INTRODUCTION

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Introduction

"There is no health without a health workforce."

This bold statement from the World Health Organization's (WHO) Global Health Workforce Network (GHWN) highlights the importance of the health workforce to a health system's ability to meet its population health needs. Health workers, both at the forefront of service delivery and in support roles, are what make up the health care system with which patients and family members interact. There are longstanding concerns as to whether the current supply, distribution, and mix of health workers will be able to meet future health system demand and population health needs.

The health workforce also represents the single largest financial input into service delivery. In every health system, the majority of health expenditures go toward the health workforce in the form of salaries, wages or fees. As a result, many—if not all—of the key challenges in health systems policy and practise have direct or indirect implications for the health workforce. Managing the health workforce and associated costs has become the most pressing health system challenge and is critical for health system sustainability. Almost all efforts to shift or reform healthcare involve the health workforce.

Paradoxically, despite being the backbone of healthcare systems, the health workforce can be so pervasive that it is almost invisible. Many decisions about healthcare services are made without considering the human resources required to deliver the proposed changes. Understanding how the current health workforce evolved is critical to making informed decisions about where the system can and needs to go.

This text aims to introduce a range of audiences to the diversity and variety of workers in the Canadian health workforce. An explicit examination of the division of labour, respective scopes of practise, and training and regulation of Canada's health workers will help inform the next steps in the evolution of our country's healthcare systems. In this introduction, we lay the foundation for the individual case studies by outlining the key concepts relating to health workforce studies (Part 1). We present the web of stakeholders in the health workforce from a complex adaptive system perspective (Part 2), and highlight key challenges relevant to the study of the health workforce (Part 3). We conclude with some of the high-level, cross-cutting equity, diversity and inclusion issues that affect health workforces worldwide, including those unique to the Canadian context (Part 4).

Part 1: Key Concepts and Terminology

There are a number of key terms and concepts that may be helpful to understand the **health workforce**. The first is the term health workforce itself. The WHO has defined it as "all people engaged in actions whose primary intent is to enhance health" (WHO, 2006). This broad definition includes frontline clinical staff who work directly with patients, those who provide support to these staff, and those who manage the health workforce and health system.

It is also important to recognize the family members and personal caregivers who—although unpaid, under-recognized and often invisible—play an important role in the provision of health care. We are supportive of their inclusion in principle; however, the informal and varied nature of their role makes it very difficult to establish a comprehensive description of their scopes of practise.

A related international concept is that of **human resources for health**, or HRH for short, which also focuses on universal health coverage and improved population health as key outcomes of the activities of a broad range of workers in a health system. This vision is reflected in the WHO's Global Strategy on Human Resources for Health: Workforce 2030.

An adjacent term that has been used specifically in Canada is **health human resources**, or HHR for short. This term tends to be interpreted more narrowly as focused on health workforce planning, recruitment and retention. We purposely use the term **health workforce** to denote a broader focus that includes but also goes beyond these concerns. This draws upon the concept of complex, adaptive systems (see Figure 1).

Global Strategy on Human Resources for Health: Workforce 2030

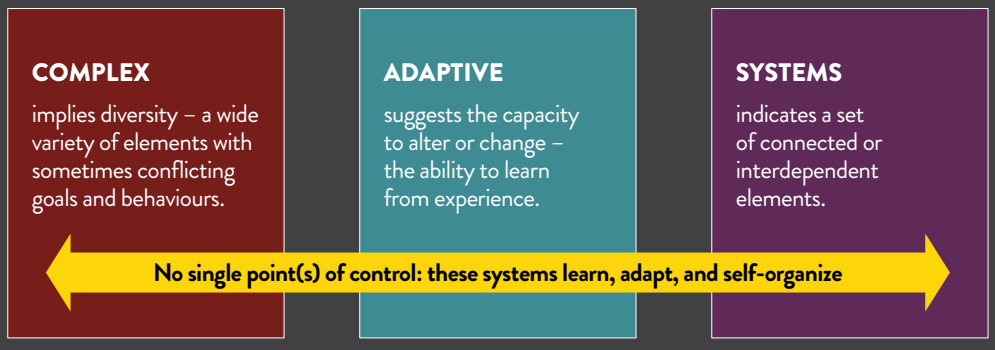
The WHO's Global Strategy on Resources for Health, developed through extensive international consultations, intends to achieve universal health coverage and the United Nations' Sustainable Development Goals by mobilizing and guiding national, regional and global efforts to strengthen the availability, accessibility, acceptability, and quality of the services the health workforce provides. It advances a holistic vision of the effective service coverage necessary to translate health workforce investments into improved health outcomes:

> *Mere availability of health workers is not sufficient: only when they are equitably distributed and accessible by the population, when they possess the required competency, and are motivated and empowered to deliver quality care that is appropriate and acceptable to the sociocultural expectations of the population, and when they are adequately supported by the health system, can theoretical coverage translate into effective service coverage.*
>
> *(WHO, 2016a)*

The Global Strategy can help advance several of the Sustainable Development Goals, including those related to health, socioeconomic development and gender equity. It most directly addresses target 3(c), which aims to "substantially increase health financing, and the recruitment, development, training and retention of the health workforce in developing countries, especially in least developed countries and small island developing States" (WHO, 2016a).

The Global Strategy has adopted the Health Labour Markets Framework for Universal Health Coverage as a guide for identifying policy levers. It outlines a series of global milestones to be achieved by 2030 corresponding to four core objectives, which broadly address health workforce performance, alignment, governance and data. The Global Strategy also provides a series of policy recommendations that target stakeholders including national health systems, international partners, and non-governmental actors such as educational and professional institutions.

Figure 1: Complex Adaptive Systems



(Begun, Zimmerman Dooley, 2003, p. 255)

The concept of complex adaptive systems is useful for understanding a broad range of health workforce issues. Complex adaptive systems are those with multiple, diverse and interconnected elements often accompanied by feedback effects, nonlinearity and other conditions that add to their unpredictability (Begun, Zimmerman & Dooley, 2003). Because of its complexity, health workforce studies is an inherently interdisciplinary field, drawing upon the health sciences, social sciences and management literatures. We introduce some useful interdisciplinary concepts below.

Rooted in sociology and economics, the concept of a **healthcare division of labour** includes aspects related to work arrangements, control of work setting and influence on social relationships (Storch, 2010). It may also refer to specialization within the health field where work is subdivided into specific operations performed by different workers as a means to increase productivity. Much like other divisions of labour, the healthcare division of labour is highly segregated and hierarchical, both within and between professions. Different occupants of the healthcare division of labour have different roles, and these roles have different status and legitimacy that have evolved over time.

The hierarchical nature of the healthcare division of labour has sometimes been described using the concept of professional dominance, first outlined by Eliot Freidson (1970). **Professional dominance** refers to the way a profession uses legal and clinical autonomy to gain control over other competing professional groups, the profession's institutional domain and its financial arrangements.

Freidson delineated the four following elements or features:

- Control over the *context* or terms of one's work (professional autonomy), often indicated by a profession's self-regulatory status;
- Control over the *content* of one's work (scope of practise);
- Control over *clients* (or in the case of health professions, patients); and
- Control over *other occupations* within the division of labour.

Freidson noted that medical dominance within the healthcare division of labour is one of the clearest examples of professional dominance. Paralleling the adaptive nature of the health workforce system, the way medical dominance manifests itself over time is changeable. Indeed, Coburn, Torrence and Kaufert (1983) map out three historical epochs of medical dominance in Canada from its rise, consolidation and decline.

Professionalization is the process by which the work done by a certain group of health workers becomes organized, controlled and codified into educational and regulatory systems. In this way, a profession can be defined as the control over one's occupation (Johnson, 1972) or the tasks assigned to or taken up by an occupation. The concept of professionalization has been applied to many of the professions included in this text.

A **system of professions** is similar to a complex adaptive system. Abbott (1988) describes this system as "a complex, dynamic and interdependent structural network of a group of professions within a given domain of work." The dynamic nature of this system is a result of professions constantly developing and struggling over areas of knowledge and skill expertise, which Abbott called **jurisdictions**.[1] These dynamics create a system in which a profession's success in occupying a jurisdiction reflects its own efforts as well as the situation of its competitors. Change in professional jurisdiction can develop in a number of ways, including the introduction of a new technology, through organizational change or when a jurisdiction becomes vacant. Abbott categorized these **system disturbances** as either internal to the division of labour or external to it.

Similar to jurisdiction is the concept of **scopes of practise**. This term refers to the roles, functions, tasks, activities, professional competencies, standards of practise, and entry-to-practise and registration

1 It is important to note that Abbott was referring to professional jurisdiction, which should not be confused with provincial or territorial jurisdictions in the Canadian context.

