners to carry adequate professional liability insurance. Such insurance provides protection for practitioners and patients when situations of negligence arise.

In summary, what is known from the literature about the legal and regulatory context of scopes of practice interventions is as follows:

- Many provinces and territories have, or are moving toward, a common legislative framework for health professions. Umbrella legislation with more flexible scopes of practice provides a possible foundation for collaborative care models but in and of itself is insufficient.

- Canadian legal precedent does not support holding a health care professional to a standard that is applicable to a different health care professional group where that practitioner has acted reasonably within that practitioner’s own legal scope.
- In some cases, risks of increased liability in collaborative care models maybe a result of “courts misallocating accountability among members of interprofessional teams (sometimes to doctors and sometimes to others), largely due to continuing reliance on traditional understandings of the allocation of work and responsibility among health care professionals” (Lahey and Currie, 2005).

Key Informant Interviews

The key informant interviews largely focused on the barriers that legislation places on creating more optimal and flexible scopes of practice rather than any facilitating capacities. This was particularly the case where there are separate authorities for each profession.

“What those regulations essentially do ... [are]... basically freeze in place what we have today because it doesn’t allow for innovation, creativity, redefining roles, re-creating ways people relate to each other for systems of care over time.”

There was also concern expressed over the unfulfilled promise of umbrella legislation.

“I think it’s a mechanism that has not been exploited ... because as soon as we got the Act done, all of these little Colleges then settled in comfortably and said, okay, we’re now covered by the umbrella. But there’s no cross-chat between them. So they’re just there.”

24 *Kielley v. General Hospital Corp* (1997) 150 Nfld & PEIR 163; *Percy v. Kieser*, (2005)54 Alta LR (4th) 329.

25 *Roberts v. College of Dental Surgeons (British Columbia)* 1997 BCJ 1125.

There was a clear link made between liability and concern over harm issues and typical regulatory responses.

“Statistics come out that show all the ways in which we do lots of harm and how health care systems really can be dangerous places, and the mistakes that are made. And so in reaction, political folks and regulatory folks want to do things to try to make things safer. And so they restrict. You know, this category of people can do this, they cannot do this, they cannot do this, they cannot do this. And we find it to be mostly terribly negative in that you have regulations starting to determine what your care team looks like rather than skills, abilities, and functions driving what your care team could look like and do.”

“I think one of the most common false barriers is issues of liability.”

Rather than waiting for legislation or regulation to change, other key informants discussed methods for circumventing the barriers to increased flexibility around scopes of practice.

“You know, show me quality outcomes and lack of harm at a system level and then let me control inside the system what we do in terms of roles and responsibilities and how we organize to deliver the goods.”

“What I think we need to realize is that there’s often a workaround, and there’s often capacity within the existing regulation and legislation that has not been optimized. Yes. I mean I think ...we need to work harder to recognize the benefits within the current legislation.”

“Legislation and regulation, like I said, is much harder to change. It doesn’t mean it shouldn’t be tackled but it is a more difficult nut to crack with fewer opportunities and longer timelines. I think what people need to do is spend more time thinking how they work within the current legislation and regulation but in new ways... there is significant opportunity within existing legislation and regulation.”

These last statements are consistent with many of the innovations we studied and are highlighted in the case studies; small-scale models, usually with closed population groups, were able to enact changes through working around legislative or regulatory barriers rather than waiting for the desired, hospitable environments to be created. So as to better enable the development and scale-up of these types of innovations, legislation ought to create the conditions for the optimization of and flexibility around scopes of practice. We address this directly in the recommendations.

Patient safety was also raised as a way to align visionary goals across regulatory bodies. If appropriate evidence is available to support an alignment, (e.g., shared care models that enhance patient outcomes without compromising safety standards), then this evidence could be used as a tool to promote the movement towards collaborative self-regulation (Conference Board of Canada, 2007; Institute of Medicine, 2001; Taskforce on Health Care Workforce Regulation, 1995).

