CANADA'S HEALTH WORKFORCE: PATHWAYS FORWARD

An Assessment by the Canadian Academy of Health Sciences

March 2023

THE CANADIAN ACADEMY OF HEALTH SCIENCES

Health Canada   Santé Canada

THE CANADIAN ACADEMY OF HEALTH SCIENCES

The Canadian Academy of Health Sciences (CAHS) provides independent and timely assessments that inform policy and practice to address critical health challenges affecting Canadians. The CAHS helps put change into action for a healthier Canada.

The CAHS recognizes Canadians of great achievement in the academic health sciences. Founded in 2004, CAHS now has over 900 Fellows and appoints new Fellows on an annual basis. The organization is managed by a voluntary Board of Directors and a Board Executive.

The Academy brings together Canada's top-ranked health and biomedical scientists and scholars from all disciplines across our nation's universities and its healthcare and research institutes to make a positive impact on the urgent health concerns of Canadians. These Fellows reach out to other experts and engage with the public and key stakeholders to evaluate Canada's most complex health challenges and identify strategic, actionable solutions.

Since 2006, CAHS has successfully engaged with a wide variety of public and private organizations representing patients and families, professionals, health system leaders, policy-makers, and service and private industry providers. It has co-invested in rigorous, independent assessments that address key health issues with outcomes that have shaped its strategic policy and initiatives.

ACKNOWLEDGEMENTS

The Canadian Academy of Health Sciences (CAHS) assessments are a collaborative process. The scientific direction is provided by committees of experts, while the research, writing, engagement process and overall logistics are managed by staff with the support of students, vendors, and volunteers. Through the engagement process, many individuals, organizations, and levels of government provide essential input and feedback. The findings are then scrutinized by peer reviewers. The CAHS acknowledges and appreciates the key roles of all participants.

COMMITTEE STRUCTURE

The CAHS established a committee structure to conduct this assessment on Canada's health workforce. All committees included a diversity of expertise from across Canada. We encourage you to read their biographies on *our website*.

Committee members worked closely together reviewing documents, considering engagement participant input, and discussing material related to this assessment. All of their work was done virtually, as this assessment took place during the COVID-19 pandemic. Their commitment to this project was remarkable. The Academy greatly appreciates their significant contribution.

The Co-Chairs provided overall leadership for this assessment:

Marcia Anderson, MD, MPH, FRCPC (September 2022 to April 2023)
Harrison Applin, PhD, RN, FCAN (March to August 2022)
Ivy Bourgeault, PhD, FCAHS
Luigi Lepanto, MD, MSc, FRCP(C)
Christopher S. Simpson, MD, FRCPC, FACC, FHRS, FCCS, FCAHS

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Marion Crowe, CFNHM, CAFM, CAPA
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An **Indigenous Health Workforce Committee** provided guidance to the Assessment Panel on how best reflect the unique perspective and experience of First Nations, Métis, and Inuit Peoples within the context of a pan-Canadian assessment:

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Cecilia Benoit, PhD, FCAHS
Marion Crowe, CFNHM, CAFM, CAPA
Alisha Julien Reid, Mi'kmaq Midwife
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Geneviève Moineau, MD, FRCPC
Gigi Osler, MD, FRCSC ICD.D (March to October 2022)
Arthur Sweetman, PhD
Jeffrey Wichtel, BVSc, PhD, ACT

STAFF AND SUPPORTS

A team enabled the work of the committee members and managed the engagement process. The composition of this team varied over the course of the assessment, with all contributing essential functions.

Staff designed and implemented the process and developed materials:

Serge Buy, Chief Executive Officer
Sonya Kupka, Project Director
Denise DuBois, OT Reg. (Ont.), PhD, Senior Scientific Writer
Ann-Sylvia Brooker, PhD, Senior Scientific Researcher
Paul Metzak, PhD, Scientific Writer
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Allison McPhee, Project Administrator and Communications Coordinator

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The engagement process was supported by committee members and the following additional **small group facilitators**:

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Greg Nasmith, MA, ND

Louise Nasmith, MDCM, MEd, FCFP, FRCPSC(Hon), FCAHS

Margaret Walton-Roberts, PhD

PEER REVIEWERS

This group of **peer reviewers** provided feedback on the objectivity and quality of a draft of the assessment report. Their submissions, which will remain confidential, were considered in full by the Panel, and many of their suggestions were incorporated into the report. They were not asked to endorse the conclusions, nor did they see the final draft of the report before its release.

Andrea Baumann, PhD, FAAN, CM, FCAHS

Carol P. Herbert, CM, MD, DSc(Hon), CCFP, FCFP, FCAHS, FRACGP(Hon)

Linda Johnston, PhD, FEANS, FCAHS, FAAN

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Margaret Steele, MD, FRCPC, MEd, DFCPA, CCPE, FCAHS

MESSAGE FROM THE CAHS PRESIDENT

On behalf of the Canadian Academy of Health Sciences, I am pleased to introduce Canada's Health Workforce: Pathways Forward. This comprehensive report provides policy makers with an overview of the evidence, as they consider strategies to ensure there is adequate capacity within Canada's health workforce to provide needed health services and for rapidly responding to emerging public health concerns.

The Academy would like to express its sincere appreciation to the Co-Chairs of the Assessment Panel for their collaborative approach and significant contributions throughout the process. We thank all of the members of the Assessment Panel, the Indigenous Health Workforce Committee and the three working groups. The diverse expertise of these 30 individuals provided direction for this highly complex issue.

There are many individuals, organizations and levels of government across the country who are to be thanked for their participation. They provided guidance, information, and feedback to ensure the leading policies and practices have relevance for Canadians.

I would also like to thank the peer-reviewers who provided very insightful and helpful feedback on the draft report. The members of the Academy's Assessment and Scientific Affairs Committee provided the overview for this review process, as well as the initial committee member selection process, and I thank them for this. We engaged many other Fellows of the Academy in this assessment and I am grateful for their input and commitment to identifying actionable solutions on key issues relevant to the health of Canadians.

Serge Buy, our Chief Executive Officer, provided strategic guidance throughout the assessment, enabling the Academy to do this important work. He assembled a strong team to support this work, led by the Project Director, Sonya Kupka. We appreciate the commitment and dedication of all members of this staff team.

Finally, I would like to recognize Health Canada. We are fortunate that the Canadian government values and supports evidence-informed policy making which is a prime purpose of the Academy. We are proud to contribute our expertise and experience for this work and we thank Health Canada for the funding.

Sincerely,

James (Jay) Cross, DVM, PhD, FCAHS, FRSC
President, Canadian Academy of Health Sciences

MESSAGE FROM THE CAHS CHIEF EXECUTIVE OFFICER

This report on Health Human Resource is crucial, especially as Canadians, throughout our country, struggle to access healthcare services.

This is why the Canadian Academy of Health Sciences consulted and reached out to hundreds of groups for their thoughts, ideas and solutions. And, thankfully, these groups had lots to say – which certainly benefited us as we finalized the report.

We thank all the organizations and individuals who, by sending emails, letters, briefs, participating in our multiple open sessions in their official or personal capacity, enriched the panel's deliberations as it worked through the process.

Serge A. Buy
Chief Executive Officer

MESSAGE FROM THE CAHS ASSESSMENT PANEL CO-CHAIRS

When asked to co-chair this Canadian Academy of Health Sciences assessment, we welcomed the opportunity to bring an evidence-informed approach to addressing the current challenges facing the Canadian health workforce. In our individual leadership roles across Canada, we continue to witness the impacts of this urgent situation on patients, families, and our colleagues.

We were keenly aware that this assessment process would require significant collaboration and rapid coordination of effort. Each of us brought a diversity of academic and clinical expertise and systems perspectives. Through our shared leadership, we applied evidence-informed decision-making. In many ways, this approach embodied the interprofessional and intersectoral partnership that will be integral to implementing a pan-Canadian vision for the health workforce.

The scope of this assessment was daunting with 17 questions. It necessitated extensive investigative breadth that required us to limit the depth of examination of any one question so that we could complete the assessment within a year. While this was challenging, this broad scope was integral in bringing priority pathways into focus.

This work would not have been possible without the unwavering and committed support of the working groups, the Indigenous Health Workforce Committee, and the staff team at the Canadian Academy of Health Sciences. Most importantly, on behalf of the entire Assessment Panel and working group/committee members, we would like to thank the engagement participants who, despite many competing priorities, still came to the table and provided invaluable contributions.

Many jurisdictions are currently implementing novel policies and practices in an effort to manage the current challenges. It is encouraging to see that many of these strategies align to what we found in the evidence and heard during our extensive engagement process. Furthermore, we heard a desire for increased collaboration and are seeing that federal, provincial and territorial governments and organizations are demonstrating their willingness to

converge on ensuring a resilient and supported health workforce that provides Canadians with high-quality, effective, and safe health services.

Accordingly, this report should be contextualized in a time of swift policy change and emerging innovations. Such is the nature of health systems transformation. We hope that these and other transformational actions will be founded upon strategic mechanisms such as evaluation, coordination, and accountability in order to propel forward a vision for the health workforce of today, tomorrow, and future generations.

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EXECUTIVE SUMMARY

Health Canada funded the Canadian Academy of Health Sciences to undertake an evidence-based assessment of possible pathways forward to ease the health workforce crisis. This arms-length assessment involved reviewing more than 5,000 academic articles and 250 policy reports, and consulting more than 800 individuals from 245 organizations across Canada within a year. The assessment was guided by a diverse group of more than 30 interdisciplinary clinical and academic health workforce experts and culminated in this peer-reviewed report.

This report covers support and **retention**, **deployment and service delivery**, and **planning and development** with particular consideration of **Indigenous Peoples**, **rural and remote communities**, and **systemically disadvantaged populations**. Five priority pathways for early implementation are suggested, which emerged from the 26 evidence-based leading policies and practices that we identified.

Priority Pathways

Supporting the development of successful and fulfilled Indigenous healthcare learners and practitioners.

Supporting community engagement as a foundation for rural and remote recruitment and retention strategies.

Creating safe, healthy, just, and equitable workplaces that have diverse and representative workforces.

Transforming care through optimized scopes of practice within team-based models, supported by appropriate technology and properly aligned incentives.

Embedding a culture of health workforce planning supported by enhanced data and decision-making tools.

Inspiring actions by leaders in federal, provincial, and territorial governments and pan-Canadian health organizations can advance the implementation of a transformational vision for the health workforce. The unique roles of the federal government and pan-Canadian organizations can be leveraged to convene health workforce partners, spread, and scale leading evidence-informed practices and pockets of innovation, and support research. Public reporting on progress to date and barriers to collaborative action can demonstrate an ongoing commitment to supporting the workforce to provide for the health needs of Canadians.

Pre-pandemic, some solutions were deemed not feasible. However, we have since learned that they can now be implemented by shifting from cost efficiencies to cost effectiveness, jurisdictional conflicts to jurisdictional partnerships, and professional territoriality to transdisciplinary collaboration.

LEADING POLICIES AND PRACTICES

Indigenous Peoples & Communities

➡ Creating space and providing support for Indigenous leadership to design, develop, direct, deliver, and evaluate Indigenous health programs and services.

➡ Increasing the population of Indigenous learners and practitioners within healthcare education and clinical settings and supporting successful and fulfilling transitions to healthcare practice.

➡ Disrupting racism within the health workforce and health systems through Indigenous-led development of anti-racism policies, safe reporting and investigation processes, and mandatory education and training.

➡ Implementing Indigenous data sovereignty and research principles in relation to workforce data collection, outcome-based research, and evaluation including the development and support of the Indigenous health research workforce.

Rural & Remote Communities

➡ Promoting processes for targeted and facilitated admissions, positive rural and remote exposures for healthcare practitioner learners, and distributed practice-based learning.

➡ Encouraging healthcare practitioners' retention and support through effective incentives, practice-based supports, and community integration.

➡ Creating more responsive, flexible, and context specific models of care, including interprofessional, team-based care enabling practitioners to adjust their scope and skillset to better meet the needs of their communities.

➡️ Enabling the mobility of healthcare practitioners with unique aptitude and training for rural and remote practice, in order to fill service gaps, provide valuable locum relief, and offer support when in a crisis.

Systemically Disadvantaged Populations

➡️ Increasing the diversity and representativeness of those in training and leadership positions through targeted admissions, recruitment, retention, and support.

➡️ Improving the professional integration of internationally educated healthcare practitioners through multi-faceted supports from pre-arrival through to licensure and employment.

➡️ Supporting safe, just, and anti-racist work environments to support the growth of a healthy, robust, and diverse health workforce.

➡️ Enabling healthcare practitioners to provide culturally and linguistically safe care through curricula, training programs, tools, and resources that are reinforced by policy and procedure changes.

➡️ Augmenting data collection and analysis to help evaluate the efficacy of quality improvement approaches for diversity, anti-racism, and cultural safety initiatives.

Support & Retention

➡️ Developing and enhancing supportive leadership.

➡️ Creating healthy, safe, just, and equitable working environments that have adequate staffing levels and are free from hostility, harassment, bullying, and violence.

➡️ Reducing administrative time for healthcare practitioners through improved implementation of electronic health records, harmonized forms, and shifting of documentation and non-clinical tasks.

➡️ Retaining healthcare practitioners through policies and processes that enhance their autonomy, recognition, and their professional growth.

➡️ Providing individual and group supports for healthcare practitioners to enhance their mental health and wellbeing and develop their resiliency to work stressors.

Deployment & Service Delivery

➡️ Enabling healthcare practitioners to optimize their scopes of practice to meet community health needs efficiently, effectively, and safely.

➡️ Supporting the deployment of more team-based models of care which integrate and support the utilization of a broader range of healthcare practitioners.

➡ Ensuring accessibility, quality, and interoperability of digital health technologies, including virtually enabled care, by investing in infrastructure and building on user experience data from patients, healthcare practitioners, and other key actors.

➡ Aligning funding and remuneration models for more efficient deployment of the health workforce and to enhance health outcomes.

Planning & Development

➡ Embedding ongoing health workforce planning that addresses backlogs, anticipates future requirements to meet population needs, demand and utilization, and allows for surge capacity.

➡ Developing detailed and standardized health workforce data to support integrated and sector-focused planning across practitioner groups and jurisdictions that is interoperable with other health data.

➡ Engaging diverse partners, including patients and their caregivers, in the development and implementation of health workforce planning to support decisions that maximize the aims of equity, practitioner wellbeing, improved patient experiences, lower costs, and better health outcomes.

➡ Aligning health workforce planning and education options to develop career pathways that address supply challenges, including ensuring educational program, faculty, and preceptor capacity.

CHAPTER 1:
INTRODUCTION

Across the country there are daily reports of frequent health service closures, particularly in rural and remote areas, and of patients[1] waiting for access to primary and urgent care, surgeries, home and community care, and long-term care beds. These closures and backlogs are leaving many Canadians questioning where and how they and their families will receive the healthcare they need today and in the future.

Our healthcare is delivered to people by people – a workforce of healthcare practitioners[2] – without whom health systems[3] cannot function. Individual and population health outcomes are dependent on the time, effort, expertise, and skill mix of the health workforce.

1.0 CHALLENGES FACING THE CANADIAN HEALTH WORKFORCE

The coronavirus (COVID-19) pandemic, which at the time of the writing of this report is still playing out, has highlighted the strengths, but also the underlying weaknesses in Canada's health systems. It has made clear that our health workforce capacity is inadequate to meet the current and growing healthcare needs of Canadians, especially when there are spikes in demand.

There are high job vacancies causing frequent service reductions and closures. Excessive workloads and the inability to respond effectively to patient needs can impair the mental health and wellbeing of healthcare practitioners. Those left on the frontlines face heavy demands and long hours – often coupled with the moral distress of working within a strained system. In some sectors, these demands involve higher than usual patient death tolls (Marshman et al., 2022; McDermid et al., 2019; Zhang et al., 2018). Many healthcare practitioners have left, and others express an intention to leave their jobs in the next three years because of stress or burnout, concerns about their mental health, and lack of job satisfaction (Statistics Canada, 2022a). These trends make current and future health system capacity a grave concern.

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[1] We use the term 'patient' throughout the report to describe individuals who are receiving services within the health system, We acknowledge that other terms (e.g. client, person, resident) are used.

[2] We use healthcare practitioners to represent individuals in the workforce. Other common terms include healthcare providers or health professionals.

[3] Given the decentralised approach to healthcare in Canada with multiple health systems across provinces and regions, we have differentiated where we are describing evidence or policy about one health system, for instance in the UK, or Canada's health systems.