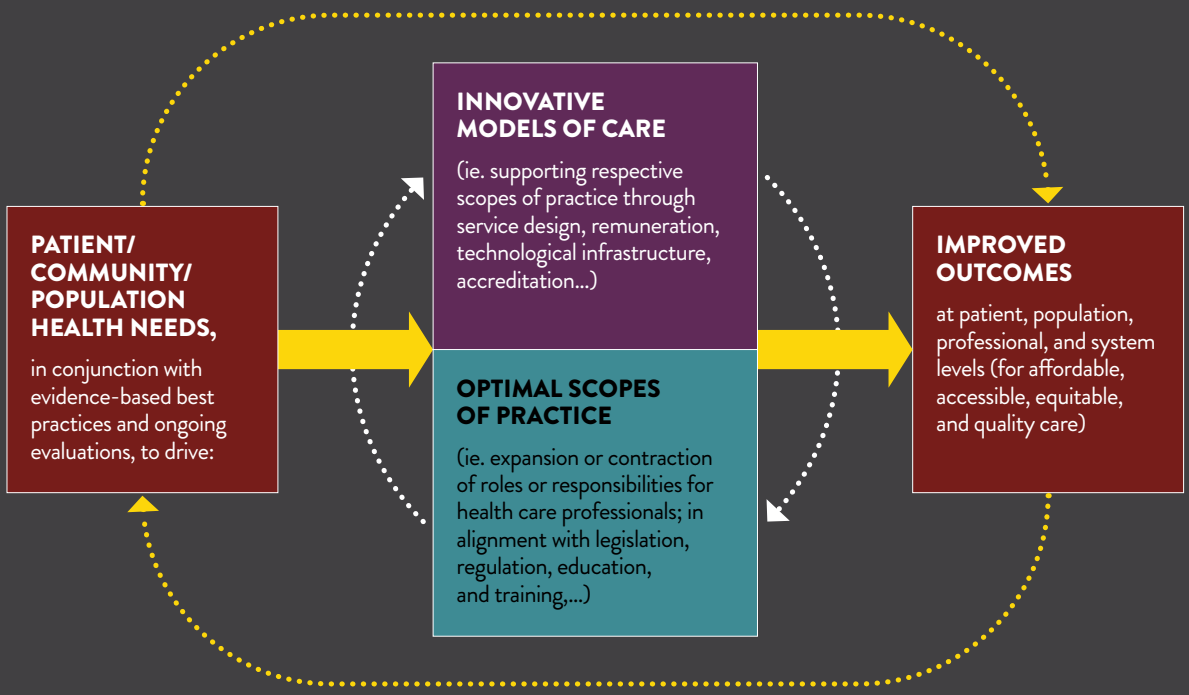
requirements of a particular profession. It tends to designate the domains of practise and scope of role enactment for regulated health professions (Baranek, 2005) and has legal, social and practical dimensions, including:

- How professionals are defined (i.e., who is considered a member of the profession);
- What professionals are trained to do;
- What professionals are authorized by legislation to do;
- What professionals actually do;
- How professionals do what they do; and
- What others expect a professional to do (Health Professions Regulatory Advisory Council, 2007).

Models of care are related to scopes of practise and refer to the structures and organizations that govern how health professionals interact and work together to deliver healthcare. **Interprofessional care** is one such model, where different health professionals work together with a patient-oriented focus. In a 2014 report, the Canadian Academy of Health Sciences presented a detailed discussion of the relationship between scopes of practise and models of care (see Figure 2).

A **model of practise** refers to a profession's specific approach to delivering care. For example, midwives have a different approach and model of practise for childbirth attendance than do obstetricians.

Figure 2: The relationship between scopes of practise and models of care



Source: Canadian Academy of Health Sciences, 2014, p. 23

Interprofessional Models of Care

Interprofessional Models of Care are a specific type of model of care that acknowledge that health care is often delivered in teams. A related term is **collaborative practise** which refers to a process of communication and decision-making that enables the knowledge and skills of different health professionals to synergistically influence the way care is provided to patients (Way, Jones & Busing 2000). A key contributor to interprofessional care (IPC) is when health professions learn together to develop skills and solve problems, or interprofessional education (IPE)(Canadian Interprofessional Health Collaborative [CIHC], 2010).

To this end, the CIHC created a National Interprofessional Competency Framework which comprises a set of competencies that require the development and integration of attitudes, behaviors, values, and judgments necessary for collaborative practise (CIHC, 2010). The six CIHC competency domains are:

- Role clarification
- Team functioning
- Interprofessional communication
- Patient/client/family/community-centered care
- Interprofessional conflict resolution
- Collaborative leadership

In 2010, the World Health Organization recognized "interprofessional collaboration in education and practise 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 Practise, p.7).

Regulation refers to "the diverse set of instruments by which governments set requirements on enterprises and citizens. Regulation includes all laws, formal and informal orders, subordinate rules, administrative formalities, and rules issued by non-governmental or self-regulatory bodies to whom governments have delegated regulatory power." (OECD 2021). It provides a legally binding directive that defines, describes, protects and enforces important distinguishing characteristics that classify a given profession. Regulation may cover protected titles, specialized skillsets, education and entry-to-practise requirements. The purpose of protected titles such as "physician" or "pharmacist" is to provide an important level of assurance to the public: that only those who meet the requirements and criteria for practise under that professional label can legally use that label in Canada. For example, anyone who does not meet the criteria or requirements described in the Pharmacy Act cannot call themselves a pharmacist. Regulation also sets out processes, procedures and professional repercussions for disciplinary action in response to misrepresentation, malpractise or professional misconduct.

A particular form of regulation is statutory self-regulation which occurs when a government delegates its regulatory authority to a profession. This often occurs when some health workers have specialized knowledge far above the public's as it relates to professional practise issues, making the profession (and more through its regulatory body) better equipped to define entry-to-practise requirements, develop professional standards, conduct investigations and so on. Statutory self-regulation is often seen as a formal recognition of a particular profession's unique skills as well as its impact on public health and safety.

The health workforce can be further broken down into two categories:

- **Regulated healthcare professions:** This category includes professions such as medicine, nursing and pharmacy that have a legally defined scope of practise that typically requires longer educational preparation in a more specialized body of knowledge, typically at the university level; and
- **Unregulated healthcare practitioners:** This category includes those who do not have a legally defined scope of practise such as personal support worker, therapy assistant and community health worker. It can also include those roles that do not have direct patient contact given that regulation is primarily focused on protection of the public.

Other terms related to regulation are **licensing** and **certification**. Licensing is a process by which a government or designated agency restricts entry into an occupation by defining a set of functions and activities (i.e., constituting a scope of practise), granting permission to engage in that practise only to persons meeting predetermined qualifications (e.g., an educational credential or a certificate of competency). Certification is a process by which a government or designated agency recognizes persons who meet agency-specified standards for entry and practise, granting a certificate entitling the holder to claim a particular set of competencies or use a particular occupational title (Health Professions Legislation Review, 1989).

In Canada, health professional regulation falls under provincial or territorial jurisdiction; as a result, there are a number of different regulatory models across the health workforce. Notably, most provinces have adopted provincial "umbrella" regulations. This type of legislation reconciles standards of governance across all health professions in a province as a matter of public policy (New Brunswick Department of Health, 2015).

Among the responsibilities of regulatory authorities is tracking and monitoring members of the profession qualified to practise through the process of **registration**. This gives regulatory authorities access to important and current information about the supply of health workers, which is captured in a list of the members of the profession, or a **registry**. In Ontario, healthcare decision-makers recognized the potential of data captured in health professional registry data for health workforce planning purposes. In 2008, the Ontario Ministry of Health and Long Term Care passed legislation requiring regulatory authorities to collect 59 data elements and contribute these to the Ministry for planning purposes. This is seen as a leading practise, internationally.

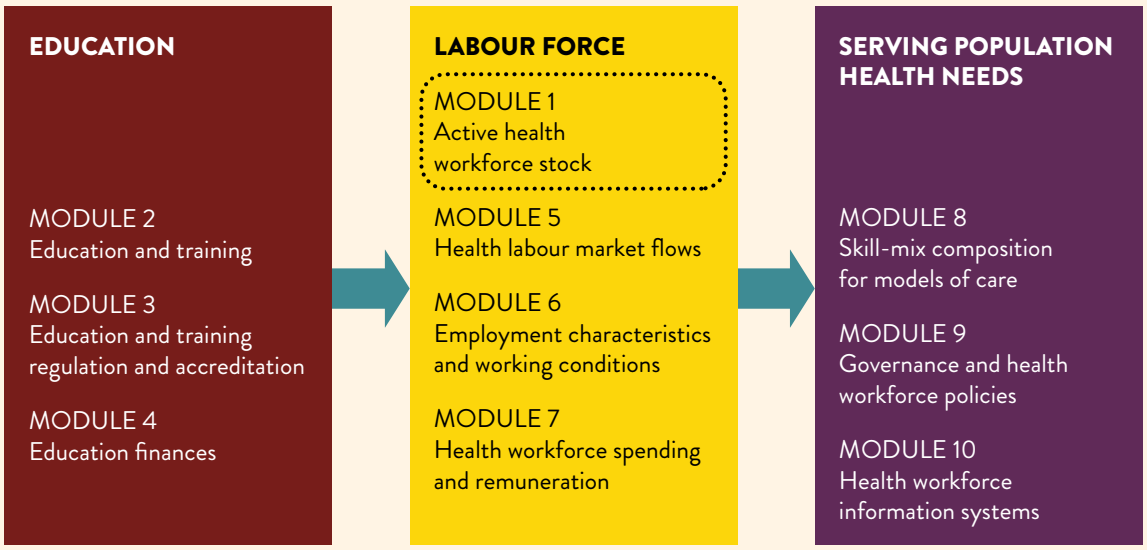
The Canadian Institute for Health Information (CIHI) has also produced guidance on what constitutes a health workforce minimum data standard (MDS) with versions produced in 2013 and 2022. Because health professional regulation is a provincial or territorial jurisdiction, this would require the adoption of legislation similar to that which has existed in Ontario since 2008. Efforts to build on health professional registry data for planning purposes is consistent with the recent WHO-led initiative to establish **National Health Workforce Accounts**, which aim to improve the availability, quality and use of data about the health workforce.