From the key informant interviews and Expert Panel discussions alike, the legal and regulatory constructs around scopes of practice were commonly considered to be inhibiting areas for advancing the flexibility of professional roles. From the legal analysis presented above, there is a fair level of optimism for the way in which health law is beginning to shift in response to the challenges of contemporary practice. The adoption of delegated tasks and umbrella legislation in some jurisdictions provides examples of ways in which overlapping scopes of practice are being increasingly recognized as enabling some of the required flexibility to meet community and population needs. Moreover, some existing case law reveals that courts are beginning to interpret standards of care, scopes of practice, and liability in ways that demonstrate an understanding of the goals of collaborative care and expanded scopes of practice.

SUMMARY (E): MACRO (STRUCTURE) LEVEL: LEGAL REGULATORY INTERVENTIONS

Key features: Trends from the literature show movements towards more flexible environments for innovative models of care and optimizing scopes of practice through the formal recognition that health care professionals are no longer working in silos.

Outcomes:

- It is unclear how changes to legislation and regulation that are designed to increase flexibility around scopes of practice and models of care compare to initiatives that circumvent the system.
- The impact of greater flexibility around scopes of practice is dependent upon the alignment with other educational and economic inputs.

Enablers:

- Umbrella legislation that allows for non-exclusive descriptions of each regulated profession's activities, creating flexibility around overlapping scopes of practice
- Health professions statutes that promote collaboration across regulated professions (present in some provinces)
- Identification of patient safety as a common goal across regulatory bodies
- Communication within and between regulatory colleges

Barriers:

- Disputes over professional turf
- Older statutes that continue to prioritize physician orders without recognition of other qualified professionals or overlapping scopes of practice
- Professional concerns over liability in group settings
- Protective interests of regulatory colleges

** The summary box above has been informed by data collected from both the scoping literature review, additional legal analysis, and the key informant interviews. The points presented were selected based on emerging themes and discussions among the Expert Panel Members. Together, the summary boxes from all levels of findings are used to inform the Recommendations.*

Summary of the Key Findings

It is clear that the literature on scopes of practice focuses more on micro-level interventions than meso- and macro-level interventions, a finding that it is not dissimilar to the literature on health services and policy research more generally. While there are important lessons for the micro level to draw from the literature, it was strategically important for us to focus on some of the fundamental meso- and macro-level factors in the key informant interviews and the Expert Panel discussions. Below are the key findings across these different sources of evidence.

At the Micro (Practice) Level

We found the following:

- Collaboration is widely accepted as an essential element to improving health care delivery and has been shown to improve patient satisfaction and increase job satisfaction among health care professionals through shared workload and a positive impact on patient well-being.
- Key enablers to support collaborative care models for optimizing scopes of practice include (a) ensuring that all health care professionals are aware of the roles of their fellow health care professionals, (b) employing a designated person to oversee the change management processes and/or be responsible for the management of the health care team and overall care coordination, (c) institutionalizing regular communication structures, and (d) providing a shared space for different types of health care professionals to physically work in the same location.

At the Meso (Institution) Level

We found the following:

- Successful innovative models integrate information communication technologies and electronic health record systems.
- Accreditation of performance measurement and evaluation could play an important role in quality improvement and accountability.
- Alignment among all stakeholders at all levels is required, particularly to bring the professional associations and unions into discussions around how best to meet patient, community, and population needs.

At the Macro (Structure) Level: Education and Training Context

We found the following:

- Interprofessional education has been shown to improve competencies and collaboration among health care professionals working in interprofessional settings, but few studies have linked interprofessional education to patient or system outcomes.
- Interprofessional education must extend beyond the classroom and entry to practice level so that continuing professional development programs reflect the associated with changes in population needs, best practices, and professional competencies and interests over time.
- Scopes of practice should be defined by patient needs and the composition of the health care team, which ought to feed directly into reforming pre- and post-licensure education programs around competence-based requirements.
- There is a gap in the literature addressing the impact of certification for health care professionals and accreditation specific to changing scopes of practice; this could be a key strategy for enabling a more dynamic and structured process that takes into account the skills and competencies required by education systems (supply) and the needs of a population and practice setting (demand).