In addition to these pressures, the health workforce across Canada was already facing long-standing systemic challenges, exacerbated during the COVID-19 pandemic. These include:

- physically, culturally, and psychologically unsafe workplaces,
- a distribution of the workforce whereby rural and remote regions have more limited access to care,
- healthcare service delivery models unsuited to an expanding and more diverse population, and from increasing complexity of patients' chronic conditions,
- unsuitably rigid funding models and structures that do not encourage adaptability or innovation in delivery models that could deliver improved outcomes and value for money, and
- a workforce that does not reflect the ethnocultural diversity of our country.

In the midst of these significant challenges, Health Canada funded the Canadian Academy of Health Sciences to lead an *Assessment on Canada's Health Human Resources*.[4] The purpose of this assessment was to provide an evidence synthesis of academic literature and policy, and a pan-Canadian engagement process with health organizations, leaders, and healthcare practitioners in order to identify solutions, opportunities, and possible pathways for the next two to five years (i.e. 2023 - 2028).

To this end, the Academy appointed an Assessment Panel with four Co-Chairs to provide the overall leadership and direction of three interdisciplinary working groups and an Indigenous Health Workforce Committee. There were more than 30 clinical, system, and academic health workforce experts, including patient representation, across the assessment working groups, committees, and panels.

This year-long assessment involved reviewing more than 5,000 academic articles and 250 policy reports, and consulting over 800 representatives from more than 245 organizations across Canada.

The process and content were developed at arms-length – independent of Health Canada. It culminated in this report which considers support and retention, deployment and service delivery, planning and development, and vision and action with particular consideration of Indigenous Peoples, rural and remote communities, and systemically disadvantaged populations.

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[4] Moving forward, we typically refer to the health workforce, rather than health human resources or 'HHR'. This approach is in keeping with international use of this terminology.

1.1 CANADA'S HEALTH WORKFORCE

1.1.1 The Canadian healthcare context

The federal, provincial, and territorial divisions of health responsibility are an important consideration for this assessment. In Canada, there are decentralized, interlocking, distinct federal, provincial, and territorial health systems (Health Canada, 2005). Many service delivery decisions are made at the regional or local level. Primary, secondary, and tertiary healthcare services are funded mainly by the provincial and territorial governments, with additional funding provided through federal health transfer payments. The provinces and territories are then responsible for delivering healthcare to most Canadian residents, some aspects of public health, and almost all secondary, tertiary, and quaternary care.

Approximately one million people receive primary and supplementary healthcare services directly from the federal government:

- First Nations and Inuit communities (variable responsibilities based on transfer agreements and degree of remoteness),
- active military members and Veterans of the military and Royal Canadian Mounted Police, and
- prisoners in federal penitentiaries.

Other federal health services include environmental and workplace health, product and food safety, biosurveillance and biosecurity, and public health.

There is a multi-layered web of key actors across the country who, at local (micro), organizational (meso), or systems (macro) levels, have specific roles in education and certification, governance and regulation, funding and remuneration, health planning, informatics, economics, and research and knowledge exchange (see Figure 1; Bourgeault & Chamberland-Rowe, 2023; Nasmith et al., 2010; Nelson et al., 2014).

As the primary funders of Canada's health system, federal, provincial, and territorial governments have the unique capacity to provide direction, offer leadership, and demand accountability for specific actions and outcomes. The federal government has national agencies and pan-Canadian organizations well positioned to take the lead in areas where consistency is important and feasible. Provincial and territorial governments have primary responsibility for healthcare delivery and planning, whilst healthcare organizations, institutions, and settings have delegated responsibilities to meet their population's unique needs. Such institutions vary widely, and include regional health authorities, hospitals, public health units, and community health agencies. Healthcare practitioners provide specific skills and competencies, while their professional associations offer development opportunities and advocate on behalf of

the profession, including raising policy issues. In some cases, these associations are also responsible for contract negotiations. Regulatory bodies provide safeguards regarding competency, credentials, and fitness to practice. Educational institutions and accreditation bodies drive recruitment and training of future healthcare practitioners through curricular and practice standards. Research funding bodies support knowledge creation and innovation. Other key actors work in health planning, information technologies, and economics aimed at decision-making, innovation, and health systems optimization, transformation, and sustainability. Finally, patients, families, and caregivers have direct and relevant experiences with the health workforce and are partners in their own care, and often, in that of their family members.

Figure 1. Multi-layered web of key actors of the Canadian health workforce arena.

LEVEL OF INFLUENCE | KEY ACTORS

Macro
- International bodies
- Federal government
- Provincial & territorial governments
- Pan-Canadian health organizations, agencies, & informatics
- Research funding bodies

Meso
- Healthcare organizations & practice settings
- Professional associations & unions
- Regulatory, accreditation & certifying bodies
- Educational institutions

Micro
- Individual healthcare practitioners
- Teams of healthcare practitioners
- Patients, families, and caregivers
- Health learners

1.1.2 History of health workforce strategies in Canada

In 2002, in the *Commission on the Future of Health Care in Canada*, Romanow recommended a coordinated, national approach to planning healthcare. The following year, the Standing Senate Committee on Social Affairs, Science and Technology released a report on public health, health

promotion, and health protection that included recommendations on emergency responses to disease outbreaks (Kirby & LeBreton, 2003). Meanwhile, in 2000 and 2003 the provincial and territorial premiers committed to collaborating on planning and managing the country's health workforce through the First Ministers' Accord on Healthcare Renewal.

In 2007 the Federal/Provincial/Territorial Advisory Committee on Health Delivery and Human Resources advanced *A Framework for Collaborative Pan-Canadian Health Human Resources Planning*. That same year, the federal government also developed a strategic plan to provide funds over two to five years for a range of healthcare projects across the country accompanied by an internal review of related governmental activities (Government of Canada, 2006; Health Canada, 2008). The Advisory Committee recommended that:

"The success of the framework and the action plan depends on the commitment of all involved in making the transition from the status quo to a more collaborative approach. The critical success factors to applying the framework and building that commitment are: appropriate stakeholder engagement, strong leadership and adequate resources, clear understanding of roles and responsibilities, a focus on cross-jurisdictional issues [and] a change in system or organizational culture," (p. 12-13).

To date, Canada does not have a coordinated health workforce strategy, nor has the promise of the 2007 pan-Canadian Framework been fully realized. A report from the federal government's *Health Human Resources Symposium* in the Spring of 2022 signalled a renewed desire for cross-jurisdictional collaboration to tackle Canada's health workforce crisis (Health Canada, 2022). As listed in Appendix B, there are also a variety of provincial and territorial strategies that either focus on a specific health profession, the broader health workforce, or the health system as a whole with the health workforce as an enabler.

1.2 THE GLOBAL HEALTH WORKFORCE CONTEXT

The current difficulties facing Canada's health workforce are unfolding within a global context, with health workforces in many other countries struggling with similar challenges. There are various societal shifts at play, such as globalization, urbanization, and immigration. Canada can learn from and also inspire other countries to recognize that these significant societal shifts are not borne equitably across countries or populations. Consideration of the broader global context serves as a reminder that the solutions to Canada's health workforce shortfall cannot be to the detriment of other countries.

1.2.1 A global shortfall of healthcare practitioners

Projections of a global shortfall of 18 million healthcare practitioners by 2030 (World Health Organization, 2016) have increased further following the pandemic (World Health Organization,

2021a; Poon et al., 2022). High-income countries who opt to recruit replacements from middle- and low-income countries can undermine the capacity of those countries to meet their own healthcare needs (Buchan et al., 2022).

The *Global Strategy on Human Resources for Health* (World Health Organization, 2016) recommends that countries address their workforce issues through:

1. Optimizing their health workforce.
2. Understanding and preparing for future needs of health systems.
3. Strengthening data on the health workforce for monitoring and ensuring accountability.
4. Building the institutional capacity to implement this agenda.

Some jurisdictions, such as Australia, the United States (U.S.), and the United Kingdom (UK), have since developed planning strategies and are providing open access to monitoring progress. Australia's *2021-2031 National Health Workforce Strategy* details priorities to address its health workforce challenges (Government of Australia, 2021a) and aligns with the cross-cutting themes and populations discussed in this report.

1.2.2 Broader global forces and societal shifts

In addition to the pandemic, there are other global forces and societal shifts influencing the health workforce (United Nations Development Programme, 2022):

- natural disasters such as earthquakes, storms, flooding, drought, and fires,
- unstable economies and increasing socioeconomic inequity,
- widespread and intensified polarization fuelling racism, sexism, and discrimination, and
- societal shifts unsettling where and how people live, work, and how they interact within global ecosystems.

The consequences of these shifts have a disproportionate impact on groups already systemically disadvantaged. For example, the effects of climate change are most visible and impactful in remote northern regions and communities of Canada (Hillier et al., 2021; Hueffer et al., 2019). Deliberate health workforce planning can help to mitigate the health system impact of these global forces. Examples include, but are not limited to:

- disaster planning strategies to quickly mobilize a workforce for rural and remote communities impacted by fires, floods, or other emergencies,
- implementing and monitoring pay equity policies for women and racialized people working in healthcare, and
- developing plans to eliminate racism and discrimination towards and by healthcare practitioners.

In subsequent chapters, we will describe leading policies and practices for these and other inequities.

While not directly within the scope of this assessment, societal shifts in human activities, such as where we live, what we produce, and how we eat and travel, have critical effects on the world around us. Technological advances and human population increases have given rise to rapid urbanization, globalized trade and human trafficking, intensified food production, pollution, and encroachment on ecosystems (Berger et al., 2019; Mackenzie & Jeggo, 2019; Zinsstag et al., 2011). These shifts have, in turn, led to the emergence and re-emergence of zoonotic or animal-origin infections, as well as mounting antimicrobial resistance. Recent examples of emerging infections that jumped the species barrier include COVID-19, severe acute respiratory syndrome (SARS), Nipah virus disease, zoonotic influenza (H5N1, H7N9, 2009 H1N1 influenza pandemic), arbovirus diseases (such as Zika virus disease, yellow fever, and chikungunya), Ebola virus disease, plague, and Middle East respiratory syndrome (MERS-CoV) (Food and Agriculture Organization of the United Nations et al., 2022). As with the COVID-19 pandemic, these diseases have had devastating impacts on patients, families, communities, health systems, and economies that require years of social and economic recovery (Ruckert et al., 2020). They will continue to have major implications for our health systems, and thus the health workforce.

In response to the unrelenting connectivity and complexity of today's globalized world, the concept of 'One Health' has arisen as a theory and tool to conceive of and address arising interdependent health threats in and amongst humans, animals, and ecosystems (Mackenzie & Jeggo, 2019; Nielsen, 2017). As described in the *One Health Joint Plan of Action* (2022), One Health calls for "a holistic and systems-based approach that recognizes the interconnection between the health of humans, animals, plants, and the environment" (p. 3). It encourages adopting a collaborative, multisectoral, and transdisciplinary approach — at local, regional, national, and global levels (Food and Agriculture Organization of the United Nations et al., 2022; Mackenzie & Jeggo, 2019).

The One Health approach has implications for the health workforce in terms of how professions and sectors work together, who is considered part of this workforce, and what activities are planned for and prioritized. It promotes collaboration amongst disciplines, professions, and sectors, some of which have not been integrated in the past (e.g. veterinary and human health sciences). Despite sharing a common body of knowledge, veterinary and human health professions are largely segregated with limited cross-sectoral collaboration (Mackenzie & Jeggo, 2019). Yet, it is becoming increasingly clear that both animal and human health disciplines are integral to the surveillance, monitoring, prevention, and public health response to emerging diseases (Bordier et al., 2020; Ruckert et al., 2020). Demonstrating a shift towards interprofessional and intersectoral collaboration, the Chief Veterinary Officer and Chief Public Health Officer of Canada are expected to coordinate on issues of public health concern (Government of Canada, 2021a).

1.3 THE CHARGE

Health Canada funded the Canadian Academy of Health Sciences to provide an up-to-date synthesis of evidence by reviewing academic and policy literature and engaging participants about solutions, opportunities, and possible pathways for easing the health workforce crisis within the next two to five years. Health Canada, in consultation with the Academy, identified a series of questions (See Appendix A), which the Co-Chairs of the Assessment Panel clustered for examination by three working groups and an Indigenous Health Workforce Committee (See Figure 2). The Assessment Panel steered the vision and action pillar. While daunting, the numerous questions and broad scope were necessary for a comprehensive assessment of the multi-layered challenges facing Canada's health workforce.

Figure 2. Structure of the Canadian Academy of Health Sciences Health Workforce Assessment.

CROSS CUTTING:
Indigenous Peoples, rural and remote communities, systemically disadvantaged populations

INDIGENOUS HEALTH WORKFORCE	SUPPORT & RETENTION	DEPLOYMENT & SERVICE DELIVERY	PLANNING & DEVELOPMENT	VISION & ACTION
• Health workforce through the lens of First Nations, Métis, & Inuit Peoples and within the context of a pan-Canadian assessment	• Systemic issues (workplace violence, racism) • Supportive policies & regulations • Training, education & support • Sustainable & safe health workforce staffing • Staff retention • State of mental health & resiliency of the health workforce	• Efficient deployment (scope of practice, inter professional participation) • Team-based models of care • Fee models & wage structures • Private care delivery • Virtual care • Culturally safe & unbiased care • Workforce mobility • Licensure & regulation	• Population trends • Diversity of health workforce • Data requirements & infrastructure • Current health workforce supply • Shortages (by profession, geography, care settings) • Education & training pipelines • Integration & licensure of Internationally trained healthcare practitioners	• Impacts of health workforce challenges on the healthcare system • Role of federal government • Vision of & highest priorities for the health workforce in Canada
Indigenous Health Workforce Committee	**Working Groups**			**Assessment Panel**

1.4 THE HEALTH WORKFORCE CONSIDERED IN THIS ASSESSMENT

The health workforce is an important part of the Canadian economy. It consists of more than 10% of all employed Canadians, with salaries, wages, and fees constituting the majority of healthcare expenditures and nearly 8% of Canada's Gross Domestic Product (Bourgeault, 2021). Preliminary estimates suggest that in 2022 Canada spent $331 billion on healthcare, more than 12% of Canada's Gross Domestic Product (Canadian Institute for Health Information, 2022a).

In Canada, the health workforce is made up of a mix of regulated[5] and unregulated, and unionized and non-unionized, employees working under various public and private funding and delivery arrangements (Health Canada, 2004). There are more than 85 healthcare-related job titles listed across four categories within the National Occupational Classification System (Government of Canada, 2022a). Accordingly, we considered the health workforce broadly as a wide range of practitioners who work across a broad continuum of care settings, including but not limited to, public health, primary care, long-term care, acute care, hospital care, community-based care, mental healthcare, oral healthcare, rehabilitative care, veterinary care, and palliative care. Moving forward, we use the term 'healthcare practitioners' to describe any regulated or unregulated members of the health workforce providing clinical care or frontline managerial support. However, we recognize that 'who' is included as a member of the health workforce is dynamic and changes over time. A pertinent example is the growing need for information technology and digital health professionals to support the technological transformation of our health systems.

We reviewed academic and policy literature on the health workforce more broadly and in relation to specific professions where there could be broader relevance to other healthcare practitioner groups. We also engaged participants from a wide range of health professions and other key groups, including health leaders. These health leaders – directors, vice presidents, and chief executive officers – many of whom are healthcare practitioners themselves though perhaps no longer practising, contribute integral systems, planning, and administrative roles that affect both the health workforce and health systems.

In addition to taking into account the diversity in healthcare practitioner roles, this assessment also considered other forms of diversity within the health workforce, such as sex/gender, racial/ethnic background, and language (see Chapter 2: Indigenous Peoples & Communities and Chapter 3: Rural & Remote Communities). In healthcare, where the majority of workers identify as women, gender equity is of particular importance. Racial diversity in health leadership is also an issue in Canada because there are few racialized people in these roles (Sergeant et al., 2022). This assessment takes a deliberate approach to recognizing the need to remove barriers

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[5] Provincial and territorial governments are responsible for regulating health professions thus, regulatory approaches and practice requirements vary between regions.

to enable safe and equitable participation of systemically disadvantaged populations in the Canadian health workforce. A One Health approach also emphasizes the need for equitable solutions to health systems challenges with policy and practices reflecting the disproportionate disease burdens borne by vulnerable and marginalized populations, and by the health workforce providing essential services to those populations (Ruckert et al., 2020).