National Health Workforce Accounts

The WHO Global Strategy on Human Resources for Health introduces National Health Workforce Accounts (NHWA) as a standardized approach to collecting health workforce data. The NHWA establishes data comparability across borders, enabling more accurate comparisons and representations of the status of the health workforce at all levels. The NHWA also promotes the development of robust datasets of sufficient quality to inform the evidence base and facilitate knowledge translation between nations. In this way, the NHWA seeks to support more accurate monitoring and evaluation of efforts to achieve universal health coverage through health workforce policy interventions.

The NHWA Handbook published by the WHO (2016b) provides an overview of the fundamental concepts underlying the structure and purpose of NHWA. It presents 10 progressive modules, encompassing 90 health workforce indicators that have been developed to monitor health workforce trends.

Figure 3: Overview of labour market components supported by the NHWA modules



This modular approach allows data collection and reporting capacity to be gradually developed. The progressive development of a comprehensive health workforce dataset enables national health systems to generate information and evidence to inform effective health workforce policies that support universal health coverage. The inclusion of both qualitative and quantitative indicators fosters a more holistic and balanced analysis of the health workforce landscape, which allows for simultaneous consideration of the policy and regulatory structures and the quantitative health workforce indicators that shape the national health workforce landscape. CIHI leads Canada's NHWA reporting.

Part 2: The Complex Adaptive Health Workforce System in Canada

The complex web of health workforce stakeholders and jurisdictional roles reflects historical legacies regarding the governance of healthcare in Canada (see Figure 4). Health professions and the health workforce developed initially within provincial jurisdictions and then spread nationally, leading to the formation of a number of pan-Canadian health workforce organizations. Canada's complex adaptive health workforce system also involves a range of government and non-governmental actors in domains that address the education, accreditation, funding, regulation, practise and deployment of health workers.

Provincial/Territorial stakeholder groups

Provincial/Territorial Ministers of Health

In each province and territory, the Minister of Health is a key decision-making authority with jurisdiction over most aspects of the health system, including the health workforce. These decisions include the funding, regulation, education, training and numbers of existing

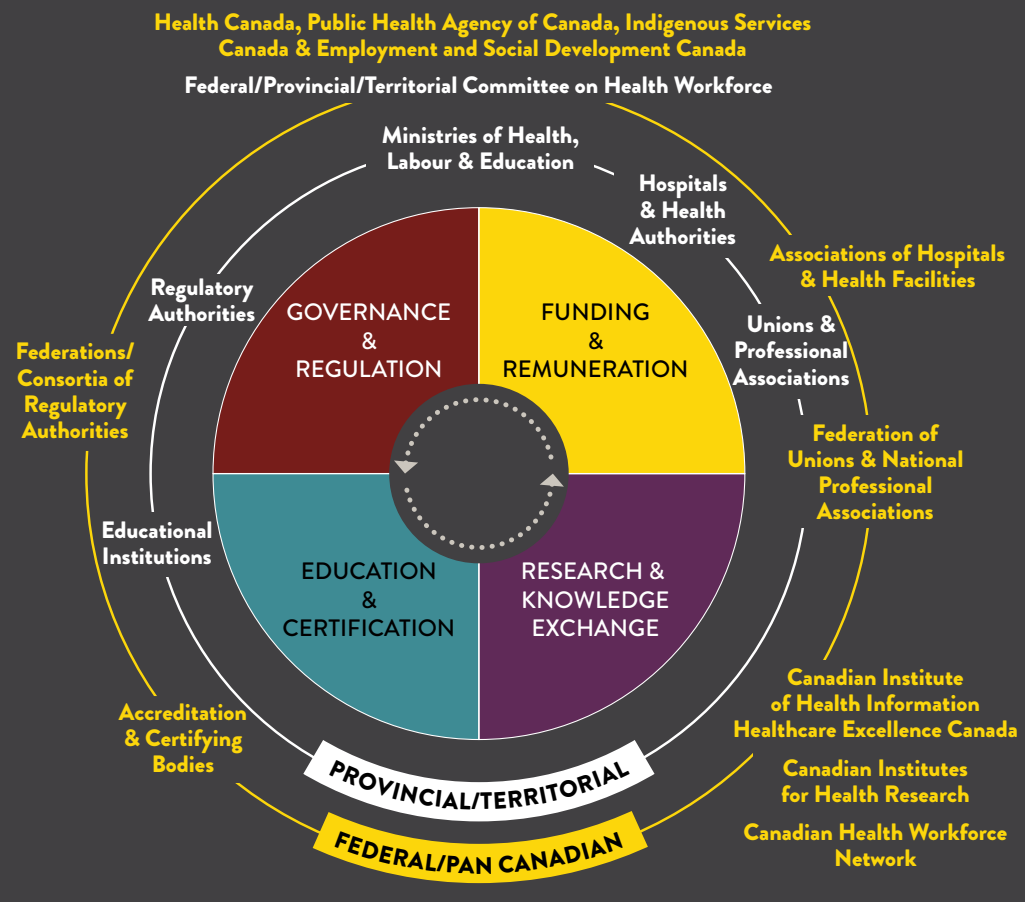
health professions as well as the creation of any new health workforce frameworks. In many provinces, some of these decisions can also involve Ministries of Education and Labour.

Regulatory authorities

In most cases, the responsibility for governing health professions is delegated to the professions themselves via a self-regulation model (Epps, 2011; Morris, 1996). Although regulatory authorities—called *Ordres* in Québec, *Boards* in some of the Maritime provinces and *Colleges* in the rest of Canada—have some autonomy with respect to governing their members, any changes to the profession affecting scopes of practise or amendments to professional legislation require consultation and approval from the provincial or territorial Minister of Health. Regulatory authorities are also expected to work with provincial or territorial governments to ensure any changes made to the profession or legislation governing the profession are in the public's interest.

Regulatory authorities therefore play an important role in ensuring members of a profession are qualified and adhere to ethical and professional standards of practise, legislation and codes of ethics. They do so by enforcing legislation, setting and enforcing the standards of practise, establishing the entry-to-practise criteria, licensing or registering members, setting guidelines for continuing education, and ensuring member discipline (Epps, 2011; Morris, 1996). Governments use a number of mechanisms to ensure regulatory authorities remain publicly accountable, including reporting requirements, public disciplinary hearings and appointments of members of the public to governing boards (Epps, 2011; Morris, 1996). Governments do not interfere directly with the decision-making process of regulatory authorities, but they direct the public agenda on professional self-regulation.

Figure 4: Multi-layered web of health workforce stakeholders



In some provinces, regulatory authorities also organize into various interprofessional configurations, such as the Federation of Health Regulatory Colleges of Ontario, to share knowledge and best practises. In Québec, the *Conseil interprofessionnel du Québec* serves as the collective voice of the province's regulatory authorities. This council works with the Minister of Health and the *Office des professions du Québec* as an advisory body on issues of common concern such as changes to regulation, the creation of new regulatory authorities or the integration of professionals into an existing regulatory authority (Conseil interprofessionnel du Québec, 2019).

Educational institutions

Most educational institutions are based in provinces or territories, many of which are accredited nationally. These are either situated in universities, community colleges or in practise-based settings. Bridging programs for health workers trained internationally are often based in these educational institutions supported by provincial or federal government programs.

Professional associations and unions

Unions and professional associations exist at the provincial and territorial level, functioning independently of regulatory authorities.[2] Professional associations are non-profit groups that protect the interests of their profession rather than exclusively those of the public. When the public's and profession's interests converge, professional associations may work with their regulatory authority counterparts to further those interests. There are often fees associated with membership in a professional association, but membership is voluntary and not required to practise in the jurisdiction.

One or more unions exist at the provincial/territorial level for a number of professions, particularly nursing. Some unions cut across health professional groups as organization-based groups. Both unions and some professional associations negotiate wages, fees and working conditions on behalf of their members.

Hospitals & health authorities

Many Health Authorities and hospitals operate separately from the government Ministry of Health to employ health workers. Exceptions include physicians in all jurisdictions who negotiate their fees and remuneration directly with the government and midwives in some jurisdictions. Local hospitals can organize provincially into associations, like the Ontario Hospital Association. Other health care organizations, like Community Health Centres, similarly can organize into associations like the British Columbia Association of Community Health Centres.

National/federal stakeholder groups

Federal Minister of Health

The federal Minister of Health is responsible for maintaining and improving the health of Canadians in accordance with national standards set out in the *Canada Health Act* (Government of Canada, 2019a). Provincial and territorial healthcare insurance plans are required to meet these standards—public administration, comprehensiveness, universality, portability and accessibility—to get access to full payment under the Canada Health Transfer (Government of Canada, 2019b). With respect to the health workforce, the Minister of Health and Health Canada support Federal/Provincial/Territorial (FPT) committees.

Federal/provincial/territorial committees

The FPT Advisory Committee on Health Delivery and Human Resources (ACHDHR) was established in 2002 by the Conference of Deputy Ministers of Health to provide policy and strategic advice on the planning, organization and delivery of health services. Now known as the FPT Committee on Health Workforce (CHW), it provides a national forum to share information and discuss cross-cutting health workforce issues. It includes senior representatives from Health Canada and representatives from the health workforce departments of each of the provinces and territories. Through the committee's work, a pan-Canadian health human resources strategy was developed in 2007.