At the Macro (Structure) Level: Economic Context

We found the following:

- Payment of physicians (predominantly under fee-for-service systems) separate from other health care professionals (who are paid through hospitals or other health care service groups) creates disincentives for collaborative approaches to care that optimize scopes of practice.
- Other promising alternatives to traditional fee-for-service models include integrated funding models that are not tied to particular health care professionals or settings. This might involve bundled payments across the continuum of care or funding services for an entire population as a closed system, and/or combinations of other non-financial incentives, such as professional development opportunities, to reward performance.

- Outcome-based funding, as opposed to activity-based funding, is becoming more common in some jurisdictions; however, there remains concern around perverse incentives that create a *cream-skimming* effect in which healthier persons receive better care than sicker populations, as well as issues related to defining valid and reliable outcome measures.
- Many provinces and territories have, or are moving towards, a common legislative framework for health professions. Umbrella legislation enables greater flexibility for expanded and overlapping scopes of practice.

We summarize below in Table 1 the perceived barriers and how, with the right action plan, they can become enablers for optimizing scopes of practice and supporting innovative models of care. Given the fluidity of these elements, the table uses a micro, meso, and macro lens to describe how the identified barriers provide an opportunity to become enablers through modification or circumvention of structure or function.

At the Macro (Structure) Level: Legal and Regulatory Context

We found the following:

- Based on case law review, there may be disproportionate concern around the extent to which liability impedes collaborative practice.

TABLE 1: BARRIERS AND ENABLERS: OPTIMAL SCOPES OF PRACTICE WITHIN COLLABORATIVE CARE ARRANGEMENTS AT THE MACRO, MESO, AND MICRO LEVELS

	BARRIERS	ENABLERS
MACRO	<i>Health care professional accountability/liability concerns</i>	• Educating professionals and courts on changes to legislation that recognize the principles of shared care models
	<i>Educational needs/requirements that inhibit professionals working to full or optimal scope</i>	• Establishing practicums and residencies that foster inter-professional competencies
	<i>Rigid legislation/regulations</i>	• Post-licensure credentialing for continued competency development over the course of a career
	<i>Payment models that do not support changes in scopes of practice</i>	• Expanding adoption of more flexible legislative frameworks that can be interpreted at the local setting
MESO	<i>Communication across multiple care settings</i>	• Alternative funding (e.g., bundled or mixed payment schemes) to include all health care professionals and to be aligned with desired outcomes
	<i>Professional protectionism</i>	• Implementation and upkeep of electronic medical records essential for all respective health care professionals (and for patients themselves) to have timely access to the most up-to-date information on treatment and status
	<i>Accountability</i>	• Representation of the interests of professions in the context of collaborative care arrangements and inter-professional standards/overlapping scopes of practice
	<i>Availability of evidence</i>	• Broader application of collaborative performance measures and an overall quality assurance framework through involvement of accrediting bodies
MICRO	<i>Professional hierarchies</i>	• Systematic monitoring and evaluation (with specific focus on inputs and outputs) to estimate cost incurred for introducing change and the long-term return on investments
	<i>Professional cultures</i> (lack of trust and role clarity; job protectionism, turf wars, task escalation)	• Change management team : a designated role for managing changes in scopes of practice and models of care
	<i>Communication among health care professionals</i>	• Continuing professional development to cultivate team thinking and develop levels of trust around relative competencies
		• Team vision : to reinforce that the ultimate goal is the improved well-being of the patient; who provides the care is secondary to the quality and accessibility of services provided
		• Instilling group mentality : internalization of shared responsibility across health care professions
		• Scheduling of regular meetings for health care team members to consult on appropriate care strategies and problem-solving strategies; integrating information communication technologies
		• Co-location to have different types of health care professionals and services functioning in a shared space

* The summary box above has been informed by data collected from both the scoping literature review and the key informant interviews. The points presented were selected based on emerging themes and discussions among the Expert Panel members.

Beyond the issue of transforming barriers into enablers, our analysis of key scopes of practice innovations revealed that a common characteristic is that they circumvent largely macro-level structural barriers. This finding supported our focus at the outset on the broader context of health professional scopes of practice that may be able to better address patient, community, and population health needs. Thus, one must do more than just shine the light on these scopes of practice innovations. Others have noted that “despite the fact that there are points of light scattered throughout the system, a large implementation gap persists between

potential and actual improvements” (Evans, Schneider and Barer, 2010, p. 1). Similarly, David Blumenthal, President of the Commonwealth Fund, argued that “we cannot build health care reform on the backs of heroes,” referring to the early innovators who demonstrate excellence within a context that generally impedes it. What is missing across these examples of innovation, whether they are captured in the literature or not, is a structural context that will support the scaling up of the innovations across the country into mainstream health care. (see Case Study 6 for an example).