While not within the scope of this assessment, housekeeping, food service, and other healthcare operations are essential to the functioning of our health systems. These workers have important roles in promoting the health of people in residential and healthcare facilities. Although often in the background, they also keep the health system moving efficiently. When, for example, there is no one to answer the phone, move a patient to another unit, or empty an overflowing waste container, healthcare practitioners are pulled away from direct patient care into these tasks. Some findings from this assessment, particularly in relation to safe and just workplace environments, may still have relevance to these workers.

Patients have unique expertise about their own health and the efficiency of the health systems with which they interact. When supported to be actively involved in their care through self-management and patient partnering, they are able to participate as important members of their care teams. Families, friends, and volunteer caregivers also provide integral care, support, and advocacy for people at home, in the community, in residential care, and in other sectors of the health system. While this assessment has focused on the paid health workforce, this is not to underestimate, nor to devalue the healthcare tasks that family, friends, volunteer caregivers, and patients themselves undertake. Furthermore, there may be aspects of healthcare where practitioners can partner more formally with willing and supported patients, families, caregivers to share healthcare responsibilities. As described in Chapter 6: Deployment & Service Delivery, such task sharing approaches may help to optimize the performance of the health workforce and, in some cases, can produce equal or better health outcomes.

1.5 FRAMING FOR THE ASSESSMENT

To structure this assessment, we viewed the health workforce as situated within complex and adaptive health systems, the 'quintuple aims' of which are enhancing patient experiences and healthcare practitioner wellbeing, improving health outcomes and health equity, and reducing costs (Berwick et al., 2008; Bodenheimer & Sinsky, 2014; Coleman et al., 2016; Itchhaporia, 2021; Nundy et al., 2022). Application of 'complex adaptive systems' is an effective approach to increasing the responsiveness of the health system, including the health workforce (Martin, 2018). It is an analytical approach that recognizes "complexity, patterns, and interrelationships rather than focusing on cause and effect" (The Health Foundation, 2010, p. 6).

Figure 3. The quintuple aims for health systems optimization.

Robust and strategic health workforce planning, deployment, retention, and support, and explicitly addressing issues of equity in terms of the mix and distribution of the workforce, are important elements to address in the context of growing global uncertainty. As written by Mark Britnell (2019):

"Over the next decade we are heading towards a global workforce shortage in healthcare that will harm patients, citizens, and societies. Knowing what we know we cannot simply watch this happen, and I believe it is possible to make good this gap by orchestrating our policies and practice in a more innovative, concerted, and collaborative way… It will involve the determined and careful coordination of many different agencies, institutions, and organizations which, left to their own uncoordinated and fragmented efforts, will fail because the size of the challenge transcends any normal linear solution. Solving the global workforce crisis in healthcare is a complex, wicked problem, but we can do better," (p. 160).

As such, the priority populations (Section A) and themes (Section B) we assessed, reflected the multiple and complex aspects of the health workforce. The complexity of the challenges, and the broad scope, required transdisciplinary and intersectoral knowledge, skill, and collaboration – drawing upon literature from the health and social sciences, and health policy and management. To that end, the committee members were selected to provide insight from and about a broad body of knowledge. Each committee and working group drew upon their specific knowledge and expertise based on multiple professional, academic, geographic, and cultural perspectives.

1.6 METHODOLOGY

The Assessment Panel, in collaboration with an Indigenous Health Workforce Committee and the three working groups ensured that the assessment was supported by a structured review of current peer-reviewed scientific literature, existing policies in Canada and across the globe, and input from a diversity of voices through an extensive engagement process. The draft report was presented to six federal government departments for feedback, and also underwent anonymous peer review. This 12-month process is summarized in Figure 4.

Figure 4. Timeline of Canadian Academy of Health Sciences health workforce assessment.

Co-Chair Preparations
✓ Questions & scope
✓ Committee structure
✓ Define approach

Committee of the Whole, Working Groups & Indigenous Health Workforce Committee
✓ Validate key findings through prioritization process
✓ Develop chapters from evidence summaries and prioritization process

JUNE-AUG

NOV-MARCH

2022

2023

MARCH-MAY

SEPT-OCT

Working Groups & Indigenous Health Workforce Committee
✓ Analyze evidence
✓ Collect engagement participant input

Assessment Panel
✓ Peer review
✓ Release of assessment report

1.6.1 Literature search, selection, and synthesis

We conducted an evidence synthesis that, in line with best practices for policy-oriented reviews, aimed to be inclusive, transparent, rigorous, and accessible (Donnelly et al., 2018). Given the assessment timelines, a rapid review process, endorsed by the World Health Organization for conducting policy-informed evidence syntheses, was adopted (Langlois et al., 2018).

A rapid, umbrella review (i.e. review of systematic and scoping reviews) process (Aromataris et al., 2020) was conducted for each of the three Working Groups and the Indigenous Health Workforce Committee and is summarized in Figure 5. In May 2022, a consistent approach to searching the literature was applied across the working groups and the Indigenous Health Workforce Committee, however, the amount of published evidence varied significantly. The results of the search for the Indigenous Health Workforce Committee were forwarded to an Indigenous-owned research and consulting firm, the Firelight Group. They expanded the original literature review for consideration by the Committee. In addition to the structured review of peer-reviewed literature, all working groups and committees also reviewed international and Canadian (federal and provincial/territorial) health workforce policy reports to extract relevant information and exemplars. In total, more than 5,000 academic articles and 250 policy reports were reviewed.

Figure 5. Structured review process undertaken on the health workforce. The evidence review began with a structured rapid, umbrella review process. Some articles were used across multiple working groups (WG). JBI = Joanna Briggs Institute.

RAPID, UMBRELLA REVIEW PROCESS

Search

| Search terms and strategy developed through expert consultation, literature review, and test searches with librarians | 4 theme-specific systematic searches each run across 2 research databases using MeSH and database specific search terms | Limits: English or French; systematic or other rigorous reviews & meta-syntheses; past five years | **5168 hits found across 4 searches.** |

Screening

| For each WG, references imported into Covidence and deduplicated | Title and abstract screening by two reviewers based on inclusion/exclusion criteria set by Co-Chairs. Conflicts resolved by WG Chair | Full text screening by one reviewer based on inclusion/exclusion criteria set by Co-Chairs | **454 articles included across 4 themes.** |

Data Extraction

| Data extraction supported by Covidence and Excel-based on JBI's umbrella review requirements and themes/questions | Extraction for each WG completed by graduate-trained CAHS research staff. Extraction and analysis for Indigenous Health Workforce Commitee completed by Firelight Group | **414 unique articles extracted across 3 themes.** |

Analysis

| PRISMA and summary tables prepared for the WG members | WG members reviewed extracted data and identified relevant gaps in evidence | To fill gaps, WG members provided and staff completed hand searches for relevant peer-reviewed articles based on specific criteria |

Summary reports written for each sub-theme/sponsor question used as backbone for engagement and prioritization process.

1.6.2 Engagement process

Recognizing the role of multiple actors within the health system that influence the health workforce (see Figure 1), the engagement process in this assessment included three main mechanisms: individual and small group interviews with federal, provincial, and territorial government representatives, virtual consultation sessions with a range of key actors across regions and populations, and a pan-Canadian survey of health leaders and active healthcare practitioners (see Figure 6). In addition to these mechanisms, the Fellows of the Canadian Academy of Health Sciences were invited to provide input. In total, we consulted with more than 800 key actors across Canada. Our engagement summary, *Canada's Health Workforce: Engagement Report*, provides further details and accompanies the assessment report.

Figure 6. Reach of the Canadian Academy of Health Sciences health workforce engagement process.

ENGAGEMENT PROCESS: OUTREACH AND PARTICIPATION

Invitations to participate	→	**1,000+** **Organizations reached**
Virtual sessions	→	**340** **Participants** representing 237 organizations
Survey of health leaders and active practitioners	→	**405** **Respondents**
Indigenous-led engagement	→	**9** **Participants** representing 9 organizations
Input from Fellows of the Canadian Academy of Health Sciences	→	**34** **Fellows**
Interviews with government representatives	→	**24** **Participants**

While we heard that many healthcare practitioners and organizations are facing significant challenges, we also heard about many innovative programs and initiatives across the country within various professions and sectors. Many engagement participants voiced a strong desire for increased collaboration to spread and scale these pockets of innovation.

Broadly, there was extensive alignment between what we heard from engagement participants[6] and what we found in the academic and policy evidence. Rather than repeatedly state where there was alignment, we have only highlighted where engagement participants or policy have offered novel strategies or practical examples.

Our lens

A solutions-focused, strength-based approach to identifying evidence-informed leading policies and practices, using:

- A rapid, umbrella (review of reviews) method endorsed by the World Health Organization,
- A focused engagement process,
- International, pan-Canadian and provincial/territorial policy documents,
- A diversity of expert opinion, and
- An external peer-review process.

1.6.3 Scope of the report and evidence gaps

We conducted an analysis of the scope and breadth of the health workforce literature identified through our structured review (Figure 5), in terms of geographic location, represented health professions, and healthcare settings. This structured review was supplemented with specific hand searches and expert consultation to fill evidence gaps. As such, the analysis is not necessarily reflective of the final body of literature considered in this assessment. It does, however, provide insights into the scope of the review literature about the health workforce, as well as particular areas of emphasis.

1.6.3.1 Represented geographic locations

There was data from more than 60 countries across the Americas, Europe, Asia, Africa, and the Australian continents found within the umbrella review (n = 414). More than 15% of the reviews contained international (mixed or undifferentiated) data. The United States made up nearly

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[6] Stakeholders preferred the term engagement participants. Accordingly, moving forward in the document we refer to stakeholders who participated in the engagement process as engagement participants.

70% of articles about a specific country, while Canada made up less than 3%. All provinces and territories were represented within and across these Canadian articles. Just over 14% of articles were identified as pertaining to an urban, rural, or remote geographic setting, or a combination thereof. Seven percent pertained specifically to rural and/or remote settings.

1.6.3.2 Represented healthcare practitioner groups

There was a wide range of healthcare practitioners (more than 30 individual roles) represented in the findings from the umbrella review (n = 414). More than 48% of the included articles used a mixed or undifferentiated sample. Nurses and physicians were the most highly represented disciplines, with nursing disciplines included in 60% of reviews, and physicians included in more than one-third (35%). As an 'allied'[7] group, physiotherapists, speech language pathologists, occupational therapists, dietitians, social workers, and psychologists, were represented in approximately 15% of articles. Assistant and technician roles, including personal support workers, were represented in 14% of articles, but less than 1% of these articles focused specifically on this group. The nursing literature included a broad scope of articles across a continuum of advanced practice, management, and frontline regulated and assistant roles, as well as student and preceptor experiences. In contrast, the literature about other healthcare practitioners, typically only captured the regulated health professional group (e.g. physiotherapists, but not their assistants). Some disciplines such as dentistry, psychology, social work, pharmacy, and health managers had few articles specifically focused on their profession, but they were included in mixed samples (7, 14, 14, 16, and 17% respectively). Figure 7 provides a breakdown of the proportion of articles about a specific profession or grouping. Nurses and physicians still demonstrate the highest percentages overall. This distribution of research by practitioner groups is reflective of the broader health workforce research enterprise.

1.6.3.3 Represented healthcare settings

In the umbrella review (n = 414), more than 40% of the reviews included multiple healthcare settings, while another 27% were not reported or not applicable. Acute care (43%), primary care (27%), emergency care (22%), and home community care (21%) were the most highly represented settings overall. In contrast, palliative care (<1%) and public health (5%) had the lowest overall representation, followed by long-term care (12%) and mental healthcare (15%). Figure 8 provides a breakdown of the proportion of articles about a specific healthcare setting. Primary and acute care were still the most highly represented settings.

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[7] Allied healthcare practitioners in this analysis were considered as the grouping of: physiotherapists, speech language pathologists, occupational therapists, dietitians, social workers, and psychologists.

Figure 7. Represented practitioner roles. This pie chart shows the percentage of individually represented practitioner groups in the umbrella review (n = 211).
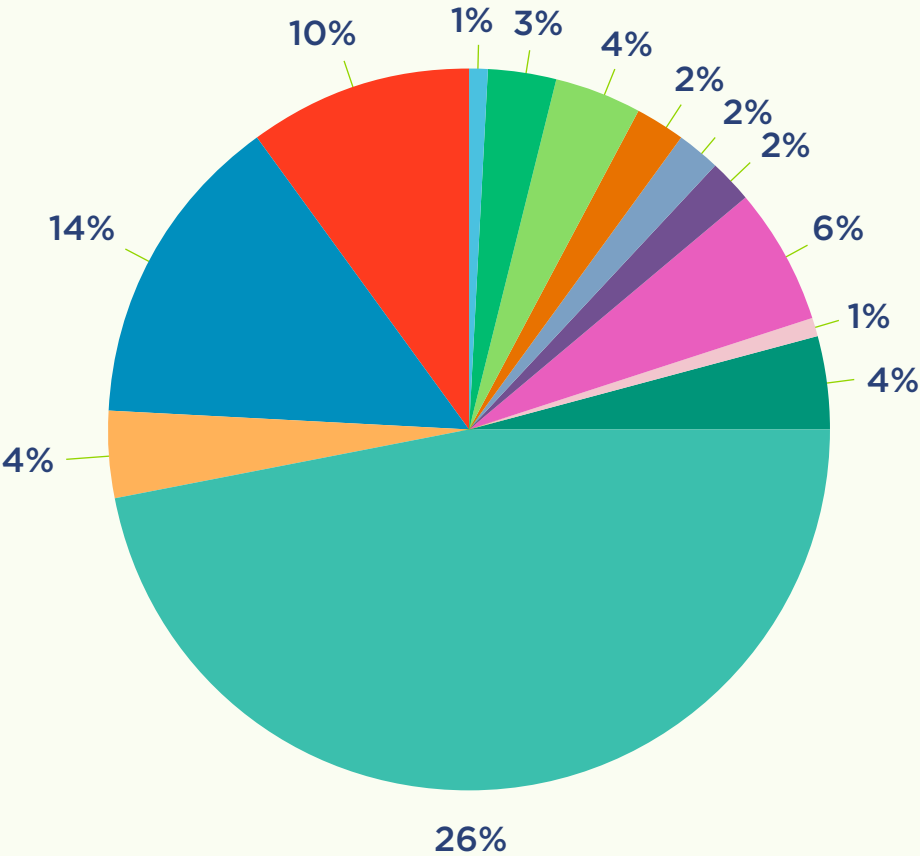
🟢 Advanced practice practitioners 3%	🟢 Midwives 4%
🟩 Allied healthcare practitioners 4%	🟢 Nurses 26%
🟧 Assistance or technicians 2%	🟠 Pharmacists 4%
🔵 Community health workers 2%	🔵 Physicians 14%
🟣 Dentists and oral health workers 2%	🔴 Student / educators 10%
🟣 First responders 6%	🔵 Other (case manager; veterinarian) 1%
🌸 Health managers / leaders 1%	

Figure 8. Represented healthcare settings. This graph shows the percentage of individually represented healthcare settings (n = 132).