2 Although some provinces/territories have a single organization that serves the role as both regulatory authority and professional association these are increasingly dividing into two organizations.

The Case for Pan-Canadian Licensure

A number of organizations have been making the case for a move towards national licensure of health professionals for a number of years. In a recent article, Louise Sweatman, Fiona McDonald and Ramandeep Grewal (2022) use the analogy of a multi-propellered plane to describe the current regulatory system in Canada. As they describe, "The challenge with having more than one propeller, is that they all rotate at different speeds and sometimes not even in the same direction." (p. 82) More importantly, they argue, a pan-Canadian license would enable regulated health professionals to work across the country under one license, enabling greater flexibility in their deployment especially important for system responsiveness during natural disasters, pandemics and the steady state provision of virtual care across borders. The article describes a path to this approach drawing upon international leading practises and recent changes to regulation in other sectors within Canada.

National associations of professional regulatory authorities

A number of professions collaborate across provincial and territorial boundaries in regards to the regulation of health workers. The Federation of Medical Regulatory Authorities of Canada and the National Association of Pharmacy Regulatory Authorities are two examples of national organizations that support regulation advancement and promote national discussion on common regulatory and practise-related issues. Another such organization, the Canadian Alliance of Physiotherapy Regulators (2019), has moved toward a national evidence-based entry-to-practise standard as a proxy to a pan-Canadian license.

National certifying bodies

The College of Family Physicians of Canada and the Royal College of Physicians and Surgeons of Canada are the professional organizations responsible for establishing standards for training, certification and continuing professional development for family physicians and medical specialists, respectively. Although they both carry the name "college" they are *not* regulatory authorities. Both carry out various scholarly and analytic projects relating to the medical workforce and the health system. Similarly, the Canadian Nurses Association manages the only national nursing certification program in Canada and collects unique data to inform workforce planning and policy development.

National educational accreditation groups

A number of national health professional education accreditation organizations exist, including the Association of Faculties of Medicine of Canada, the Canadian Association of Schools of Nursing and the Association of Faculties of Pharmacy of Canada. Health Canada provided funding to the Accreditation of Interprofessional Health Education initiative to propose a strategy and workplan to explore and encourage the development of core joint principles for accrediting pre-licensure interprofessional education. It currently accredits pre-licensure education for physical therapy, occupational therapy, pharmacy, social work, nursing and medicine. Evolving into the Canadian Interprofessional Health Collaborative, it is now the national hub for interprofessional education and collaboration in healthcare. One of its key outputs is the National Interprofessional Competency Framework (Canadian Interprofessional Health Collaborative, 2010).

National professional associations and unions

Voluntary professional associations also exist at the national level, but unlike their provincial/territorial counterparts, they do not directly negotiate the terms and conditions of remuneration and working conditions for their members. They do, however, coordinate the efforts of their provincial and territorial counterparts to promote the interests of their members through lobbying and advocacy at the national level and by representing the profession at international tables. Examples include the Canadian Medical Association and the Canadian Association of Midwives for physicians and midwives, respectively. Nurses unions at the provincial level are also organized nationally as the Canadian Federation of Nurses Unions. HEAL, the Health Action Lobby, represents the collective interests of many national health professional associations.

National hospital and health organization associations

Hospitals, health centres and other health organizations also organize nationally. HealthCareCAN represents hospitals and health organizations nationally. Similarly the Canadian Association of Community Health Centres and the Canadian Association of Long Term Care represent those health care organizations respectively.

Pan-Canadian data, research and knowledge-exchange organizations

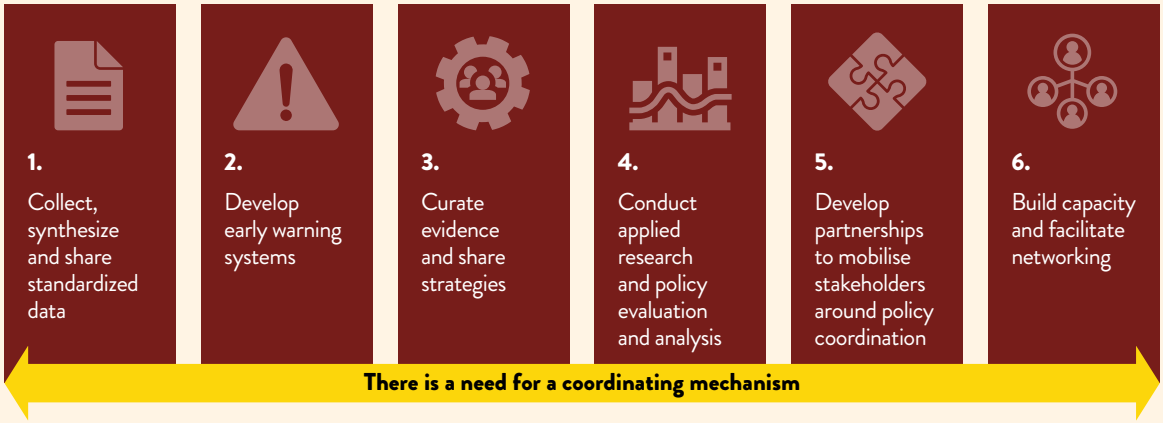
There are a number of pan-Canadian organizations involved in health workforce data collection, research and knowledge exchange. They include the Canadian Institute of Health Information (CIHI), Healthcare Excellence Canada (HEC), the Canadian Institutes of Health Research (CIHR) and the Canadian Health Workforce Network (CHWN).

- **CIHI** is one of seven pan-Canadian health organizations and a major source of national health workforce information. Funded through voluntary bilateral funding agreements with federal and provincial/territorial ministries of health, CIHI works with stakeholder organizations to create and maintain a broad range of health databases, measurements and standards. Two teams at CIHI — the Physician Information and the Health Workforce Information teams produce data tables and summary reports of health workforce datasets from physician billings and regulatory authority registries, respectively.
- **HEC** is another of the seven pan-Canadian health organizations, dedicated to accelerating healthcare improvement across Canada. It accomplishes its mandate by developing partnerships within and across jurisdictions to work together on common improvement priorities, and by providing a pan-Canadian platform to share and implement evidence-informed solutions. A number of these initiatives address the health workforce explicitly or implicitly.
- **CIHR** is Canada's funding body for health research. One of its four pillars, health services and policy research — which captures approximately 7% of all CIHR funds – is where health workforce research is typically funded. It was estimated that less than 3% of health services and policy research is dedicated to health workforce issues (CIHR, 2014).
- **CHWN** was founded as a health workforce knowledge-exchange network with funds from Health Canada and the Canadian Institutes of Health Research. It provides a pan-Canadian forum for national experts, researchers and policy makers involved or interested in health workforce research, policy and planning. CHWN's virtual infrastructure enables participants to share health workforce knowledge, innovations and practises through its library of Canadian health workforce sources and its health workforce innovations portal. It organizes and provides secretariat support to the biennial Canadian Health Workforce Conferences.

The international experience of health workforce agencies

A number of countries have created health workforce agencies, also known as "observatories", as a strategy to improve the performance of their health systems and minimize fluctuations in the availability of health workers. A review of these observatories for the WHO (2011) describes that these observatories, "*collect, analyze and disseminate data and information on the health workforce and the labor market, conduct applied research and produce knowledge, contribute to policy development, contribute to building capacity and understanding of HRH issues and advocate/ facilitate the dialogue between stakeholders*.(p.2) Although the Parliamentary Standing Committee on Health recommended in 2010 that Canada establish a health workforce observatory, no such organization exists.

Figure 5: Integrated functions of a health workforce agency



Inspired by: *Human Resources for Health Observatories: Contributing to evidence-based policy decisions.*

As visualized in the figure above, there are at least six integrated functions of an effective health workforce agency:

1A: Collect, procvess, analyse, synthesize and share harmonized/standardized data (*e.g., education and basic training, productivity and quality of services, governance and labour relations, labour market information and conditions of employment*) on health workers across Canada through an online interactive analytic platform;

1B: Develop health workforce information systems that harmonize data collection methods and tools according to common guidelines and ensure linkages with other interjurisdictional health data systems;

2A: Develop health workforce surveillance/early warning system, anchored to key indicators and provincial/territorial/regional profiles that helps to identify, forecast and monitor health workforce problems/needs that proactively advise workforce planning processes to avert health workforce crises;

3A: Curate and share the latest evidence, strategies and innovative approaches to tackle health workforce challenges within Canada and internationally through decision-support tools for a range of stakeholders and decision-makers;

3B: Facilitate the sharing of successful experiences in resolving critical health workforce challenges through (cooperative arms' length) discussion forums, technical meetings and policy dialogues between stakeholders generating multi-level recommendations;

4A: Conduct applied research to generate evidence/produce knowledge in support of more informed and participatory approaches to decision-making and policy development and evaluate health workforce development policies, strategies, plans and their implementation, publishing the results in technical and peer-reviewed fora (*in some cases undertake commissioned work in partnership with key stakeholders/decision-makers*);

5A: Develop partnerships to mobilize stakeholders for pan-Canadian synergy and coordinate advocacy to build consensus around coordinated policy development and action regarding timely health workforce issues, prioritizing strategic interventions;

6A: Build capacity in health workforce analysis, evaluation and monitoring of health workforce trends through training programs, and facilitate the networking of health workforce expertise;

6B: Build and strengthen health workforce governance and regulatory capacity, harmonizing regulatory policies and practises across federal/provincial/territorial jurisdictions.