CASE STUDY 6: SCALABILITY OF INNOVATIONS

Collaborative Emergency Centres (CECs), Nova Scotia

Model of Care: As part of Nova Scotia's Better Care Sooner plan, the first CEC opened in Parrsboro in July 2011. Now there is a total of eight CECs across the province with expansions underway within Nova Scotia as well as Saskatchewan and Prince Edward Island.

This innovative model of care works to expand access to primary health care services. Health care teams are comprised of physicians, nurse practitioners, registered nurses, and paramedics. The practice structure is unique in its ability to provide same- or next-day medical appointments for urgent cases, extended hours and expanded services, such as registered nurse telehealth services, and 24/7 access to emergency care.

Implications for Scopes of Practice:

- By matching care services with patient needs rather than health care provider availability, greater coordination of roles and communication processes are required among all health care team members.

Enablers:

- Support from provincial government funding
- Political endorsement, consistent with broader provincial priorities (Ross, 2010; Better Care Sooner: The plan to improve emergency care. Government of Nova Scotia.)
- Upgraded infrastructure (i.e., communication systems, medical equipment, exam tables, and waiting areas)

Take-Away: The introduction of telehealth services has been a key feature for addressing physician shortages, particularly in rural areas. Over the phone, nurses are able to provide support and education around appropriate next steps for seeking care, in effect, decreasing the number of unnecessary formal care visits, primarily to emergency departments.

Hayden, J., Babineau, J., Killian, L., Martin-Misener, R., Carter, A., Jensen, J., Zygmunt, A. (2012) Collaborative Emergency Centres: Rapid Knowledge Synthesis. Nova Scotia Health Research Foundation; Nova Scotia Cochrane Resource Centre.

Research Gaps

Although we were able to identify some robust findings from this scoping review, it also revealed some significant research gaps. If these gaps were systematically researched, stronger evidence could be provided to policymakers and stakeholders. These are highlighted below in the Key Research Gaps text box.

KEY RESEARCH GAPS

At the micro level, we need to know more about

- *cost-benefit analyses and return on investment relative to different types of practice-level models of care and scopes of practice; and*
- *the direct impact of changes in practice on patient outcomes through more methodologically rigorous examination.*

At the meso level, we need to know more about

- *the ways technological interventions support the optimizing of scopes of practice and innovative models of care and their longitudinal impacts on communication efficacy, cost-effectiveness, accessibility, and quality of transitions of care; and*
- *effective approaches for evaluation and accreditation to determine what type of practice-level performance measures provide the most appropriate indicators around optimizing scopes of practice.*

At the macro level, we need to know more about

- *procedural inputs for introducing educational interventions that optimize scopes of practice at pre- and post-licensure education stages;*
- *the impact of alternative remuneration systems on socio-economics, the health sector, and human resources; and*
- *the long-term impact of different types of legislative frameworks on optimal and flexible scopes of practice.*

Overall, we found an emerging consensus that the optimization of health professional scopes of practice in alignment with innovative models of care provides a promising health human resource strategy to shift the health care system towards the delivery of collaborative, patient-oriented care. In this approach to care, the collaborative vision is patient-focused and unified and supported by communication and continuing professional development. A critical element of the model is the combination of accountability for the individual and the collaborative team and a corresponding balance between self-regulation and accreditation of collaborative care arrangements. Clearly defined roles need to be delineated within the team according to service need and the range of abilities, training, and experience of team members. The fundamental principle at play is that scopes of practice are aligned with collaborative care arrangements to achieve the team's collective goals and targets. This approach will require flexibility in the roles and scopes of practice of providers

to meet the needs of their unique communities and in the financial alignment of resources, tasks, and outcomes available to the team. Individual practitioners will need to be certified and regulated, but with an emphasis on skills development, so that team members can perform tasks for which they have taken defined training and are certified. Equally, there will need to be recognition that many of the essential tasks required for comprehensive patient-oriented care do not need to be performed by health care professionals; patients, their families, personal support workers, navigators, counsellors, educators, and patient advocates must all play an important role.