Setting	Percentage
Primary care / outpatient / clinic	26%
Acute care / inpatient	17%
Bridging / transition (i.e. continuity of care)	13%
Home / community care	10%
Emergency care / first response	10%
Educational setting	8%
Public / population health	5%
Mental health	5%
Long-term care	4%
Palliative care	1%
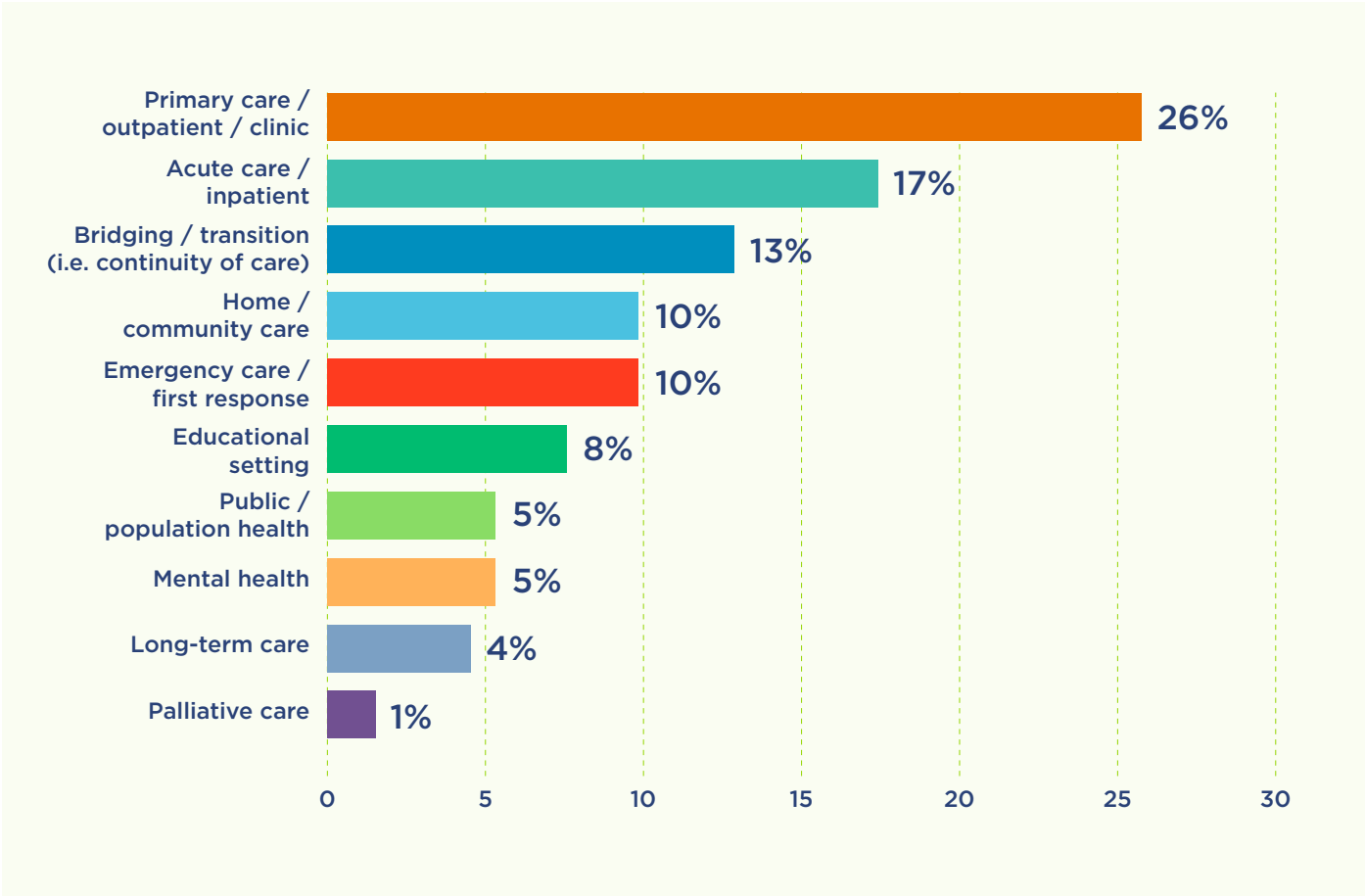
1.6.3.4 Our approach in light of evidence gaps

The structured umbrella review provided a strong foundation from which to synthesize key findings from the existing body of research. It also exposed early on the overarching limitations of this evidence base, namely that the review literature:

- mostly focused on clinical roles, particularly nurses and physicians,
- offered little insight into assistant, technician, and information technology and digital health roles,
- included few studies specifically about the Canadian context, instead relying heavily on findings from the United States healthcare context, and
- represented data and evaluation from specific healthcare settings, most often acute, emergency, and primary care.

Some of these evidence gaps are related to the relatively small percentage of research currently focused on the health workforce.

According to data provided by the Canadian Institute of Health Research to the Canadian Academy of Health Sciences, health workforce research between 2011 and 2022 represented less than 1% of their total funding investment of $11 billion (CAD).

Furthermore, certain professions with fewer numbers, as well as those that are not linked to graduate programs within university faculties (e.g. college-based technical or assistant roles), lack the resources to engage in health workforce research programs.

Despite the limitations of the academic evidence, we recognized the need to illustrate the wide range and complexity of issues and opportunities in our assessment of Canada's health workforce. We designed our process to preserve this broad scope in a concise, consensus-based report that was ready for peer review within nine months. There were a number of decision points that were necessary to make this happen. We:

- Focused on health workforce literature and issues, recognizing, but not delving into overall health systems transformation.
- Employed a rapid, umbrella review methodology. As a result of this process, only topics with one or more review articles would have been captured. Gaps in the evidence were anticipated and addressed through expert consultation and hand searches of the academic and policy literature; however, this would not capture all literature in this rapidly emerging field.
- Adopted a solutions-oriented approach, limiting discussions on the challenges as these are better known.
- Used profession-specific research where there appeared to be relevance to the broader workforce. The current evidence base primarily focuses on physicians and nurses; however, the resulting key findings often have broader applications to other professions.
- Included policy documents and in some cases data (e.g. surveys) to fill gaps or provide Canadian context, if they had some form of methodology for reviewing the evidence.
- Included media reports where it was critical to bring a contemporary perspective and published literature was not yet available.

1.6.4 Structure of the assessment report

This assessment report is a distillation of the analysis of the literature and review of engagement participant input by the working groups and Indigenous Health Workforce Committee. Through their work, it became clear that there are essential and interrelated cross-cutting areas in workforce planning that need to inform any actions, so these form the first section of this report:

- Indigenous Peoples and communities,
- Rural and remote communities, and
- Systemically disadvantaged populations.

The second section of the report is organized according to the original themes identified by the initial clustering of the questions:

- Support and retention,
- Deployment and service delivery, and
- Planning and development.

Each chapter begins with a textbox of leading policies and practices from each population or theme relevant to the Canadian health workforce. Subsequently, we summarized the evidence in terms of potential solutions within the context of current challenges. For each thematic chapter, we use a vignette to illustrate what might be possible by implementing these leading policies or practices. We also intersperse examples of how practices (e.g. programs, initiatives, models, interventions) and policies (e.g. organizational, systems) have been implemented in Canadian and international contexts. Assessing the outcomes of each program or initiative was beyond the scope of our assessment process. The final chapter, Vision, Action, and Impact, highlights five priority pathways from within the report for early implementation. These were selected through a comprehensive prioritization process. It also presents supporting transformational drivers to ensure successful collaboration, implementation, and evaluation.

1.7 CHAPTER SUMMARY

The health workforce is currently under considerable duress. Many Canadians are questioning where and how they and their families will receive the care they need today and in the future. Canada's health workforce cannot keep up with the growing need for health services across the country due to inadequate and unsustainable staffing approaches and care models, inequities and territoriality, burnout and moral distress, and changing population needs. These unrelenting demands, spurred on by more than two years of sustained pandemic-related 'surge capacity', are contributing to high attrition, vacancies and intention to leave, workplace violence and discrimination, ballooning costs, poorer health outcomes, and dissatisfied patients, caregivers, and healthcare practitioners. The health workforce is a dynamic force of diverse healthcare practitioners who can be deployed to deliver effective and collaborative services, but who also require a supportive workplace culture and structures to be retained and fulfilled. There is a consensus that action is required to enable the health workforce to continue providing high quality care to all Canadians. Health Canada funded the Canadian Academy of Health Sciences to undertake an evidence-based assessment of possible pathways forward to ease the health workforce crisis. Our approach to this assessment was guided by a systematic, evidence-based position that draws upon interdisciplinary knowledge, such as health workforce planning, the quintuple aims for health systems optimization, learning health systems, and One Health, and accounted for Canada's unique health systems context and populations. We have a timely window of opportunity to transform the system through the leading policies and practices described in this report.

SECTION A

Cross Cutting: Population-Based Approaches

SECTION A
Cross cutting: Population-based approaches

The World Health Organization's (2022a) principles declare that health policies and strategies need to focus first and foremost on those individuals furthest behind. This core principle of the right to the highest attainable standard of health underpins the evidence-informed discussion presented in this report.

Equity is an aim of health systems optimization (as described in Chapter 1: Introduction, Figure 3) for both patients and those in the health workforce. For patients, health inequity can occur "if access to or quality of care varies systematically by characteristics other than need" (Marchildon & Allin, 2022, p. 51). Across the country, patients from particular populations and geographic regions feel the effects of inequitable access to care as a consequence of challenges to Canada's health workforce. Meanwhile, there are also inequities built into health systems' structures which can negatively affect the health workforce.

The first section of this report considers existing inequities experienced by Indigenous Peoples, rural and remote areas of Canada, and other systemically disadvantaged populations in relation to the health workforce. We begin with a purposeful discussion about the significant

health inequities faced by Indigenous Peoples[8] across Canada. This discussion recognizes the *Truth and Reconciliation Commission of Canada: Calls to Action* (National Centre for Truth and Reconciliation, 2015) and Indigenous Peoples as the First Peoples of these lands. While we have highlighted the health workforce issues of Indigenous Peoples in this chapter, the following two chapters on systemically disadvantaged populations and rural and remote areas also offer cross applications. Indigenous Peoples make up an increasingly large proportion of the Canadian population but often live in physically remote settings and urban disadvantaged areas, so there is a high degree of mutuality in the leading policies and practices. For example, in terms of physical remoteness, Inuit make up 85% of Nunavut's population (Lee et al., 2022). While Indigenous Peoples are a systemically disadvantaged population, this does not imply that they are the only systemically disadvantaged population in Canada. The leading policies and practices in each of these chapters can be applied both synergistically and specifically to respond to the unique and diverse needs of Black, racialized, 2SLGBTQIA+, and other oppressed communities. It is vital to keep these population-based approaches centred throughout the theme-based chapters to move towards more equitable and just health workforce opportunities and health services.

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[8] Canada's Constitution recognizes three distinct Indigenous groups, First Nations, Métis, and Inuit Peoples. A distinction-based approach is important to be responsive to the unique needs and context of First Nations, Métis and Inuit Peoples. While the term Indigenous does not reflect the uniqueness of each group, it is used in this report with the intent to be inclusive.

CHAPTER 2:
INDIGENOUS PEOPLES & COMMUNITIES

Leading Policies & Practices

➡ Creating space and providing support for Indigenous leadership to design, develop, direct, deliver, and evaluate Indigenous health programs and services.

➡ Increasing the population of Indigenous learners and practitioners within healthcare education and clinical settings and supporting successful and fulfilling transitions to healthcare practice.

➡ Disrupting racism within the health workforce and health systems through Indigenous-led development of anti-racism policies, safe reporting and investigation processes, and mandatory education and training.

➡ Implementing Indigenous data sovereignty and research principles in relation to workforce data collection, outcome-based research, and evaluation including the development and support of the Indigenous health research workforce.

2.0 CONTEXT

First Nations, Métis, and Inuit are culturally diverse and have unique Nation-to-Nation relationships and rights that are embedded in our Constitution (Department of Justice Canada, 2018). Colonization of health services, including the legislation of the *Indian Act*, have created jurisdictional and regional challenges that continue to contribute to the health inequities faced by Indigenous Peoples. Current health workforce challenges have amplified the limited access to care in the remote, rural, and urban communities where Indigenous Peoples reside. All themes explored in this report are relevant to Indigenous Peoples. Special attention is needed to address the historical and contemporary health inequities faced by Indigenous Peoples. Indigenous health workforce issues also intersect with Chapter 3: Rural & Remote Communities and Chapter 4: Systemically Disadvantaged Populations.

The historical context of colonization has shaped the present for Indigenous Peoples in Canada (Allan & Smylie, 2015) and is reflected in the *Truth and Reconciliation Commission of Canada: Calls to Action* (National Centre for Truth and Reconciliation, 2015), specifically #18:

"… to acknowledge that the current state of Aboriginal health in Canada is a direct result of previous Canadian government policies, including residential schools, and to recognize and implement the health-care rights of Aboriginal people as identified in international law, constitutional law, and under the Treaties."

The Honourable Murray Sinclair has described reconciliation as being fundamentally about a rights-based relationship, although he acknowledges that this is not always a shared view (Sinclair, 2017).

"Reconciliation will not be achieved so long as one side sees it as a question of rights … and the other side sees it as a question of benevolence." (Sinclar, 2017, p. 23)

The imperative of rights-based actions is reflected in the Pan American Health Organization's (2019) report on the inequalities and inequities in the Americas. Figure 9 visually represents how structural drivers such as racism and colonialism impact conditions of daily life, including participation in the workforce and health systems.

Figure 9. Inequalities as structural drivers of health inequities in the Americas.

INTERSECTIONALITY:
Social and Economic Inequities, Gender, Sexuality, Ethnicity, Disability, Migration

STRUCTURAL DRIVERS
Political, Social, Cultural, and Economic Structures

Natural Environment, Land, and Climate Change

History and Legacy, Ongoing Colonialism, Structural Racism

CONDITIONS OF DAILY LIFE
Early Life and Education
Working Life
Older People
Income and Social Protection
Violence
Environment and Housing
Health Systems

HEALTH EQUITY AND DIGNIFIED LIFE

TAKING ACTION
Governance
Human Rights

Adapted from the Pan American Health Organization (2019)

Some of the current conditions of daily life for Indigenous Peoples in Canada are summarized below:

"Indigenous People in Canada tend to live in more rural regions, have lower rates of educational attainment, and are more likely to live in intergenerational housing and face housing insecurity than non-Indigenous Canadians. The average income and lifetime earnings are lower for Indigenous than non-Indigenous People, with the lowest incomes found for First Nations who live on reserve," (Durand-Moreau et al., 2022, p. e1189).

This assessment focuses on strengthening the health workforce in Canada, recognizing that for Indigenous Peoples this begins with addressing existing systemic inequities that contribute to workforce inequities, and by taking action on the structural drivers. Achieving Indigenous health workforce goals requires establishing cultural safety in healthcare settings, both for practitioners and patients, and fostering cultural humility in peer healthcare practitioners (First Nations Health

Authority, n.d.a). These two foundational concepts are described below. While they are introduced here with respect to Indigenous Peoples, they have broad relevance and are again referred to in Chapter 4: Systemically Disadvantaged Populations and Chapter 5: Support & Retention.

Cultural safety is an outcome based on respectful engagement that recognizes and strives to address power imbalances inherent in the healthcare system. It results in an environment free of racism and discrimination, where people feel safe when receiving healthcare.

Cultural humility is a process of self-reflection to understand personal and systemic biases and to develop and maintain respectful processes and relationships based on mutual trust. Cultural humility involves humbly acknowledging oneself as a learner when it comes to understanding another's experience.

Healthcare practitioners are not expected to be cultural experts for all First Nations and Aboriginal peoples. Exercising humility is about being open to learning and comfortable starting with what we don't know.

(First Nations Health Authority et al., 2021, p. 5)

The definitions of cultural safety and cultural humility in the textbox above come from the *Anti-Racism Cultural Safety and Humility Framework* developed by the First Nations Health Authority et al., (2021) and their collaborators in British Columbia.

2.1 LEADING POLICIES & PRACTICES

The following evidence-informed leading policies and practices introduced at the beginning of this chapter serve to support the advancement of Indigenous Peoples and the health workforce.