Part 3: Key Health Workforce Concerns

The health workforce field covers a range of concerns, including preparing, regulating, deploying and managing people who work in healthcare. It not only deals with existing types of workers and what they do, but also looks to the future and how these roles and tasks will evolve over time. Health workforce issues faced by all healthcare systems can be categorized into four areas (see Figure 6):

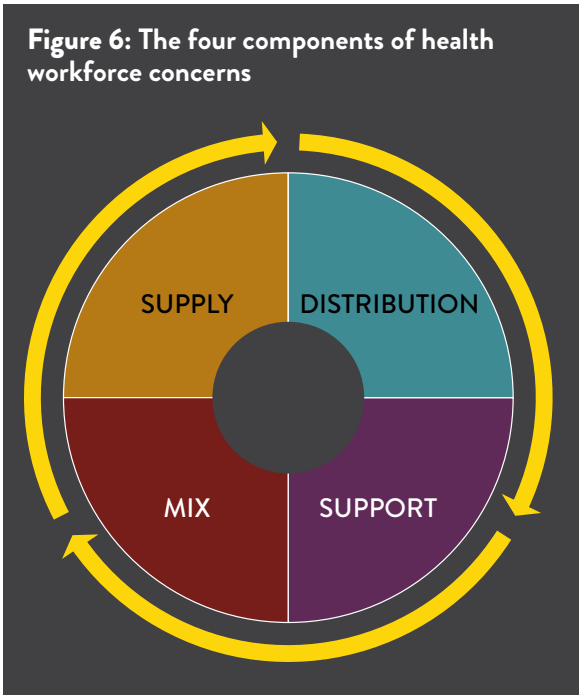
- **Supply** addressing the numbers of healthcare professionals providing services to a population;
- **Distribution** addressing the locations or deployment of healthcare professionals across geographic areas or care sectors;
- **Mix** addressing the relative number of healthcare professionals providing various types of specialty services; and
- **Support** addressing the mental health and change management of health workers

Supply

Supply problems in the health workforce are generally described in terms of shortages and surpluses. Although there are no hard and fast measures for these terms, a **shortage** is a situation where there are not enough workers to meet demand. This often results in people with legitimate needs for care waiting long times, travelling long distances or doing without care altogether. In a **surplus** situation, there are more workers than required and providers do not have enough legitimate work to keep them busy.

While the actual numbers of health workers affect shortages and surpluses, their **activity** and **participation rates** may have an even greater impact. For example, if there are 100 practitioners, but each of them is practising only half of the time, that is a very different situation than if 100 practitioners are practising full time. Because of this difficulty in simply counting health workers, there have been efforts made to develop a way to measure full-time equivalency. However, this task is made particularly complex by the fact that different groups of health workers have varying and multiple sources of employment and funding.

Figure 6: The four components of health workforce concerns



Distribution

The distribution of health workers is intricately tied to issues of supply. Although numerically there may be a sufficient supply of workers, their maldistribution will result in inequitable population access to services.

Maldistribution can occur between provinces and territories, between urban and rural geographies and between sectors of health care (i.e., hospital to home or long-term care settings).

Consider, for example, the interjurisdictional migration patterns of physicians. Between 2012 and 2016, British Columbia was the only jurisdiction that continuously experienced net physician gains due to interjurisdictional migration; most jurisdictions experienced net physician losses (CIHI, 2018).

In the case of maldistribution between urban, rural and remote locations, despite being a persistent problem, there is a remarkable lack of evidence for the effectiveness of the various educational, regulatory, financial and other supportive interventions (Esu et al., 2021). Recent guidance includes the following recommended actions (WHO 2021b):

- Raise the profile of rural health workers (WHO 2021b)

Education

- Enrol students with a rural background in health worker education programmes
- Bring students in health worker education programmes to rural and remote communities
- Align health worker education with rural health needs
- Facilitate continuing education for rural and remote health workers

Incentives

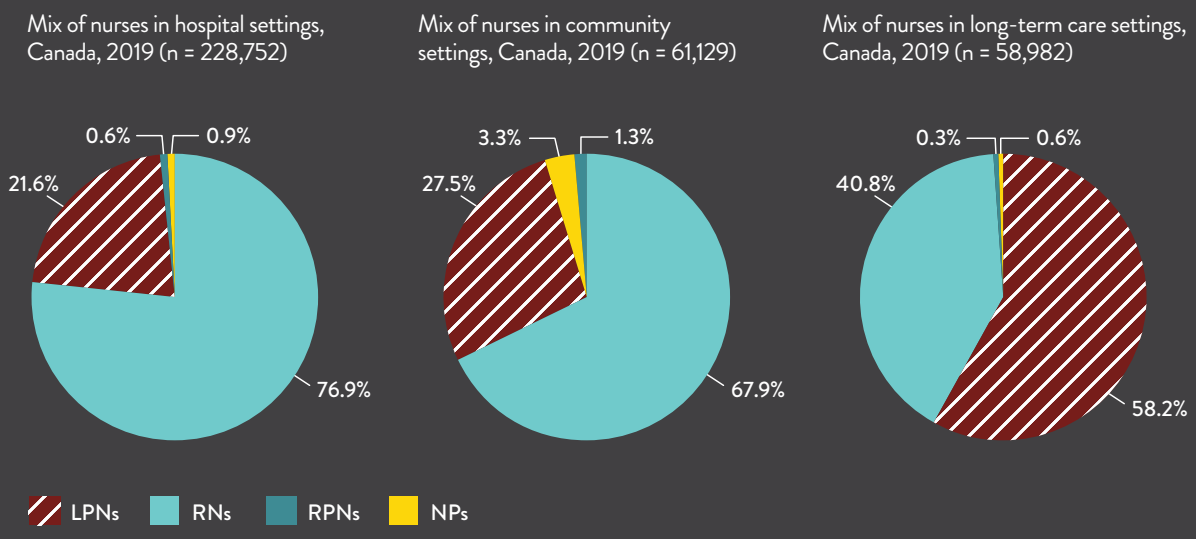
- Provide a package of attractive incentives to influence health workers' decisions to relocate to or remain in a remote or rural area

Personal & professional support

- Improve living conditions in rural and remote areas
- Ensure workplace safety in rural and remote health facilities
- Ensure decent work for health workers in rural and remote areas
- Develop and strengthen career pathways for rural health workers

We have some data on the distribution of health workers across care sectors. For example, CIHI reports in 2019 that of the 348,863 nurses in Canada, 228,752 (66%) were in hospital settings, 61,129 (18%) were in community settings and 58,982 (16%) in long-term care settings. The mix of nurses varied considerably with practical nurses predominating in long-term care whereas registered nurses predominated in hospital and community settings (Figure 7).

Figure 7: Nursing staff mix, by care setting, Canada, *2019



Source: Health Workforce Database, 2020, Canadian Institute for Health Information.

Notes

* Data was not available for all provinces and territories.

RPNs are regulated only in Manitoba, Saskatchewan, Alberta, British Columbia and Yukon.

Nurses whose place of work was unknown were excluded.

2019 workforce data is not available for LPNs from New Brunswick, Yukon and Nunavut, and for RPNs from Yukon; ans it is not included for RPNs from British Columbia.

Employment data for NPs and RNs in Manitoba for 2019 has been suppressed due to significant under-coverage as a result of voluntary reporting.

For more information about data collection and comparability, refer to Nursing in Canada, 2019 — Methodology Notes.

Mobility of Health Workers

Health workforce mobility can be described as the ability of health workers to move into and out of jurisdictions and sectors. It is often tied to social, personal, familial, cultural, economic, workplace environment and political factors (International Organization for Migration, 2014). The mobility of health workers is increasingly recognized as an important issue. Although mobility is integral to the right to personal freedom, it can also represent a significant loss to the jurisdictions that invested resources into workforce development to meet the needs of their population (International Organization for Migration 2014).

Recognizing the challenges associated with health worker mobility, the WHO initiated a Global Code of Practise on the International Recruitment of Health Personnel (2010). It specifically "seeks to strengthen the understanding and ethical management of international health personnel recruitment through improved data, information, and international cooperation." The guiding principles of the WHO Code include:

1. Ethical international recruitment discouraging active recruitment from developing countries facing critical shortages.
2. Countries should implement effective health workforce planning, development and sustainability strategies.
3. Migrant health personnel should receive fair and equal treatment.
4. International cooperation between source and destination countries to derive mutual benefits is encouraged.
5. Technical assistance and financial support to developing countries is encouraged.
6. Countries are encouraged to strengthen health workforce data gathering.

Mix

Achieving the right mix of health professionals that aligns with population health needs is a complex challenge, linked to both supply and distribution. The 2007 Framework for Collaborative Pan-Canadian Health Human Resources Planning highlighted that "Canada's ability to provide access to 'high-quality, effective, patient-centred and safe' health services depends on the right mix of healthcare providers with the right skills in the right place at the right time" (ACHDHR, 2007).