To move towards the goal of optimizing scopes of practice as a strategy to improving health care and system effectiveness, we present here a set of recommendations to guide the actions of decision makers, health care planners, and health care professionals.

4. RECOMMENDATIONS

The Expert Panel identified six principal parties that would have to act in cooperation to facilitate the changes required to optimize scopes of practice in order to achieve the goal of a transformed health care system. We suggest an integrated scheme of general strategies and specific recommendations for each of the principal parties (see Tables 2 and 3 below). The recommendations identify actions that will lead to the creation of more flexible environments to enable the scalability of promising initiatives around optimal scopes of practice and innovative models of care. In general, the recommendations emerging from this Assessment call for respective stakeholders to implement the necessary structures to support health care teams, institutions, and regional jurisdictions in a shift from the current siloed, provider-centric care systems to collaborative and responsive patient-oriented care systems. While the conceptual framework and the different sources of data synthesized in this Assessment acknowledge the multi-level inputs, the recommendations explicitly focus on the macro-level/structure-level changes to guide transformation in a systematic but flexible, visionary way where patient and population needs drive models of care that better utilize a range of scopes of practice.

The recommendations have been constructed to set the foundation for an integrative framework or blueprint that recognizes (a) in many jurisdictions, investments aligned with the strategies presented are already underway; (b) no one recommendation will be sufficient to initiate and sustain transformation in and of itself; (c) these changes, let alone their measureable impact, will not occur over night; and (d) these recommendations must be applied within the context of a complex system.

Therefore, the recommendations are intended to

- build on pre-existing efforts where they exist and pioneer changes where they have not yet been made;
- be interpreted synergistically across disciplines, jurisdictions, and agencies;
- imply both immediate and long-term actions; and
- reflect that their application is iterative and will require adaptation over time.

Table 2 presents the six key high-level strategy areas that we detail in Table 3 specifically with reference to the key stakeholder groups who need to take these recommendations forward.

TABLE 2: HIGH-LEVEL STRATEGIES FOR OPTIMAL SCOPES OF PRACTICE

A.	B.	C.	D.	E.	F.
Provide leadership and support to encourage the evidence-based expansion of collaborative care models and evolution of scopes of practice.	Create systems of funding, financing, remuneration, and evaluation that are aligned with patient outcomes and enable collaborative models of care.	Align regulatory bodies to enable professionals to practice collaboratively with overlapping scopes of practice.	Establish accountability through accreditation and performance measurement systems, including the monitoring of return on investment, at team or institution levels.	Accelerate the development of pre- and post-licensure education practices that foster collaborative practice and reflect the changing nature of required competencies.	Provide leadership in supporting collaborative care practice arrangements as being in the best interest of the individual professions represented and recognizing this is the context in which most members work.