2.1.1 Creating space for Indigenous-led health workforce development

Several reports, including the *Royal Commission on Aboriginal Peoples* (1996), *The Kelowna Accord (First Ministers and National Aboriginal Leaders, 2005), the Truth and Reconciliation Commission of Canada: Calls to Act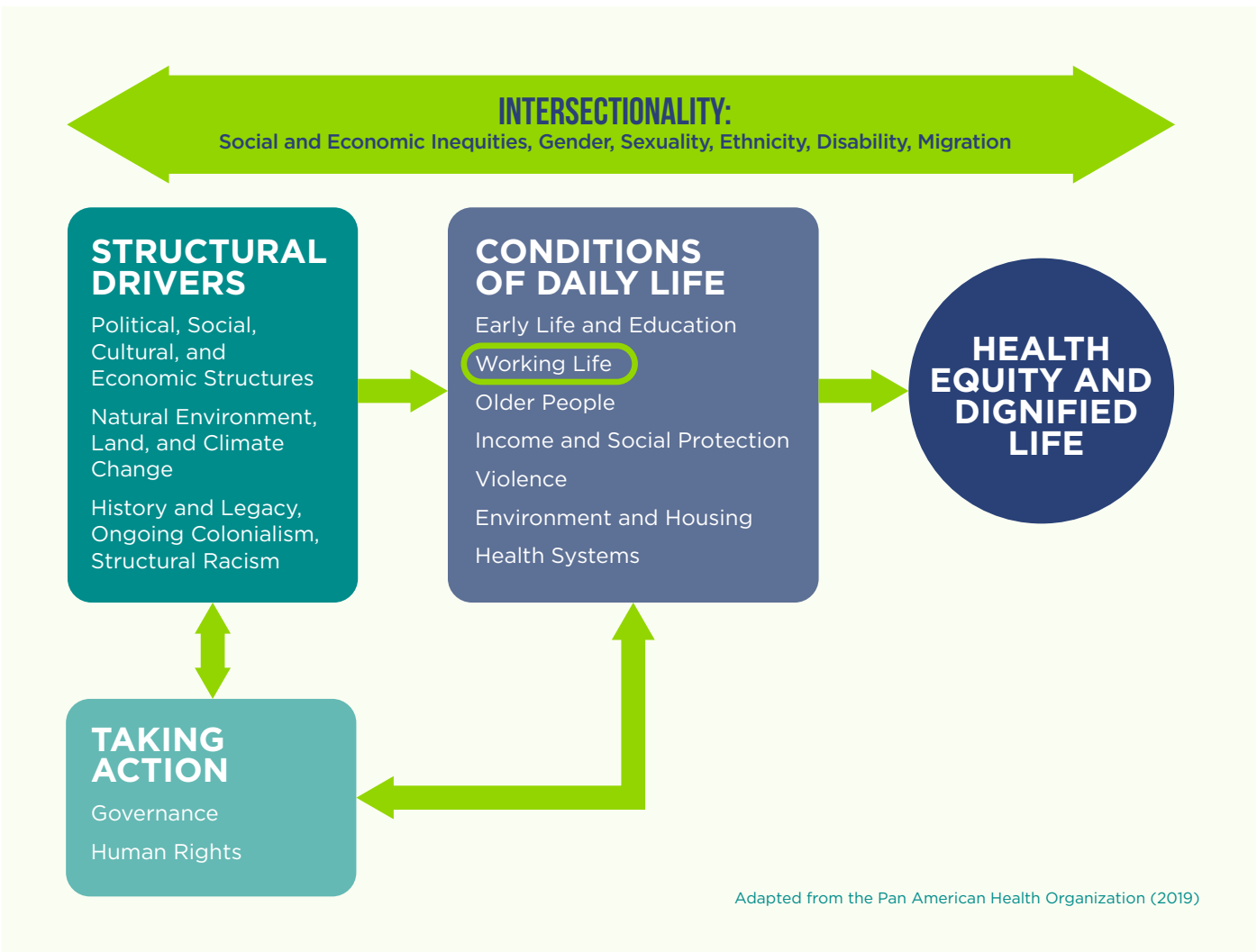ion* (National Centre for Truth and Reconciliation, 2015), and the Canadian Academy of Health Sciences' (2014) *Improving Access to Oral Health Care for Vulnerable People Living in Canada* have recognized the need to improve Indigenous health. Self-determination and Indigenous leadership in health are central to addressing inequities in health outcomes for patients and within the health workforce for Indigenous practitioners. This can be achieved by creating space and providing support for Indigenous-led (i.e. individuals, organizations, and communities) design, development, direction, delivery, and evaluation of Indigenous health programs and services.

2.1.1.1 Taking distinctions-based action

First Nations, Métis, and Inuit Peoples have distinct languages, cultures, knowledge systems, and relationships with federal, territorial, and provincial governments. This results in a complex jurisdictional environment for health services delivery to First Nations, Métis, and Inuit Peoples. As such, it is imperative that health systems' planners understand these complexities through distinct and bilateral relationships with First Nations, Métis, and Inuit representative organizations.

2.1.1.2 Respecting self-determination

Indigenous Peoples in Canada have always asserted their rights to self-determination, including over healthcare systems and programs that impact Indigenous Peoples' health and wellness (Assembly of First Nations, 2017). In 2021, Canada passed *The United Nations Declaration on the Rights of Indigenous Peoples Act* (Bill C-15; Government of Canada, 2021b) which sets out Canada's obligations to uphold the *United Nations Declaration on the Rights of Indigenous Peoples* (2007). Particularly relevant is Article 23:

"Indigenous Peoples have the right to determine and develop priorities and strategies for exercising their right to development. In particular, Indigenous Peoples have the right to be actively involved in developing and determining health, housing and other economic and social programmes affecting them and, as far as possible, to administer such programmes through their own institutions."

First Nations health transformation is a collaborative process between First Nations partners, the federal government, and provinces and territories (Indigenous Services Canada, 2022a). The intent is to create a more coordinated health system in which First Nations-led health organizations assume greater control of the design, administration, management, and delivery of health services and programs that support community wellness and address their health needs and priorities. Other federally-funded health transformation initiatives are currently underway in Manitoba, Ontario, Québec, and Nova Scotia (Tajikeimik, 2023).

The first completed health systems transfer was in British Columbia with the creation of the First Nations Health Authority in 2013. Their story - partnerships, agreements, and processes - has been shared with the intent to help guide other First Nations Peoples across Canada and Indigenous Peoples around the world who may be on a similar journey (First Nations Health Authority, 2013a). There is significant learning that can occur from the recruitment and retention planning approaches that were prioritized by the First Nations Health Authority through this transfer process. For example, they developed a *First Nations Health Human Resources Tripartite Strategic Approach* (First Nations Health Authority, 2013b) which built on previously gathered information from Indigenous communities. More recently, through their Indigenous leadership, which is grounded in respect for self-determination, the First Nations

Health Authority has developed several tools and strategies. For example, they have enacted physician and doula recruitment and retention plans and a health human resources wellness circle for health workforce planning. This model (Figure 10) provides a framework for health workforce planning that reflects the holistic view that is central to establishing health workforce priorities and goals.

Figure 10. The First Nations wellness circle.

FIRST NATION HEALTH HUMAN RESOURCES WELLNESS CIRCLES

HEALTH WORKFORCE SYSTEM DESIGN

Assess

Training & Professional Develoment

Cultural Compentency

First Nations Decision Making

Mental

Recruitment & Retention

Measure

Tripartite Collaboration

Spiritual

ALL FIRST NATIONS ELDERS, ADULTS & FAMILIES, MOTHERS & BABIES, CHILDREN & YOUTH

Emotional

Physical

Systems Transformation

Innovation

Plan

HEALTH & WELLNESS OUTCOMES

RESOURCE DEPLOYMENT & UTILIZATION

Communication

Health Career Promotion

Forecast

SYSTEM & PROVIDER OUTCOMES

Adapted from the First Nations Health Authority (2013b)

Building meaningful and long-term relationships

The move towards self-determination can be facilitated by the development of meaningful, long-term, and reciprocal relationships between health service delivery organizations and Indigenous organizations and communities (Alberta Health Services, 2020; Assembly of First Nations, 2017; Inuit Tapiriit Kanatami, 2011). For example, self-determination includes ensuring Inuit involvement in the development and delivery of public health policies, programs, and services across Inuit Nunangat (Inuit Tapiriit Kanatami, 2016). As that relates specifically to health workforce planning, Inuit Tapiriit Kanatami (2016) articulated the following actions in their *2016-2019: Strategy and Action Plan*:

- reduce barriers in order to overcome the current healthcare practitioner supply shortages,
- increase the number of Inuit who obtain health and wellness positions in the community,
- increase the number of models of care that support traditional and contemporary Inuit practices,
- increase access to programs and certification in order to help students and healthcare workers provide culturally safe and competent care,
- increase Inuit and community participation in health human resources decision-making, and
- improve the quality of work life in order to retain healthcare workers in Inuit communities.

Strengthening collaborative partnerships in education and training

Healthcare education programs are encouraged to build meaningful, collaborative, and accountable relationships with the Indigenous communities that they serve (Anderson et al., 2019). This aim invites Indigenous expertise and self-determination over relevant areas, such as curricula development, hiring, admissions and student retention initiatives, and mentorship and scholarship development to determine rates of student admission. This includes Indigenous representatives in admissions reviews and self-identifiers in admissions processes (Anderson et al., 2019). Engagement participants suggested developing dedicated staffing positions in healthcare education programs that are fully supported and adequately funded to lead this relationship-building work.

2.1.1.3 Increasing Indigenous leadership within the health workforce

The expertise of Indigenous leaders can initiate and shape organizational programming and culture, guide human resources decisions and processes, and build and demand accountability (Alberta Health Services, 2020; Anderson et al., 2019; First Nations Health Authority, 2013b).

Provincial, territorial, or regional Offices of Indigenous Health such as in British Columbia (Province of British Columbia, 2022) and Ontario (Ontario Health, 2022a) are emerging and creating opportunities for Indigenous leadership.

At the site and systems level this includes ensuring the infrastructure exists to develop and

support Indigenous leadership positions. For example, First Nations health directors in British Columbia play a strategic leadership role and are supported as they provide technical advice and counsel, as well as securing and managing health services for Indigenous individuals and families in urban settings and rural and remote communities (First Nations Health Directors Association, 2023). Another example is the support for First Nations health managers who have front-line leadership roles, honouring, maintaining, and upholding Indigenous ways of knowing within the delivery, management, and governance of Indigenous health services and programs (First Nations Health Managers Association, n.d.). Health managers working in First Nations communities across Canada have opportunities to promote quality standards, practices, and research, through certification, networking, and professional development. Healthcare practitioner groups also play a key role in developing and supporting leadership. For example, a key objective of the Canadian Indigenous Nurses Association (2019) is to increase Indigenous healthcare decision-makers and the recently established Indigenous Dental Association of Canada (n.d.) encourages and enables Indigenous dental professionals to deliver oral health services in communities across Canada (Indigenous Services Canada, 2022b). See Chapter 5: Support & Retention for a further discussion on health leadership.

Indigenous healthcare practitioners can face the additional emotional burden of driving change often on their own and without compensation. This is sometimes referred to as the 'minority tax' (Filut et al., 2020; Schilgen et al., 2017). Discussions with Indigenous participants echoed this sentiment and suggested clear remunerative and other support guidelines in place for Indigenous participation on committees. To this end, participants cited an emerging, pan-Canadian project on *Physician and Medical Learner Engagement Guidelines* as a promising practice that recognizes and respects contributions of Indigenous healthcare practitioners (Indigenous Physicians Association of Canada, n.d.). In Australia, the National Tertiary Education Union has introduced claims for 'cultural load' into its current round of bargaining to ensure Indigenous staff at academic institutions are fairly compensated, and that tasks associated with 'cultural load' have also been formally detailed in employee agreements (Ward, 2022).

Increasing the number of Indigenous Peoples within the health workforce, including in leadership positions, is a primary strategy to address systemic racism. Engagement participants recognized that representation matters, and making people feel included and safe includes putting Indigenous Peoples in visible roles. Many Indigenous led-organizations and academic institutions have been thoughtfully considering questions and processes around validation of Indigenous identity (Teillet, 2022). Increasingly, there are opportunities for non-Indigenous workplaces to implement the same protocols.

Other strategies to address systemic racism are discussed later in this chapter as well as in Chapter 4: Systemically Disadvantaged Populations.

2.1.2 Increasing the population of Indigenous learners and practitioners

There are substantial disparities between rates of Indigenous and non-Indigenous Peoples in every health profession, including nursing, medicine, midwifery, dentistry, and other health disciplines (Taylor et al., 2019; Canadian Academy of Health Sciences, 2014). The *Truth and Reconciliation Commission's Call to Action* (2015) #23 calls on all levels of government to address this issue by:

• increasing the number of and ensuring the retention of Indigenous healthcare practitioners, and
• providing cultural competency training for all healthcare practitioners.

2.1.2.1 Increasing the number of Indigenous learners

Increasing the number and retention of Indigenous healthcare practitioners has mutual benefits: it can ensure that Indigenous patients are more likely to receive care from an Indigenous healthcare practitioner, and also enhance workforce participation. This process begins with an education pipeline that attracts and supports Indigenous learners. Yet, Taylor and colleagues (2019) have identified several factors affecting Indigenous student participation in healthcare practitioner education. These include barriers such as:

• lack of family and peer support,
• competing obligations,
• insufficient academic preparation and prior educational experiences,
• lack of access to dedicated Indigenous student supports,
• financial hardship, and
• racism and discrimination.

Increasing the representation of Indigenous Peoples in the health workforce requires explicit pathways and strategies in all schooling levels for them to gain and upgrade their qualifications. A key insight from the engagement process was the need for greater actions towards increasing Indigenous learners supported through a comprehensive plan of action that is monitored and evaluated. One participant noted, "Intentionality is key. Sustained and comprehensive investment [resourcing and political] at all levels of governance is important. These are long-term initiatives, and we must advocate for this to be a priority with funders and stakeholders." With this in mind, a number of leading practices are highlighted below.

Targeted recruitment, support, and retention of Indigenous students
Research suggests that targeted and specific programs to recruit and retain Indigenous healthcare students can be effective (Koea et al., 2020; Tranter et al., 2018). Furthermore, implementing a broad range of strategies from recruitment to graduation is more likely to achieve higher graduation rates amongst ethnically diverse students (Tranter et al., 2018).

These findings point to the importance of adopting a multi-pronged approach when aiming to address student recruitment and retention.

Potential considerations for a flexible student recruitment and retention program may include (Koea et al., 2020; Taylor et al., 2019):

- extending existing outreach activities to increase the promotion of health careers across Indigenous communities,
- streamlining the application process,
- increasing scholarships, bursaries, and internships for Indigenous students to pursue education in health fields,
- supporting Indigenous role models and peer networks, and
- encouraging Indigenous mentorship circles and programs and specialized support for Indigenous students.

In 2016, First Nations Peoples had higher attainment rates than non-Indigenous Canadians in colleges and the trades; however, the university attainment gap remained at around 22 percentage points (Assembly of First Nations, 2018). In the *First Nations Health Human Resources Tripartite Strategic Approach* (2013b), the First Nations Health Authority proposed to increase the number of First Nations People in health careers through dedicated post-secondary seats to Indigenous healthcare practitioners.

An example of a potential workforce training model that could be adapted to the health context is the *Program for the Education of Native Teachers* (Brandon University, 2023). This community-based program out of the Faculty of Education at Brandon University offers Indigenous students the ability to remain in their communities while undertaking paraprofessional work (internship) for part of the year. They then attend courses at the university for part of the year. Students are with the program for at least 40 months, with successful completion resulting in a Bachelor of Arts or Science and a Bachelor of Education degree. This model supports the generation of the workforce as well as the province's support for the current education systems within Indigenous communities in Manitoba.

The Indigenous Physicians Association of Canada's (2023) *Mentorship Circle* was developed based on feedback from Indigenous students around the value in having spaces to come together for sharing, learning, and mutual support. Engagement participants suggested there may be an opportunity to expand outreach to those even earlier in their education journey.

The importance of ensuring cultural safety within healthcare education has been repeatedly cited as a key enabler to a diverse health workforce (Churchill et al., 2017; Dune et al., 2018; Joo & Liu, 2020; Pitama et al., 2018; McCann & Brown, 2018; Minnican & O'Toole, 2020; Sekoni et al., 2017; Tremblay et al., 2020; Wilson et al., 2022). Current and prospective students face racism

within educational settings (Taylor et al., 2019). This can lead to Indigenous students feeling alienated and stigmatized, contributes to workplace power differentials, and increases the workload and emotional burden of students advocating for Indigenous healing practices.

2.1.2.2 Recruiting, retaining, and supporting Indigenous healthcare practitioners

According to the 2016 census, less than 1% of Canadian physicians identify as Indigenous, but Indigenous Peoples make up more than 5% of the Canadian population (Statistics Canada, 2022b). Using the census dataset, the University of Saskatchewan (2016) reported that 3% of all Canadian registered nurses are Indigenous, and just under 75% of all Indigenous healthcare practitioners are registered nurses.

Factors impacting the retention of Indigenous healthcare practitioners include the elements described in Chapter 3: Rural & Remote Communities and Chapter 5: Support & Retention, including: heavy workloads, poorly documented/understood roles and responsibilities, low salary and a perception of salary disparity, and the influence of community as both a strong personal motivator and source of stress when work/life boundaries cannot be maintained (Lai et al., 2018).

The organizational culture also plays a significant role in Indigenous worker retention. Figure 11 describes six key enablers to the retention for Indigenous healthcare practitioners, namely, culturally safe, anti-racist work environments, collaboration, supportive peers and leaders, opportunities for professional and leadership development, and appropriate recognition and remuneration (Assembly of First Nations, 2017; Deroy & Schütze, 2019; Lai et al., 2018; Topp et al., 2018). The evidence-based strategies for recruitment of Indigenous learners discussed in the previous section also have relevance to ongoing recruitment efforts post-training. Yet, social and cultural obligations can also overlap and may clash with organizational and professional responsibilities and expectations. Indigenous healthcare practitioners have described straddling cultural obligations (e.g. related to gender, age, and kinship) and expectations of non-Indigenous colleagues and supervisors which were underpinned by 'western' models of clinical governance and management (Topp, 2018).