Both intra- and interprofessional organizational structures present challenges to achieving an appropriate mix. While intraprofessional organization in the case of the medical profession is focused on achieving the right balance of generalist and specialist practitioners, in reality, there are often greater shortages of specific types of physicians than others. The under- and unemployment of certain medical specialists has been seen as an indication of a lack of coordination between supply, distribution and mix (Fréchette et al., 2013).

Achieving the right mix of health workers is intricately linked to the issue of scope of practise and skill mix initiatives. Although these terms are often used interchangeably, there are nuanced differences. A profession's **scope of practise** outlines the tasks and skills possessed by a particular profession. **Skill mix** initiatives, on the other hand, use individual professions' scopes of practise to define an optimal interprofessional workforce composition that is aligned with local population health needs and increases the productivity and efficiency of the system as a whole. Working to optimal scope means achieving the most effective configuration of professional roles as determined by other healthcare professionals' relative competencies and health system needs (Nelson et al., 2014).

In some cases, skill mix initiatives involve delegating or re-assigning tasks from a more highly trained and skilled health worker to a less highly trained but still appropriately skilled worker.

This type of rational redistribution of tasks, or **task shifting**, according to the WHO (2008), can make for more efficient use of the available health workers.

There can be a number of barriers to the optimization of scopes of practise (see Table 1). The economic value attributed to different tasks in health care is also affected by gender and other social stratifiers (discussed more fully below).

TABLE 1: Canadian Academy of Health Sciences model of barriers and enablers

BARRIERS	ENABLERS
SYSTEM LEVEL Healthcare professional accountability/liability concerns	• **Educating professionals and courts** on changes to legislation that recognize the principles of shared-care models
SYSTEM LEVEL Educational needs/requirements that inhibit professionals working to full or optimum scope	• **Establishing practicums and residencies** that foster interprofessional competencies • **Post-licensure credentialing** for continued competency development over the course of a career
SYSTEM LEVEL Rigid legislation/regulations	• **Expanding adoption of more flexible legislative frameworks** that can be interpreted at the local setting
SYSTEM LEVEL Payment models that do not support changes in scopes of practise	• **Alternative funding** (e.g., bundled or mixed payment schemes to include all healthcare professionals and to be aligned with desired outcomes
ORGANIZATONAL LEVEL Communication across multiple care settings	• Implementation and upkeep of **electronic medical records** essential for all respective healthcare professionals (and for patients themselves) to have timely access to the most up-to-date information on treatment and status
ORGANIZATONAL LEVEL Professional protectionism	• Representation of the interests of professions in the context of collaborative care arrangements and **interprofessional standards / overlapping scopes of practise**
ORGANIZATONAL LEVEL Accountability	• Broader application of collaborative performance measures and an overall quality assurance framework through involvement of **accrediting bodies**
ORGANIZATONAL LEVEL Availability of evidence	• 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**
PRACTISE LEVEL Professional hierarchies	• **Change management team:** a designated role for managing changes in scopes of practise and models of care
PRACTISE LEVEL Professional cultures (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
PRACTISE LEVEL Communication among healthcare professionals	• **Instilling group mentality:** internalization of shared responsibility across healthcare professions • Scheduling **regular meetings** for healthcare team members to consult on appropriate care strategies • Integrating **information communication technologies** • **Co-location** to have different types of healthcare professionals and services functioning in a shared space

Source: Nelson et al., 2014. Page 11.

Support

The addition of improved health professional experience to the Institute for Healthcare Improvement *triple aim* making it the *quadruple aim* addressed a critical component of health system improvement. Too often the process of health system change neglects the influence of health workers and impact on their well-being. Bodenheimer and Sinsky (2014) made the case for this expansion, linking the widespread burnout of health workers to lower patient satisfaction, reduced health outcomes and increased costs; the key triple aim outcomes. Others have highlighted the link between health worker burnout and health workforce planning issues, specifically staffing levels and workload (Humphries et al., 2014).

A particularly pervasive problem facing health workers is workplace violence. As was highlighted in a 2019 House of Commons Standing Committee on Health Report, health workers face four times the violence of any other profession, yet these incidents often go unreported due to a culture of acceptance. It highlighted some of the key causal factors including staffing shortages, which were particularly challenging given the rising complexity of patient needs, aging health care infrastructure and inadequate security. Its key recommended actions included the following:

- develop a pan-Canadian framework to prevent violence in health care settings
- develop a national public awareness campaign about the violence faced by health care workers
- through the Canadian Institute for Health Information, collect national standardized statistics on workplace violence.
- through the Canadian Institutes of Health Research, evaluate best practises in workplace violence prevention, including the gender-based nature of violence in health care settings.
- address staffing shortages in health care settings by updating the *Pan-Canadian Health Human Resources Strategy* to reflect the well-being of health care providers.

Part 4: Health Workforce Planning

Health workforce planning is defined as:

> *The process of estimating the number of persons and the kind of knowledge, skills, and attitudes they need to achieve predetermined health targets and ultimately health status objectives. Such planning also involves specifying who is going to do what, when, where, how, and with what resources for what population groups or individuals so that the knowledge and skills necessary for the adequate performance can be made available according to predetermined policies and time schedules. This planning must be a continuing and not a sporadic process, and it requires continuous monitoring and evaluation.*
>
> (Hall & Mejia, 1978)

In some cases, health professional groups have been left to determine their own numbers without a clear link to or measurement of population health needs. This approach, though still in place today for a number of health workers, is problematic because of the variability in estimates from each profession and has resulted in cycles of over- and under-supply, high turnover and attrition, and a lack of stability in the health workforce. It has also done little to address the persistent misalignment between health workforce and population health needs.

Approaches

Ratio-based approaches. Health personnel-to-population ratios are typically used to measure health worker density. This approach involves empirically determining the number of health professionals in each discipline currently working in a given geographic area and then using census data to estimate the provider-to-population ratios. When using these ratios to assess the sufficiency of workforce projections, planners either project forward current ratios within the geography in question or use population and workforce growth trends to compare projected ratios

to a threshold ratio established by normative bodies such as the WHO, which proxy "need" for health services. In some cases, only the relevant population is included. For example, midwife-to-population ratios can be calculated using the population of women of childbearing age, rather than the total population of the area.

These ratios have the advantages of being easy to calculate with minimal data requirements, enabling comparability, and facilitating communication and understanding of findings. However, this approach also has a number of critical flaws:

- It assumes all within the population have equal access to care, regardless of distance or ability to pay, and that all care is necessary.
- There is a lack of clarity concerning optimal ratios. In Canada, for example, we often compare our ratios to the Organisation for Economic Co-operation and Development (OECD) average. But this average is not necessarily an optimal measure; it is a mathematical average of the ratios in OECD member countries, all of which could be suboptimal.
- These ratios are typically either uni-professional (i.e., about only one profession) or aggregate, and do not account for skill mix, scopes of practise or models of care. A physician-to-population ratio of 2:1,000 with a nurse-to-population ratio of 10:1,000 is quite different from the same physician-to-population ratio with a nurse-to-population ratio of 100:1,000.
- The ratios assume constant provider activity, participation and productivity rates and population health needs across planning geographies and time.

Utilization-based approaches to health workforce planning (also referred to as demand-based approaches) apply observed healthcare utilization rates in various population subgroups to projected population profiles to estimate future demand for health services and corresponding workforce requirements. This approach, which reflects an economic rather than a population health focus, is considered to be particularly appropriate in systems where access and utilization is constrained by ability to pay (Tomblin Murphy et al., 2016). If utilization rates are used to project future requirements, however, projections are predicated on the maintenance of the status quo. Utilization rates are susceptible to both underestimating population health needs in systems where barriers to access remain, and overestimating population health needs in systems where oversupply leads to provider-induced demand (Birch et al., 2007).

Needs-based approaches allow planners to estimate the workforce required to meet the unique needs of patients based on demographic and epidemiological profiles, and an established level of service. These approaches assume all population health needs can and should be met, the requisite resources to meet these needs are available, and there is sufficient political will to deploy these resources (Dreesch et al., 2005). As a result, these approaches are considered consistent with the objectives of publicly funded health systems (such as Canada's) that are striving for universal health coverage regardless of ability to pay (Tomblin Murphy, 2016 et al.).

Scale

Health workforce planning exercises are often performed at the national or provincial/territorial level, with minimal consideration of the alignment between service needs and workforce capacity at the regional or local level. As a result, their aggregate projections do not reflect the potential for inequitable and inefficient distribution of the health workforce within planning areas. They also fail to provide the evidence base necessary to develop targeted policies to address persistent imbalances on the basis of geography, sector and skill mix. Estimates that account for workforce capacity distribution and population health needs can inform more targeted health workforce deployment and management strategies. Accounting for mobility and migration in stock and flow models can also enable health workforce planners to produce more robust estimates of workforce distribution.

Integration

In light of increased focus on interprofessional collaboration and efficiency gains as means to address both quantitative and qualitative workforce imbalances, it is becoming increasingly clear that uni-professional health workforce planning is inadequate and misaligned with health system needs. Multi-professional planning is therefore of utmost value.

In recent years, service target-based approaches have emerged as an extension of needs-based approaches that use task analysis and demographic and epidemiological profiles to project service or competency requirements. These requirements can inform a defined package of services that can then be allocated across a variety of health professions with relevant and often overlapping scopes of practise.

While utilization-based and needs-based approaches can be deployed for a number of professions sequentially, the key strength of service target-based approaches is their ability to address issues of skill mix and to integrate multiple professions into a single planning exercise that can explore innovative and efficient models of care provision (Dreesch et al., 2005).