TABLE 3: DETAILED STRATEGIES AND RECOMMENDATIONS TO RESPONSIBLE PARTIES

PRINCIPAL RESPONSIBLE PARTY	STRATEGY	RECOMMENDATIONS	OTHER STAKEHOLDERS/ PARTNERS
A. Federal Government	Provide leadership and support to encourage the evidence-based expansion of collaborative care models and evolution of scopes of practice.	1. Host a national summit to bring all the stakeholders together to develop a plan of action on scopes of practice. 2. Develop an arm's length evidence infrastructure (i.e., pan-Canadian health workforce policy and planning organization). 3. Earmark research funds to address evidence gaps in the literature. 4. Develop a national set of guidelines and quality standards for overlapping scopes of practice. 5. Promote best practices and facilitate subsequent scale-up and sustainability of initiatives across the country. 6. Support the development and continued implementation of umbrella health professional regulatory legislation across provinces and territories.	• Canadian Institutes for Health Research • Health Canada • Federal-Provincial/Territorial Committee for Health Workforce • Canadian Institute for Health Information • Patient groups
B. Provincial/Territorial Governments	Create systems of funding, financing, remuneration, and evaluation that are aligned with patient outcomes and enable collaborative models of care.	1. Adopt alternative financing structures to cover all health care professionals across settings and sectors. 2. Initiate a review of professional and union collective agreements to examine their impact on health professional scopes of practice and develop policy recommendations to guide collective bargaining in the health care sector. 3. Ensure accountability for collaborative, patient-oriented care through accreditation. 4. Develop mechanisms that support a move to team- or institution-based liability coverage. 5. Support system-wide adoption of information technologies that foster optimal scopes of practice.	• Local Health Integration Networks and Regional Health Authorities • Health care institutions
C. Regulatory Colleges	Align regulatory bodies to enable professionals to practise collaboratively with overlapping scopes of practice.	1. Work with national certifying bodies to create national standards and competence frameworks that recognize training and recertification processes in areas of overlapping and changing scopes of practice. 2. Recognize certificates for interprofessional practice competencies that enable expanded scopes of practice, informed by the National Interprofessional Competency Framework and the work of the Canadian Interprofessional Health Collaborative.	• National certifying bodies • Pan-Canadian regulatory federations and consortia • Education bodies

PRINCIPAL RESPONSIBLE PARTY	STRATEGY	RECOMMENDATIONS	OTHER STAKEHOLDERS/ PARTNERS
D. Accrediting Bodies and Quality Councils	Establish accountability through accreditation and performance measurement systems, including the monitoring of return on investment, at team or institution levels.	1. Work with national certifying bodies to create national standards and competence frameworks that recognize training and recertification processes in areas of overlapping and changing scopes of practice. 2. Build on existing standardized performance metrics for collaborative care models. 3. Build on existing metrics to inform lifelong learning and collaborative competency development for practitioners at pre- and post-licensure. 4. Expand accreditation to additional levels of health care service provision to include collaborative care models. Mandate accreditation for all health care service provision organizations	• Professional regulatory bodies • Professional associations and unions • Accreditation Canada • Patient groups (Patient Voices Network) • Canadian Patient Safety Institute
E. Pre-Licensure and Continuing Professional Education Bodies	Accelerate the development of pre- and post-licensure education practices that foster collaborative practice and reflect the changing nature of required competencies.	1. Mandate and embed interprofessional, competency-based education across the professions so that interprofessionalism is an essential competency (rather than something additional or above baseline competencies). 2. Develop certificates for advanced collaborative practice competencies. 3. Support lifelong learning to build and enhance collaborative care competencies.	• Canadian Interprofessional Health Collaborative • Accreditation of Interprofessional Health Education • Regulatory bodies
F. Professional Associations and Unions	Provide leadership in supporting collaborative care practice arrangements as being in the best interest of the individual professions represented and recognizing this is the context in which most members work.	1. Contribute to the establishment of evidence-informed guidelines for collaborative care models in which members participate.	• Regulatory bodies • Health care employers • Federal, provincial and territorial governments

Fundamentally, we are recommending the optimization of health professional scopes of practice to enable collaborative responsibility for shared care that meets patient, community, and population health needs. This strategy will ensure that the right provider gives the best care, and the health care team or institution is accountable for assigning appropriate and optimal scopes of practice within a regulated structure.

The above recommendations provide a blueprint for action to support the leadership and generate the champions required to transform health care practice and improve outcomes across the health care system.

In conclusion, this Assessment presents a compelling case, based upon key informants and published evidence, for a paradigm shift in optimizing scopes of practice and in the way health care is delivered in Canada. This shift is one that moves patient needs to the forefront of health care planning; aligns educational, economic, legal, and regulatory inputs with desired outputs; rewards health care teams and institutions for improved processes and outcomes while also holding them accountable for sub-optimal performance; and prioritizes evidence

to inform decision making. The current epidemiologic trends and demand for a transformation of the health care system provide an opportunity for Canada to become a global leader in supporting health care innovation through the optimization of scopes of practice. We are confident that the recommendations presented in this Assessment provide a comprehensive approach to initiate this shift to ultimately improve the health care delivery for *all* Canadians.



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APPENDICES

Appendix 1: List of Acronyms

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

Appendices – All additional appendices are available on the CAHS website
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