Figure 11. Organizational-level enablers for recruiting and retaining an Indigenous health workforce. Synthesized from the literature (Assembly of First Nations, 2017; Deroy & Schütze, 2019; Lai et al., 2018; Topp et al., 2018).

ENABLERS OF INDIGENOUS HEALTH WORKFORCE RECRUITMENT & RETENTION

- **Culturally-safe & anti-racist work environments**
- **Teamwork & collaboration**
- **Support from peers & leadership**
- **Professional development & mentorship**
- **Leadership development & career advancement**
- **Appropriate recognition & remuneration**
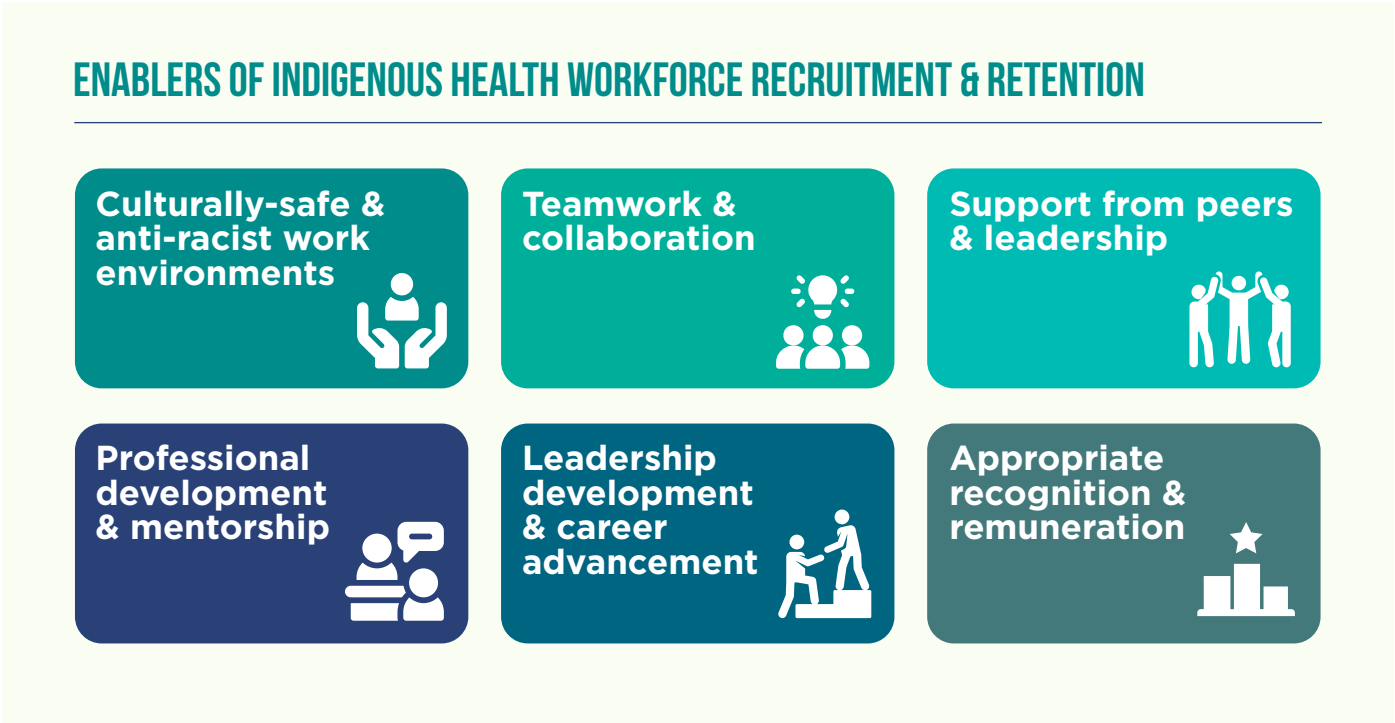
Moral distress may impact retention (Pendry, 2007). Observing racism and other forms of discrimination can elicit moral distress in healthcare practitioners (Sukhera et al., 2021). Disrupting racism within the healthcare system is further examined in the next section.

Incorporating traditional knowledge and roles

In general, Indigenous cultures take a very holistic understanding of health and wellbeing. For example, while Inuit birthing practices vary depending on regions and situations, childbirth is considered a natural part of their connection to the world (Lee et al., 2022). Traditionally birthing was performed on the land with the assistance of an *ikajurti* (i.e. Inuit midwife). But, with the introduction of frequent air travel and increased medicalization of birth, there was a shift to maternal evacuations, displacing traditional midwifery. There is a resurgence of traditional knowledge and roles regarding birthing, and supports are increasingly available, for example, through the *National Aboriginal Council of Midwives* (2020).

For some Indigenous Peoples, there are other traditional or healing roles that fall outside of what is typically thought of as 'healthcare practitioners'. There may be ways to better fully integrate the traditional and cultural skills that Indigenous Peoples bring into the health workforce. For example, Indigenous lay health navigators were viewed by Indigenous patients as more approachable and knowledgeable of Indigenous worldviews (Rankin et al., 2022).

The Assembly of First Nations (2017), notes that for Indigenous Peoples, Elders, cultural practitioners, cultural teachers, and early-learning educators have a key role in promoting their health and wellness – along with doctors, nurses, and dentists. So too do community health workers. Community health workers are lay members of the community who work for pay or as volunteers in association with the local healthcare system. They typically share ethnicity, language, socioeconomic status, and life experiences with the community members they serve (U.S. Department of Health and Human Services, 2007). Community health workers have a critical role in ensuring health program effectiveness at local levels (McCarville et al., 2021). In an evidence synthesis, the World Health Organization (2020b) recognized that one of the key health systems functions of community health workers can be to improve relationships between health services and communities by acting as cultural mediators.

As such, the Assembly recommends ensuring all efforts are made to ensure the Indigenous health workforce is flexible enough to support roles that fall outside of the common western conceptions of the health professions. The presence of traditional healers and Elders within healthcare settings was identified by engagement participants as a best practice in retention of Indigenous healthcare practitioners and is embedded as a right within the *United Nations Declaration on the Rights of Indigenous Peoples* (2007) as well as the *Truth and Reconciliation Commission Call to Action* (2015) #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."

Addressing pay inequities to retain healthcare practitioners

Significant pay inequities have negative consequences in recruiting and retaining healthcare practitioners and ensuring Indigenous Peoples have equitable access to safe and adequate healthcare across jurisdictional divides (Assembly of First Nations, 2017). The legacy of systemic racism in Canada has generated a federal funding framework that underfunds Indigenous programs and services (Fallon et al., 2021).

Engagement participants observed that while there has been some increased flexibility in recent years around program models and delivery, the funding for these models has not caught up and pay inequities continue to exist. Another observation from the engagement sessions was that although community health nurse positions are typically modelled as a "9 to 5, Monday to Friday," staff are often called upon at all hours of the day and night without extra compensation.

2.1.2.3 Addressing housing and infrastructure needs in Indigenous communities

Both the literature review and the engagement process revealed the lack of housing in Indigenous communities is a significant barrier to recruiting and retaining an adequate health workforce. For example, Indigenous students relocating to Canadian urban centres to study experience housing discrimination (Motz & Currie, 2019). According to engagement participants, they may also experience a lack of resource support, including virtual learning. Additional solutions to support Indigenous students and students from rural and remote communities are provided in Chapter 3: Rural & Remote Communities. Inuit Tapiriit Kanatami (2011) notes:

"If a student is able to secure the rare opportunity to carry out a portion of their clinical experience in an Inuit community, they usually find that there is nowhere to stay. Some students may find a relative or a friend to stay with, and then they can be faced with the challenges of studying in a crowded home. It is rare to find designated housing for students of the health professions within Inuit communities. The same is the case for those who need to visit smaller Inuit communities to provide needed primary care services," (p. 38).

Engagement participants noted similar challenges within First Nations communities. Even in urban settings, there may be housing shortages because employers and organizations are not required to provide housing. Furthermore, Indigenous university students experience housing discrimination which can impact their mental and physical health (Currie et al., 2020; Motz & Currie, 2019).

2.1.3 Disrupting racism within the health workforce and health systems

There is evidence in the academic literature of unequal care for Indigenous Peoples by healthcare practitioners (Schultz et al., 2018). Racism within health delivery plays a significant role in the inequitable health outcomes of Indigenous Peoples in Canada (Allan & Smylie, 2015; Gall et al., 2018; Li, 2017; Racine et al., 2022; Rooney et al., 2022; Welch, 2020). Racism also influences the functioning of the health workforce – in the ability of health systems and healthcare practitioners to deliver culturally safe care and, as previously described, in the recruitment and retention of Indigenous health learners and practitioners.

Systemic racism against Indigenous Peoples was embedded within historical colonial policies and practices, such as oppressive legislation, the Indian residential school system, Indian hospitals, relocation of Inuit to tuberculosis sanatoria, and through coerced and forced sterilization of Indigenous women (National Collaborating Centre on Aboriginal Health, 2019). Experiences of racism within the Canadian healthcare system continue, with several high-profile deaths of Indigenous Peoples, including Brian Sinclair and Keegan Combes, who faced

racism in healthcare settings (McLane et al, 2022). In both the cases, healthcare practitioners incorrectly assumed they were intoxicated thus delaying care. In 2020, Joyce Echaquan, an Atikamekw woman, died after seeking medical care at a hospital. The coroner later determined that systemic racism contributed to her death. Her death was a catalyst for a plan to address racism in healthcare against Indigenous Peoples called *Joyce's Principle* (Council of the Atikamekw of Manawan & the Council de la Nation Atikamekw, 2020).

Since Joyce Echaquan's death, the federal government has undertaken several activities to address racism against Indigenous Peoples, including hosting a series of national dialogue sessions, financing cultural safety and humility training, curriculum and accreditation requirements for healthcare practitioners, integrating culturally safe care in acute care settings, and promoting traditional Indigenous perspectives on health (Government of Canada, 2022b).

Pathways forward to addressing Indigenous-specific racism and discrimination in British Columbia's healthcare system were described in the *In Plain Sight Summary Report* (Government of British Columbia, 2020). Many individuals were part of this report - as researchers and as contributors who shared difficult experiences. The report offers ideas that can further shared learning and ultimately contribute to change. For example, the report suggests recruiting senior Indigenous leaders in healthcare organizations and training institutions, increasing Indigenous representation in health worker training programs, and increasing the cultural safety of learning and training environments.

2.1.3.1 Implementing anti-racism programs to provide culturally safe care

Non-Indigenous healthcare practitioners will continue to play a significant role in health delivery for Indigenous Peoples. Ensuring that every person working within health service delivery is contributing to a safe healthcare environment and providing quality care requires cooperation from all levels of government, agencies, service delivery organizations, teaching institutions, and professional colleges. It typically involves the provision of mandatory professional development training, as well as remedial training in scenarios where culturally safe competencies come into question. Implementing anti-racism programs in healthcare requires long-term, multi-level strategies that bring in appropriate skills and expertise, embed racial equity in hiring, retaining, and promoting personnel, and emphasis on anti-racism within the education of healthcare practitioners (Hassen et al., 2021). The *In Plain Sight Summary Report* (Government of British Columbia, 2020) provided several implementation strategies to achieve this goal including a dedicated, open access hub with anti-racism, and cultural safety tools and resources for healthcare organizations, educational institutions, and practitioners.

2.1.3.2 Mandating cultural safety and humility education for healthcare practitioners

The *Truth and Reconciliation Commission* Call to Action #24 outlines the elements and approach for effective education to combat racism in healthcare:

"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."

Allan and Smylie (2015) caution that "[c]ultural sensitivity and cultural competence focus on learning about the culture of the service user – and can therefore serve to pave over power differences" (p. 11). The results of sensitivity and competency training is debatable, with few formal evaluations available (Jongen et al., 2018). However, they have led to increased 'on-the-ground' training in terms of cultural humility, human rights, conflict resolution, and anti-racism (Allan and Smylie, 2015; Anderson et al., 2019; Assembly of First Nations, 2017).

In alignment with the *Truth and Reconciliation Commission: Calls to Action*, reports such as the *First Nations Health Transformation Agenda* (Assembly of First Nations, 2017), Inuit Tapiriit Kanatami's *Inuit Health Human Resources Framework and Action Plan 2011-2021* (Inuit Tapiriit Kanatami, 2011), and the Association of Faculties of Medicine of Canada's *Joint Commitment to Action on Indigenous Health* (Anderson et al., 2019) recommend mandatory healthcare education courses on cultural safety that involve direct service provision, public policy and administration programs, and professional development activities for faculty, staff, and practitioners. For example, the Government of Northwest Territories (n.d.) has a mandatory *Living Well Together Cultural Competency Training* program for all government employees, including healthcare practitioners. This 30-hour training program aims to ensure employees develop cultural competencies and play a more active role in reconciliation.

The British Columbia Health Regulators (2017; 2020) have also committed to integrating concepts of cultural safety and humility into their initiatives to support regulated healthcare practitioners in providing culturally unbiased care. In 2020, they released a three-year status report on the actions they took in partnership with the First Nations Health Authority. Key achievements outlined in the 2020 report include that:

- fourteen regulatory colleges have integrated principles of cultural safety and humility into their strategic plans and have begun collecting data on registrants taking cultural competency training programs,
- eleven regulatory colleges have continued to engage with the First Nations Health Authority to exchange ideas and enable ongoing learning, and
- six regulatory colleges have increased Indigenous representation on college boards and committees.

The Medical Council of New Zealand (2019) has also committed to promoting cultural safety and moving towards equitable healthcare for Māori patients. They recently published a report in partnership with Te Ohu Rata O Aotearoa (Allen + Clarke, 2020). In the report they recommend strategic approaches to improving health equity aligned with those proposed in this report. These include acknowledging barriers to care as a result of systemic racism, promoting continued, self-reflective learning of non-Māori healthcare practitioners, and improving representation of practitioners identifying as Māori through recruitment efforts.

2.1.3.3 Incorporating Indigenous health and cultural safety into curricula

According to a recent review, learning methods that enabled participants to change clinical behaviour included immersion, clinical placement, and simulated patients (Pitama et al., 2018). In contrast, Lee et al. (2022) noted the recent professionalisation of midwifery has placed training centres mostly located outside of Nunavut. For Inuit, a more effective strategy would be to support entry of Indigenous practitioners into midwifery through universities and college programs in the Arctic, where they can include *ikajurti* and on-the-job training.

In one Australian study, rural and remote placements had an overwhelmingly positive effect on understanding Indigenous culture, the complexity of Indigenous health determinants, everyday racism toward Indigenous Peoples of Australia, and desires to work in Indigenous healthcare (McDonald et al., 2018). These findings indicate clinical placements in geographical settings populated by Indigenous Peoples may be a means of building the capacity of the broader health workforce and increasing services (McDonald et al., 2018). As an example, the University of Alberta set up a learning site in Yellowknife for family medicine (Erickson, 2020). Each year, four residents spend two years travelling around the north to learn about cultural competencies and safety, such as land-based learning, training by elders, and traditional healing.

While Indigenous health education has been recommended, a review found it to be lacking in many educational institutions. Pitama and colleagues (2018) noted that despite government and accreditation committees' motivations and support to identify Indigenous health inequities within health education programs, only 60% of reviewed programs had compulsory Indigenous health curricula. Another 26% of programs positioned Indigenous health curriculum as elective. Such findings suggest that greater investments and policies may be needed to support a broader implementation strategy.

By critically analyzing existing curricula and pedagogical approaches, educational institutions can work to eliminate racism and collaborate with Indigenous Peoples, organizations, and communities to develop and implement anti-racist and anti-colonial curricula (Anderson et al., 2019). Pitama and colleagues (2018) found that negative societal perceptions of Indigenous Peoples and their health outcomes were maintained by a 'hidden curriculum' and reinforced the

colonial agenda. According to these authors, in an effort to decolonize its educational program, leading Māori health educators re-developed the content and highlighted the impacts of colonialism, racism, and systemic biases.

2.1.4 Strengthening Indigenous health workforce data

An integral dimension of workforce planning and expansion relates to research and data. There is very little research in the area of Indigenous health workforce. This section focuses on how reliable, accurate, and holistic data can provide information on health needs, barriers, and utilization patterns and thus support the design of strategies to address them. This topic is more broadly examined in Chapter 7: Planning & Development.