A New Health Workforce Framework

Figure 8 presents a new health workforce framework that integrates Donebedian and Logic Model approaches and which includes the structures, processes and outcomes of robust planning, development, deployment and support of the workforce.

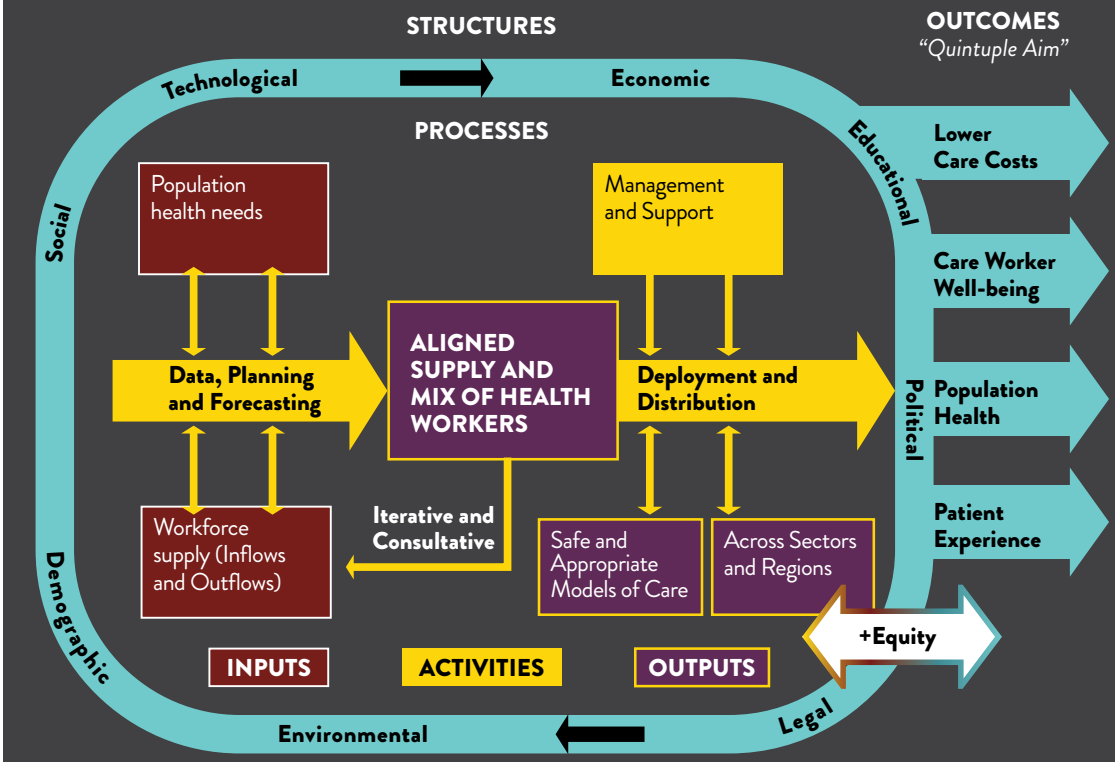
At the **Structures** level, we draw upon the STEEPLED approach that highlights the importance of taking the social, technological, economic, environmental, political, legal, educational and demographic contexts into consideration (Johnson, Scholes & Whittington, 2008). In some cases this would yield quantitative data to inform the planning and deployment processes but in other cases it would yield qualitative intelligence informing different scenarios that could be integrated into these processes.

At the **Processes** level, we delineate different inputs, activities and outputs to the planning, development and deployment processes. Key inputs are data on population health needs and workforce supply to assess the gap or alignment in the capacity of the health workforce to meet population needs. Because of the complex, adaptive nature of the health workforce system, planning and development activities should be iterative, consultative across various stakeholders to ensure realistic scenarios for forecasting, and based on the highest quality standardized data on both the population health and health workforce sides. Outputs of these activities include an alignment of the right mix of health workers, their deployment into safe and appropriate models of care, and their rational distribution across sectors and regional geographies. Other key activities are the management and support of healthy deployment and distribution.

At the **Outcomes** level, attention needs to include not only the expanded quadruple aim outcomes at the system, provider and patient level of lower care costs, care worker well-being, population health and patient experience, but the added dimension of equity which constitutes the new quintuple aim (Nundy, Cooper & Mate 2022). Beyond seeing equity as just an outcome, it can be considered transversal across structures, processes and outcomes.

Moving forward, there is increasing recognition that health workforce planning is both a technical and a political exercise that requires the engagement of all key workforce stakeholders to ensure the relevance of tested policy scenarios and to enable complementary resource mobilization. Furthermore, using iterative, short-term health workforce planning cycles can address the uncertainty embedded in all health systems and mitigate the decreasing accuracy of projections over time. Promising practises in this field also showcase the value of multi-professional needs-based planning that moves beyond simple projections of supply to address questions of optimal workforce distribution and mix.

Figure 8: An integrated Donebedian and logic model framework of health workforce planning, policy and management



Part 5: Equity, Diversity and Inclusion Considerations

Consistent with the newly proposed quintuple aim (Nundy, Cooper & Mate 2022), it is critical to highlight the important equity, diversity and inclusion (EDI) dimensions of the health workforce. In this brief overview, we highlight the gendered nature of the health care division of labour, the considerations for Indigenous, Black, and other people of colour (BIPOC) in the health professions, and the health workforce considerations to ensure access to care in the official languages of Canada.

Gender

The division of labour in healthcare is highly gendered and influenced by complex gender dynamics. Women comprise over 80 per cent of health workers we count in Canada, which surpasses the global rate of 75 per cent (Bourgeault, 2018). Paradoxically women are also much less likely to be in leadership roles in health care despite their preponderance in the workforce (Bourgeault et al., 2018; Tricco et al., 2021). These gender inequities are also reflected internationally (WHO, 2021).

From 1997 to 2016, employment in the health sector grew at a faster pace than other sectors with women's employment growing even faster than men's in this sector (72 per cent versus 55 per cent). But the proportion of women and men in health and personal care professions are not evenly distributed. According to recently released data from CIHI (2022), there are higher proportions of women working as midwives and dental assistants (both 99%), dental hygienists, dietitians and genetic counselors (all 97%) and regulated nurses (92%), but considerably lower proportions among dentists (48%), physicians (44%), chiropractors (37%) and paramedics (36%).

The historical development of the professions, which are outlined in each of the chapters of this text, is highly relevant in this regard. Women were historically

excluded from the professions of medicine and dentistry and relegated to the professions of nursing, midwifery, dental assistance and dental hygiene. These professions remain distinct and separate from the dominant medical professions, typically through the use of gendered ideology surrounding women's societal role as "carers" as opposed to "curers" (Davies, 1996). They are often in positions subordinate to those of the more male-dominated professions, and their skills are undervalued, reflective of the broader societal undervaluing of women's work. The dominance of the medical profession and the lower status of traditionally female health professions have been structurally embedded in multiple layers of legislation and regulation governing the healthcare division of labour (Bourgeault & Mulvale, 2006). Gender divisions are also linked to differences in hours of work, career opportunities, remuneration, working conditions and work-life balance (Armstrong & Armstrong, 1996).

All these issues have implications for the complex dynamics in the health workforce (George, 2007). For example, due to varying work patterns and practise approaches, the feminization of the Canadian health workforce could have an impact on the availability and provision of care. Future health workforce planning in Canada must take into account the diversity in working patterns of women and men in the health professions, along with measures of supply, mix and distribution and changing population demographics.

BIPOC health professionals

Indigenous Health Workers

Pre-contact, Indigenous peoples lived all across the lands and waters of what is now known as Canada. Colonization first by the French and then the British brought a series of policies intended to eradicate Indigenous healthcare practises and segregate access to settler healthcare—despite the fact that settlers benefitted from Indigenous healers and medical knowledge. Racial segregation in healthcare was enacted in part through the federal government's establishment of "Indian hospitals" to treat Indigenous patients (Lux, 2018); a segregation intricately tied to the Residential School System. The treatment these patients received was significantly inferior to that received by European settlers, often involving abuse at the hands of medical staff who did not understand Indigenous cultures or languages. After the Second World War, the federal government aggressively expanded Indian hospitals focused on completely replacing traditional healing practises, medicines and midwifery with Western medicine. In 1979, after decades of resistance, the federal government closed most Indian hospitals or converted them to primary care clinics, but their damage was already done.

Both the Royal Commission on Aboriginal Peoples (1996) and the Truth and Reconciliation Commission Calls to Action (2015) brought attention to the ways colonial practises harmed the health and well-being of Indigenous peoples through the decimation of their healing knowledge and practise. These commissions also focused on the need to increase the number of Indigenous health workers (*see textbox on TRC Calls to Action)*. Historically, Indigenous people had not been admitted to settler health worker training programs, nor were they allowed to practise traditional healing practises for people in their community.

In 2005, the federal government funded the Aboriginal Human Health Resources Initiative to increase the number of Indigenous people entering health careers through two key streams: a scholarships and bursaries program and a community-based cultural competency training program for health workers and managers.

Census data from 2006 at the start of this initiative reveals that 1.57% of Canadian healthcare providers identified as Indigenous. Of this, 50% were First Nations, 43% were Métis and 3% were Inuit. By 2016, Indigenous people made up 2.2% of the Canadian health workforce—an increase of just 0.63%. For reference, Indigenous people represented 4.9% of the total population in 2016.