A key limitation of the evidence was the lack of Indigenous health workforce research, especially by Indigenous Peoples. Research on the Indigenous health workforce research makes up only a minute proportion of this already small research area. According to data from the Canadian Institutes of Health Research (CIHR), research on the Indigenous health workforce from 2011 to 2022 accounted for 1% of funded Health Services and Policy Research (HSPR), which makes up 8.5% of CIHR's total research investment. Meanwhile, rural, remote, and Northern-related health workforce projects, which could include Indigenous populations, made up less than 1% of the HSPR research during the same period. Furthermore, most of the Canadian outcome-based research fails to meet acceptable standards of scientific rigour or quality (Anderson, 2019).

Indigenous self-determination is strengthened through the use of Indigenous-generated research and data principles. These include the *First Nations Ownership, Control, Access, and Possession™ Principles* (First Nations Information Governance Centre, 2022), the *National Inuit Strategy on Research* (Inuit Tapiriit Kanatami, 2018), *Inuit Quajimajatuqangit* (Tagalik, 2010), and *the Ownership, Control, Access and Stewardship Principles* to which the Manitoba Métis Federation subscribe (University of Manitoba, 2014). These principles also need to underlie Indigenous health workforce data collection, research, and evaluation.

Existing evidence from Canada and international contexts suggests supporting Indigenous communities and organizations to build relationships with research and service delivery institutions aimed at advancing Indigenous-led research activities related to the Indigenous health workforce (Narasimhan & Chandanabhumma, 2021). This is also a key step in strengthening the Indigenous health research workforce. Narasimhan and Chandanabhumma (2021) and Ewen et al., (2019) highlight the following strategies to support Indigenous research trainees:

- Support trainees through structures and mechanisms responsive to social, cultural, emotional, and financial needs.
- Deliver support infrastructure that is attuned to the diversity of expertise, entry pathways, lived experiences, community/familial commitments, and aspirations of trainees.

- Secure trainee access to experienced supervisors and mentors and then support supervisors and mentors, including training of non-Indigenous supervisors in cultural competence and cultural safety.
- Establish a diverse composition of research program members, such as by discipline, level of research experience, and specialist expertise (e.g. on social determinants of health, knowledge translation, services planning, evaluation).
- Deliver research training across the spectrum of research skill sets (e.g. writing, research plans, conference presentations, grant applications, project management).

Strategies to meet the social, cultural, emotional, and financial needs of research trainees may also benefit healthcare practitioner trainees.

LEADING POLICIES AND PRACTICES IN ACTION:

Lainy is a First Nations physician who grew up in a northern community that provides healthcare and other services to many fly-in First Nations communities further north. Her mother was originally from one of these First Nation communities. She would spend her summers in her mother's home community. She knew the doctor in the community well - he had served there for more than a decade. But she had never met a First Nations doctor. Lainy applied to medical school and received scholarships and bursaries to help with tuition costs. She specialized in family medicine and did a rural and remote residency program in another area of Canada. When she graduated, she returned to practise in the northern community where she grew up. In addition to working alongside the family physician who served her mother's home community, she took part in a mentorship group designed for new graduates and became an active member of the Indigenous Physicians Association of Canada. She also started mentoring Indigenous health learners to pass on what she had learned so far on her journey and to pass on the support she had also received as a learner.

2.2 CHAPTER SUMMARY

The focus of this chapter was to describe five leading policies and practices to support the advancement of Indigenous Peoples and the health workforce. Based on the evidence, as well as the expertise and guidance of the Indigenous Health Workforce Committee, this chapter describes how to create space for Indigenous-led health workforce development that respects self-determination and increases the supply of Indigenous healthcare learners and practitioners. To fully understand the supply and perspectives of Indigenous healthcare practitioners, more

Indigenous health workforce data and research evidence, that upholds self-determination and sovereignty principles, is necessary. We thank the First Nations, Métis, and Inuit Peoples who shared their knowledge and expertise to close the gaps of what is available in the published academic literature. To welcome and sustain more Indigenous healthcare practitioners and disrupt health inequities experienced by Indigenous Peoples in the health systems, the entire health workforce requires training to build competence in providing anti-racist, culturally safe care.

CHAPTER 3:
RURAL & REMOTE COMMUNITIES

Leading Policies & Practices

➡ Promoting processes for targeted and facilitated admissions, positive rural and remote exposures for healthcare practitioner learners, and distributed practice-based learning.

➡ Encouraging healthcare practitioners' retention and support through effective incentives, practice-based supports, and community integration.

➡ Creating more responsive, flexible, and context specific models of care, including interprofessional, team-based care enabling practitioners to adjust their scope and skillset to better meet the needs of their communities.

➡ Enabling the mobility of healthcare practitioners with unique aptitude and training for rural and remote practice, in order to fill service gaps, provide valuable locum relief, and offer support when in a crisis.

3.0 CONTEXT

This chapter provides further context to the Canadian rural and remote workforce planning needs (e.g. recruitment, retention), factors underlying critical shortages specific to healthcare practitioner groups, cultural considerations, and workforce mobility across provinces and territories.

3.0.1 Rural and remote demographics of Canada

The distinct characteristics of rural and remote communities across Canada requires special consideration in relation to the health workforce. One in five Canadians live in a rural or remote community (Statistics Canada, 2022c). The demographic characteristics and ethnocultural fabric of rural and remote communities are quite diverse. In the Northwest Territories for example, Yellowknife, which is home to nearly half the territory's residents, has a predominantly (76%) non-Indigenous population, while the majority (89%) of residents in the other 32

communities self-identify as First Nations, Inuit, or Métis (Northwest Territories Bureau of Statistics, 2022). During the spring and summer, families in Nunavut may travel to their summer camps for hunting and fishing (Lee et al., 2022). The diversity of population and service needs contribute to the complexities in planning and delivering public services, such as equitable access to healthcare, employment opportunities, and infrastructure (Statistics Canada, 2022c).

Rurality can be defined in two ways. Statistics Canada (2022c) suggests a rural setting is a region with less than 1,000 inhabitants or a population density of less than 400 people per square kilometre. However, some provinces and territories identify rural settings as any geographic area outside of main urban settings. Remoteness, on the other hand, is based on the geographic proximity to service and population centres (Statistics Canada, 2020). Both are important determinants of socioeconomic and health outcomes.

Rural and remote regions are widely dispersed across approximately 75% of Canada's nine million square kilometres landmass (Statistics Canada, 2022c).

Given the isolated and wide dispersion of these communities, rural and remote regions are generally under-resourced, especially regarding the health workforce.

Additionally, remote communities, many but not all of which are situated in northern parts of Canada, can be difficult to access (e.g. only air, water, or winter road access). The map in Figure 12 identifies the modes of transportation required to access rural and remote communities of Canada. There is a significantly higher proportion of Indigenous Peoples in many of these areas (Advancing Rural Family Medicine: The Canadian Collaborative Taskforce, 2017), as discussed in Chapter 2: Indigenous Peoples & Communities.

Figure 12. Accessibility to rural and remote communities in Canada.

MEANS OF TRANSPORTATION

● Air

● Combination of air, winter road, charter boat and/or seasonal ferry

● Unorganized, no infrastructure

Adapted from the Canadian Agency for Drugs and Technologies in Health (2019)
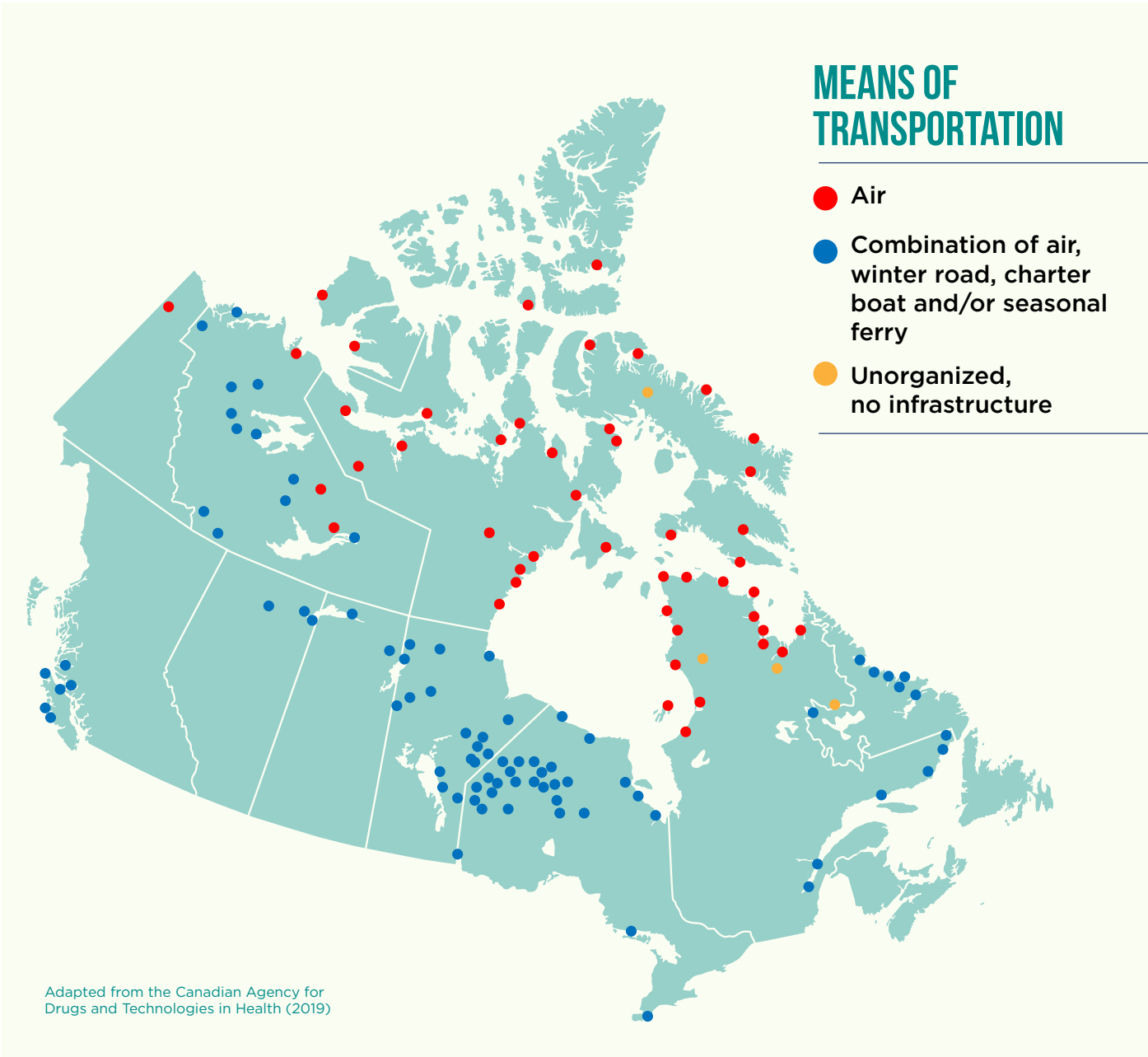
3.0.2 Challenges for rural and remote patients in accessing care

The distance from specialized healthcare services can place stresses on patients as well as healthcare practitioners providing care at these sites. The small size of community populations restricts the number of local healthcare practitioners, and the distance to required services creates challenges for patients in terms of repeated, extensive, and expensive travel, especially when unwell and alone. In the Northwest Territories, accessing all but the most basic health services often involves travel that can last a day or more (Milligan et al., 2023). Patients living

in the circumpolar north may have to travel extensive distances for health services they need, especially if these are specialized services, such as maternity care (Huot et al., 2019; Thiessen et al., 2020).

In British Columbia, it is estimated that patients from rural and remote areas spend an extra $1500 on travel and accommodation to receive specialist and diagnostic care (Kornelsen et al., 2022).

Other challenges along the health service continuum in rural and remote regions include access to mental health services, transfers between appropriate levels of care, and transportation of unstable psychiatric patients (Advancing Rural Family Medicine: The Canadian Collaborative Taskforce, 2017). Preventable and treatable mortality rates are higher in more remote areas than in easily accessible areas (Subedi et al., 2019).

3.0.3 Limitations of rural and remote health workforce approaches

Healthcare practitioners providing care in rural and remote regions require a broad range of skills as they are often expected to treat a diversity of illnesses and perform a wide variety of procedures, often without specialized training (MacQueen et al., 2018). Access to specialty care (e.g. trauma, cardiac, stroke, maternity) is limited, leaving local healthcare practitioners to provide stopgap care, particularly when weather precludes timely transfer. In these challenging situations, practitioners may be required to make judgement calls in providing best 'possible' practice when best practice is not possible.

Culturally safe, virtually-enabled care may positively impact ongoing work through task-shifting among the healthcare practitioners and can contribute to redressing inequities in healthcare access between north and south, urban and rural/remote, and Indigenous and non-Indigenous communities (O'Sullivan & Worley, 2020). However, an unintended consequence of telemedicine is that it may reach relatively healthier and tech savvy patients in urban areas, rather than sicker, digitally-excluded patients in rural and remote communities (Eze et al., 2020).

Canada is not alone with these challenges. Globally, other countries are also struggling to provide high quality care in rural and remote regions in the face of sweeping urbanization. To address these issues, the World Health Organization (2010a) developed policy guidelines to attract and retain healthcare practitioners in underserved rural and remote regions regarding education, regulatory measures, financial incentives, and professional and personal support. These guidelines have been built upon by others (see Abelsen et al., 2020; Esu et al., 2021) and some jurisdictions have begun to implement these strategies in their rural and remote workforce policies. For example, Australia's *2021-2031 Stronger Rural Health Strategy* (Government of Australia, 2021b) has several ongoing initiatives. Canada is also part of *Making*

it Work: Framework for Remote Rural Workforce Stability, an international partnership to recruit and retain healthcare practitioners in rural and remote communities of the northern periphery and arctic regions (European Union, 2019).

3.1 LEADING POLICIES & PRACTICES

The collective findings have been distilled into four evidence-informed, leading policies and practices, introduced at the beginning of this chapter to address health workforce issues facing rural and remote communities in Canada.

3.1.1 Promoting admissions, rural and remote exposures, and practice-based learning

There are several key elements to developing the rural and remote workforce. This includes targeted and facilitated admission to healthcare practitioner education programs, relevant curriculum, and distributed, practice-based learning. This includes both decentralized and embedded[9] practice-based learning. Compulsory service periods, which vary in length and support, have been used extensively, but evidence shows limited effectiveness for retention in the absence of good working conditions and support for practitioners and their families (Beccaria et al., 2021).

Therefore, building the rural and remote health workforce involves provision of multiple intentional supports along and across the education-to-health workforce pipeline that begin at the admissions stage and continue as practitioners advance in their careers (Figure 13).

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[9] Decentralized learning refers to offering learning opportunities in many locations outside of concentrated urban centres, while embedded learning refers to situating learners in rural or remote communities over longer durations.