Although census data can be informative, it is not the most accurate: provincial/territorial licensing and health professional regulatory bodies generally offer more precise data. However, these bodies do not routinely collect data on the Indigenous identity of health professionals.

Key Health System and Workforce-Related Recommendations from the Truth and Reconciliation Commission

21. We call upon the federal government to provide sustainable funding for existing and new Aboriginal healing centres to address the physical, mental, emotional, and spiritual harms caused by residential schools, and to ensure that the funding of healing centres in Nunavut and the Northwest Territories is a priority.

22. We call upon those who can effect change within the Canadian health-care system to recognize the value of Aboriginal healing practices and use them in the treatment of Aboriginal patients in collaboration with Aboriginal healers and Elders where requested by Aboriginal patients.

23. We call upon all levels of government to:

    i. Increase the number of Aboriginal professionals working in the health-care field.

    ii. Ensure the retention of Aboriginal health-care providers in Aboriginal communities.

    iii. Provide cultural competency training for all health-care professionals.

24. We call upon medical and nursing schools in Canada to require all students to take a course dealing with Aboriginal health issues, including the history and legacy of residential schools, the *United Nations Declaration on the Rights of Indigenous Peoples*, Treaties and Aboriginal rights, and Indigenous teachings and practices. This will require skills-based training in intercultural competency, conflict resolution, human rights, and anti-racism.

Source: Truth and Reconciliation Commission of Canada: Calls to Action, 2015.

Black and other People of Colour in the Health Workforce

In addition to a lack of data on the Indigenous identity of health workers, so too are absent any data on the racialization of the health workforce. This is even more egregious because it is required by Federal Employment Equity legislation. There have been studies of the experience of racism in specific professions (Etowa et al., 2011; Jeffries et al., 2018; Vukic et al., 2016), but less on the systemic understanding of the extent of these problems. We know anecdotally that Black and immigrant health and personal care workers were more likely to be on the frontline of the COVID-19 pandemic, in jobs that carried a high risk of exposure to infection and lacked access to personal protective equipment, paid sick leave or health benefits (Canadian Women's Foundation et al., 2020). There has been a disproportionate number of deaths from COVID-19 amongst Black and racialized health workers, concentrated in the lowest tier of the health workforce, especially in long-term care (Sim, Gupta & Bourgeault, 2020).

We also know that immigrants make a significant contribution to Canada's health and care sector, yet the underutilization of immigrant skills is a matter of ethical and economic concern for Canada and for the countries from which immigrants hail (Bourgeault, 2013) (*see textbox on Internationally Educated Health Professionals*). A number of Black and internationally educated health professional associations now exist to represent the interests of nurses, physicians and other health professionals across Canada.

Internationally Educated Health Professionals

Immigration has played a significant role in Canada's healthcare system since the country's founding. The first local medical education program was established in 1824 in Montreal, Québec, and it was another 50 years before a nursing program was started in 1874 in St. Catherines, Ontario (Coburn et al., 1983; Coburn, 1988). It would take many more years for the growing Canadian healthcare system to lose its dependence on health workers trained abroad. Today, waves of immigration continue to bring health workers trained in a wide variety of countries: currently, there are more than 22,500 internationally educated physicians (CIHI, 2018) and more than 36,000 internationally educated nurses (CIHI, 2019) practising in Canada, representing 26% and 8.5% of Canada's physicians and regulated nurses, respectively.

Although internationally educated health workers were able to enter practise directly upon moving to Canada, today they must undergo a lengthy and complex credential recognition and professional recertification process that makes integration into the Canadian system challenging. For those who have not been actively recruited or who have not investigated the recognition and recertification process prior to arrival, this process can be particularly challenging. Early system navigation programs and bridging programs have been identified as promising practises that can help internationally educated health professionals navigate the recognition and recertification process, sensitize them to the culture and context of healthcare in Canada, and strengthen their communication skills.

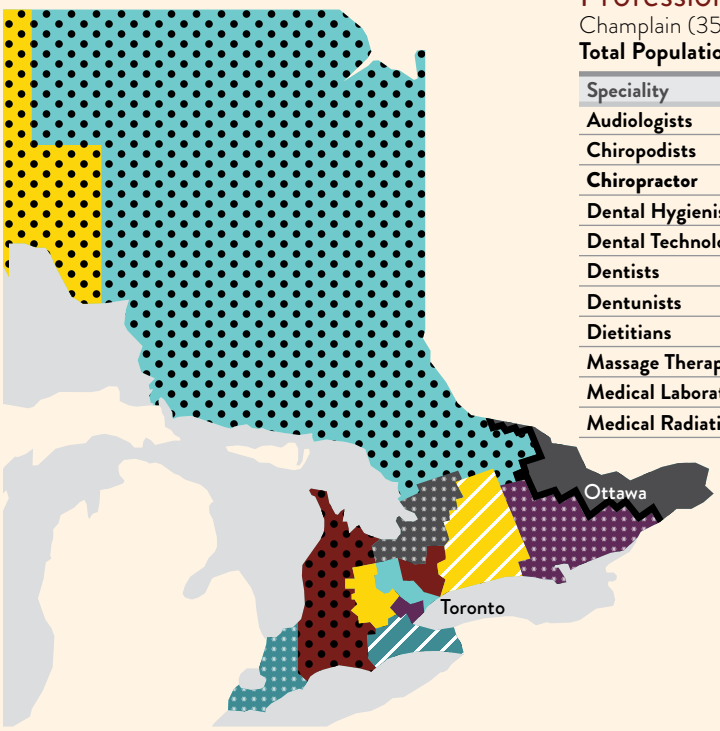
Official languages capabilities of health workers

Another important equity consideration is the ability of health workers to provide services in English, French and Indigenous languages as governed by the Official Languages Act and the the Indigenous Languages Act. A study conducted through a partnership between the CHWN and the Societé Santé en français, found a lack of consistency in the collection of language data by provincial regulatory authorities despite the recognition that this would be valuable information to link patients with appropriate health workers (Demers et al., 2020). Tools such as the Geoportal of Minority Health (depicted in the textbox below) is an example of a useful tool to help ensure access to services in the language of patients' choice.

Geoportal of Minority Health

The Geoportal of Minority Health is a tool that aimed to fill these data gaps and improve knowledge about health and access to health services of the Francophone minority populations of Ontario. This initiative was established through funding from the Ontario Ministry of Health and Long-Term Care in 2013–2014.

Figure 9: Minority Health Observatory showing distribution of health professions by Local Health Integration Network



Profession by LHIN

Champlain (3511)

Total Population in 2011: 123065D

Speciality	French	English	Others
Audiologists	53	83	9
Chiropodists	12	31	6
Chiropractor	0	261	20
Dental Hygienists	369	1,140	137
Dental Technologists	5	36	20
Dentists	291	638	236
Dentunists	10	36	22
Dietitians	192	355	34
Massage Therapists	204	888	122
Medical Laboratory Technologists	186	695	68
Medical Radiation Technologists	270	500	64

The portal was established to facilitate the development of a centralized geographic database that includes:

- Socio-economic data associated with different linguistic variables;
- Data on health professionals, including their ability to provide services to official language minority populations;
- National health surveys; and
- Points of health services.

It also includes a geographic information system that allowed spatial analysis of data and an online mapping application. This system enables the creation, organization and presentation of spatially referenced data, and the production of plans and maps as depicted above.

The Geoportal of Minority Health offers information that can be used to improve knowledge of the social and structural factors that underlie health disparities which disproportionately affect minority populations. When sustainably funded and regularly updated, this type of tool can be useful to a wide range of knowledge users: health workforce planners for minority health, local health integration networks, public health and community organizations, and researchers.

Conclusion

Much like the health systems within which they practise, health workers form a dynamic network of stakeholders whose interactions are informed by social, political and technical legacies. Enacting the change required to develop an optimal supply, distribution, mix and support of health workers is, therefore, a complex process susceptible to resistance generated by opposing interests. Because the health workforce is indispensable to the functioning of all of Canada's health systems, we must recognize this complexity and strive to gain a more thorough understanding of the underlying causes of these persistent and pervasive challenges to find effective ways forward. Through the use of appropriate planning tools, management practises and policy levers, health systems can align the available health workforce to the needs of the populations they serve while increasing efficiency, efficacy and equity.

The chapters in this text present some of the key patient-facing healthcare professions in Canada. For each, we have asked authors to cover their professions' history, education and training, scope of practise, regulation, and demographics.

It should be noted that the organization of this text is not intended to reinforce uni-professionally focused siloes. Rather, it is meant to provide an initial foundational base to inform subsequent more interprofessional and sector-focused analyses.

Acknowledgements

The authors would like to acknowledge contributions from Chantal Demers to an earlier version of this chapter.

Acronyms

ACHDHR	Advisory Committee on Health Delivery and Human Resources
BIPOC	Black, Indigenous and People of Colour
CHWN	Canadian Health Workforce Network
CHW	Committee on Health Workforce
CIHI	Canadian Institute for Health Information
EDI	Equity, Diversity and Inclusion
GHWN	Global Health Workforce Network
HEC	Healthcare Excellence Canada
MDS	Minimum Data Standard
NWHA	National Health Workforce Accounts
OECD	Organisation for Economic Co-operation and Development
WHO	World Health Organization

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