Figure 13. Processes to promote the recruitment and retention of healthcare learners and practitioners to rural and remote areas. Synthesized from the evidence (Abelsen et al., 2022; Byfield et al., 2019; Calma et al., 2019; Esu et al., 2021; Hogenbirk et al., 2022; Kumar & Clancy, 2021; Russell et al., 2021; Shah et al., 2021; Raymond Guilbault & Vinson, 2017; Yang, Li et al., 2019).
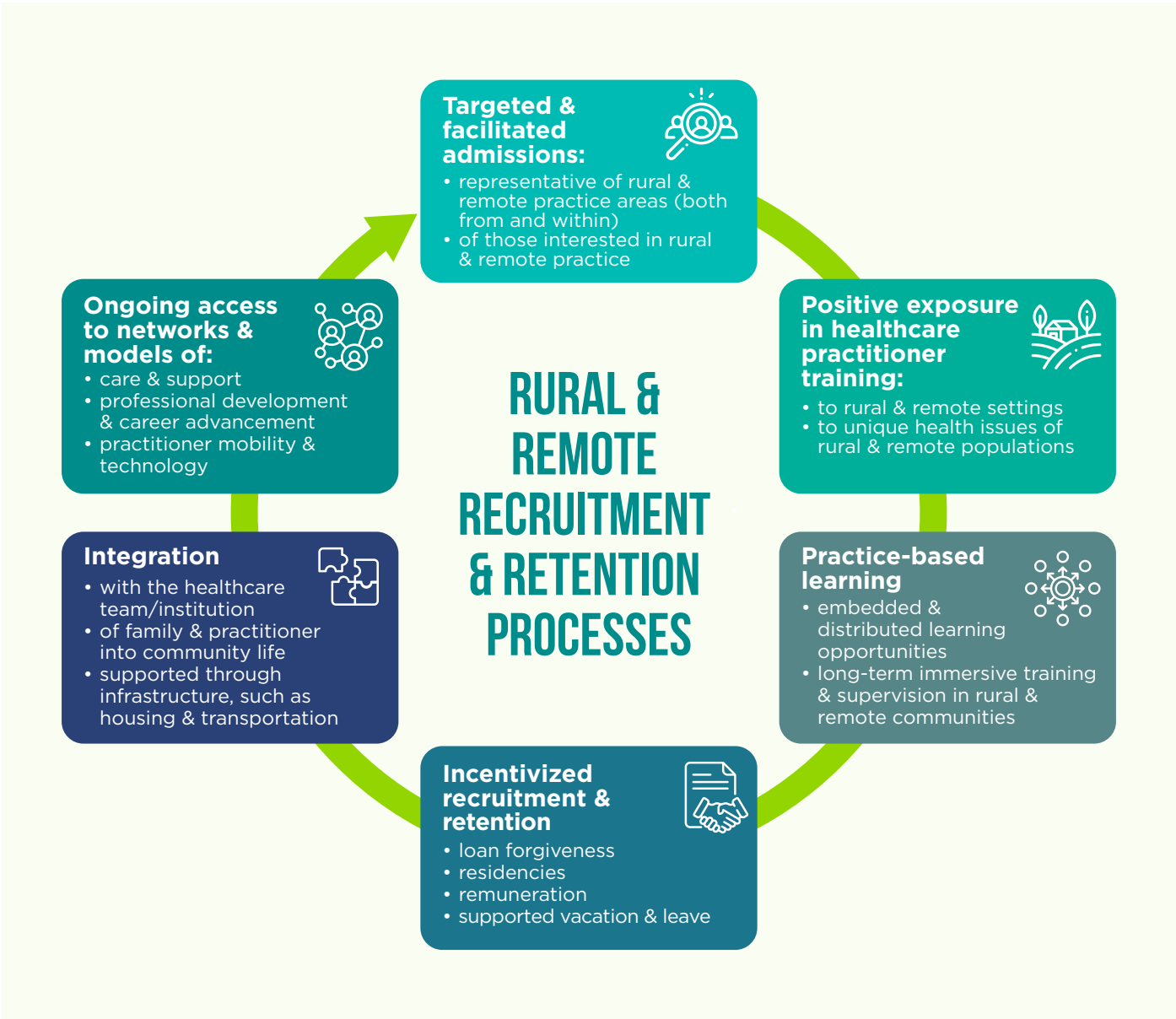
3.1.1.1 Supporting positive rural and remote exposures for health learners

Offering positive rural exposures represents an initial opportunity for medical and other healthcare practitioner educational institutions to support the development of a broader pool of candidates to serve rural and remote communities (Canadian Academy of Health Sciences, 2014; Advancing Rural Family Medicine: The Canadian Collaborative Taskforce, 2017; Holloway

et al., 2020). Recruitment efforts and admissions have historically focused on people with a rural background (Holloway et al., 2020; MacQueen et al., 2018; O'Sullivan et al., 2018) because rural origin was the strongest predictor of choosing a rural practice location (MacQueen et al., 2018). Regardless of origin, evidence suggests that positive, supported, and intentional exposures during health training and the early postgraduate period can bolster the chances of healthcare practitioners choosing to work in rural or remote locales (Abelsen et al., 2022; Esu et al., 2021; Gwynne & Lincoln, 2017; Hogenbirk et al., 2022; Kumar & Clancy, 2021; MacQueen et al., 2018; Obamiro et al., 2020; O'Sullivan et al., 2018; O'Sullivan & Worley, 2020; Russell et al., 2021; Shah et al., 2021; World Health Organization, 2020a). In contrast, mandatory rural placements or experiences were found to result in more negative outcomes with respect to students' intent to work in rural settings (Beccaria et al., 2021).

Many reviews discuss how to create positive educational exposures that encourage students to work in rural and remote settings (Abelsen et al., 2022; Esu et al., 2021; Quilliam et al., 2021; Varela et al., 2021; Raymond Guilbault & Vinson, 2017). Several noted that incorporating longer clinical placements, particularly in primary care, were beneficial (Abelsen et al., 2022; Byfield et al., 2019; Calma et al., 2019; Kumar & Clancy, 2021; O'Sullivan et al., 2018; Raymond Guilbault & Vinson, 2017; Shah et al., 2021). Primary care is typically the first point of contact for patients and can play a more expansive role in rural and remote areas where specialists are less readily available (Holloway et al., 2020). Enablers of this approach include longer and more frequent placements (Abelsen et al., 2022; Shah et al., 2021), while barriers included a lack of staff with expertise and an insufficient number of placements in primary care settings (Calma et al., 2019).

3.1.1.2 Offering rural and remote practice-based learning opportunities

Established training pathways to support, resource, and supervise students on placement in rural and remote settings are likely to impact positively on student learning (e.g. greater cultural competency) and intention to work in rural and remote settings following graduation (Esu et al., 2021; Gwynne & Lincoln, 2017; Obamiro et al., 2020). For example, a report on the ten-year outcomes of the Northern Ontario School of Medicine demonstrated that providing immersive training in the regions they would be serving was an integral mechanism for enabling physicians to practise in rural and remote regions of Ontario (Hogenbirk et al., 2022). Rural immersion programs lasting more than a year demonstrated an increase in early-career medical graduates choosing to practise long-term in rural regions (O'Sullivan et al., 2018).

Similar findings were reported by rural-specific Bachelor of Pharmacy programs implemented in Australia (Obamiro et al., 2020). Kumar & Clancy (2021) reported that undergraduate rural medicine program graduates are 10 times more likely to be retained in rural regions five years after graduation. Findings from this review also noted that graduates of rural-specific medicine programs were significantly more likely to be retained long-term (i.e. 25–30 years)

relative to their peers from nonrural programs. More than half of these rural program graduates served rural communities – compared to 9% of graduates from nonrural programs. They also demonstrated a long-term retention rate of greater than 45%. Similar findings were reported by other reviews (Esu et al., 2021; Russell et al., 2021). Building on the importance of long-term, immersive training, Australia's national *Remote Vocational Training Scheme* (2023) offers a three to four year-long fellowship program for family physicians.

Our engagement participants recommended a cohesive approach to supporting Indigenous students and students from rural and remote areas. This included tailored pre-admission processes, peer mentorship in the learning environment, cohort-based admissions processes (e.g. designating a minimum number of seats), and culture-based specialized supports for Indigenous learners.

The evidence also highlighted the role for technology to facilitate distance education learning for rurally and remotely located students and practitioners and increase opportunities for professional development (Ganann et al., 2019; Kumar & Clancy, 2021; Holloway et al., 2020). The Northwest Territories' Royal Aurora College (2022), for example, offers remote training to become a personal support worker or nurse. This blended approach allows students to learn online and through a network of community learning centres rooted in northern land, tradition, community, and people. Engagement participants proposed establishing satellite campuses, infrastructure support (e.g. housing and Wi-Fi), and decentralized or distributed learning opportunities as actionable steps. As an example, Manitoba's Red River College Polytechnic (2023) nursing program restricts one cohort every three years at their satellite site solely to residents from that area of southern Manitoba.

3.1.1.3 Offering evidence-based incentivizes to improve retention rates

Incentives for encouraging retention can be monetary or non-monetary (Buchan et al., 2000). Financial incentives such as loan repayment programs, subsidized school fees for children, bonuses, in-kind benefits (e.g. house, vehicle), and return of service agreement programs are a predominant strategy used to attract and retain practitioners to rural and remote areas (Russell et al., 2021; Kumar & Clancy, 2021; Mathews et al., 2013; World Health Organization, 2010a). Return of service agreements can include scholarships, bursaries, stipends or other financial incentives for students or practitioners in exchange for service in rural and remote settings for a predetermined length of time (World Health Organization, 2010a). Within and across provinces and territories, these agreements may be differentially applied by region and professional group. However, in all provinces and territories, with the exception of Alberta and Québec, internationally educated healthcare practitioners matched to residency positions are required to complete return of service contracts (Mathews et al., 2022).

A non-peer reviewed survey noted that internationally educated physicians living in Canada were willing to relocate to serve rural and remote regions in Canada (Internationally Trained Physicians of Ontario, 2022). This survey report offers a limited description of the 324 respondents, and it is unclear whether they were in clinical practice and already located in rural and remote areas. Additional peer-reviewed research regarding the location and experiences of internationally educated healthcare practitioners in Canada is needed. Nonetheless, internationally educated healthcare practitioners require support and resources to relocate, retain, and integrate into rural and remote practice (Holloway et al., 2020). A detailed discussion on supporting the integration of internationally educated healthcare practitioners is provided in Chapter 4: Systemically Disadvantaged Populations.

Despite the wide use of these incentivized agreements, there is limited evidence on the effectiveness of this approach in retaining practitioners (Mathews et al., 2013). One report noted a relatively poor rural retention and high turnover after return of service programs that offered visa waivers, or access to professional licence or provider numbers, once the period was finished (Russell et al., 2021). On the other hand, however, Newfoundland and Labrador funded two forms of return of service agreements – bursaries for medical students and residents in specialist programs with shortages (e.g. family medicine, psychiatry) and residency positions for individuals unable to secure a position through the *Canadian Residency Matching Service*. These agreements improved physician retention with more than half of physicians remaining in the province to establish a clinical practice (Mathews et al., 2013). In terms of other healthcare practitioner groups, Ontario's *Learn and Stay Grant* is currently available for up to 2,500 eligible postsecondary students who enrol in priority programs, such as paramedic, practical nursing, and medical lab technician, and commit to working after graduation in the underserved communities where they studied (Government of Ontario, 2022a).

Bursary incentive agreements were found to be more effective than residency position funding (Mathews et al., 2013). A medical student's decision regarding their specialty depends on a number of factors, including financial concerns. Financial remuneration, in turn, influences decisions regarding choice of practice location (Quilliam et al., 2021; Yang, Li et al., 2019). Offsetting students' financial concerns may thus promote choice to train or practise in rural and remote locations. It can be achieved through offering tuition reimbursement (Yang, Li et al., 2019), loan forgiveness, or compensation for travel and accommodation expenses for rural and remote clinical placements (Quilliam et al., 2021).

To effectively assess return of service agreements, evaluations that consider the variability of agreement types, such as those outlined above, may allow meaningful comparisons to be made. Additional considerations when leveraging in return of service agreements are ensuring practitioners are trained to provide culturally safe care, given the high proportion of Indigenous Peoples in these regions. Ways to create a culturally competent health workforce are detailed

in Chapter 2: Indigenous Peoples & Communities and Chapter 4: Systemically Disadvantaged Populations.

3.1.2 Incentives, support, and community integration

This section focuses on retention strategies specific to the rural and remote health workforce, many of which involve incentives. Broadly applicable health workforce retention strategies including the safety of the working environment are detailed in Chapter 5: Support & Retention. There is evidence (Beccaria et al., 2021; Esu et al., 2021; Obamiro et al., 2020; Schubert et al., 2018) that healthcare practitioners might be more willing to stay in rural and remote settings if they have:

- coverage for vacation and parental or educational leave,
- support for partners and families,
- real-time clinical decision-making support (e.g. peer to peer virtual support), and
- career opportunities to develop and advanced skills, manage diverse clinical loads, and engage in professional development and mentorship.

Interventions promoting the development of teaching and research skills were also associated with high levels (75%) of retention in rural practice (Esu et al., 2021). Accordingly, continuing education workshops can promote retention. Esu and colleagues (2021) found that 80% of participants were likely to remain in rural practice because of professional development opportunities. Other enablers of retaining practitioners included access to local training and building professional support networks in the community (Holloway et al., 2020).

Healthcare practitioners are more likely to stay in a community where they experience belonging, feel engaged in the community, and have put down roots (Beccaria et al., 2021; Gwynne & Lincoln, 2017; Hogenbirk et al., 2022; Holloway et al., 2020; MacQueen et al., 2018; Obamiro et al., 2020; O'Sullivan & Worley, 2020). Professional and cultural supports, such as connectedness with peers and mentors, also promote retention (Gwynne & Lincoln, 2017). Specifically, developing relationships between the healthcare practitioner and the Indigenous and/or local community can ensure longevity and retention of a non-rural workforce.

Remuneration alone, however, may not improve retention. Financial incentives could instead be part of a larger, comprehensive strategy to improve the attractiveness of rural practice settings (Esu et al., 2021; Kumar & Clancy, 2021; Russell et al., 2021).

Rather than focus on financial gain alone, more effective strategies focus on improving the quality of life of healthcare practitioners through promoting linkages to the community, partner satisfaction, and work-life balance (Esu et al., 2021; Kumar & Clancy, 2021).

For example, several reports note that practitioners' decisions around servicing rural and remote regions are heavily influenced by their family's needs (e.g. education needs for children, employment opportunities for partners) (Kumar and Clancy, 2021; Holloway et al., 2020; Obamiro et al., 2020). Therefore, the needs of the family unit as a whole, in addition to the individual practitioner, are critical considerations in designing interventions to support retention of the rural and remote workforce. The Government of Canada (2021c) has already developed a *Military Spouse Employment Initiative* to provide military spouses and common-law partners, who are often posted to new communities, with employment opportunities through inventories, pools, and other staffing options. A similar program could potentially be designed for the spouses of healthcare practitioners relocating to rural or remote communities.

In Australia, programs with multiple components have been recommended as retention strategies for primary care physicians (Kumar & Clancy, 2021). These programs collectively address the following rural and remote specific needs:

- staffing,
- infrastructure,
- remuneration,
- workplace organization,
- professional environment, and
- social, family, and community support.

These sentiments have also been echoed in the media, where it has been reported that retaining practitioners requires more than just financial incentives (Dubois, 2022). For example, practitioners also place value on factors such as community fit, the ability for their spouse to secure employment, and a supportive working environment and colleagues.

Long-term community engagement and relationship building was also reported to be critical to rural practitioners' integration within the community they served and can lead to greater community support when practitioners need time away (Holloway et al., 2020). It is noteworthy that the continuity of care exists in tension with the need for rural workforce to take breaks (Holloway et al., 2020). To ensure long-term continuity of care, strategies that enable the retention of workforce are needed (Gwynne & Lincoln, 2017) and require discussions around rationally calculating staffing needs. A discussion on safe staffing is detailed in Chapter 5: Support & Retention.

Although the literature highlights the need for time to engage with the community beyond the role as a healthcare practitioner (Beccaria et al., 2021), it is not clear how much time is required.

Engagement participants proposed the building of networks of care[10] to better coordinate healthcare resources and personnel. Participants cited the *Rural Coordination Centre of British Columbia* (Health Research Institute, 2023) as an example, noting that similar initiatives could be undertaken by provinces, professional associations, and universities.

3.1.3 Creating more responsive, flexible, and context specific models of care

Because of the unique considerations in rural and remote healthcare, there is a consequent need to create more responsive, flexible, and context-specific models of care. This can involve investments in interprofessional, team-based care models that enable practitioners to adjust their scope (detailed further in Chapter 6: Deployment & Service Delivery) and skillset to better meet the needs of their communities. This can also include scaling of virtually enabled care developed in collaboration with practitioners and communities.

3.1.3.1 Expanding roles to provide more comprehensive and efficient models of care

The evidence demonstrates that opportunities for practitioners to work at the top of their scope is a motivating factor that can contribute to retention of the rural workforce (MacQueen et al., 2018; Yang et al., 2021). For example, in the U.S., there was a higher number of nurse practitioners in rural areas in states with the authority to work at the top of their scope compared to those with restricted regulations (Yang et al., 2021). Expanded scopes of practice can also offer opportunities to better meet community needs for primary care and health service management (O'Sullivan & Worley, 2020). In one Australian study, implementing assistants buffered around 17% of certain healthcare practitioners' workload (Somerville et al., 2015). In this context, 'allied health assistants' were support staff who undertook tasks under the supervision and delegation of an 'allied health professional'[11] to provide health services.

The scope of practice of rural family physicians can be tailored to be flexible depending on population size, demographics, and socioeconomic needs (Schubert et al., 2018). Rural generalist medicine training and care is an example of a model currently being developed internationally as part of an integrated response to challenges of delivering care in rural and remote regions (Schubert et al., 2018).

Team-based models of care represent an innovative approach to address challenges unique to rural and remote communities (Abelsen et al., 2020). Given the limited access to specialist colleagues, a team-based approach is a strategy supported by organizations including *Advancing Rural Family Medicine: The Canadian Collaborative Taskforce* (2017) and the Province of Nova Scotia (2022). Such models allow practitioners to actively engage in care networks

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[10] Networks of care refer to interconnected service delivery centres situated within and between facilities in regions to address critical service gaps and ensure patient care continuity (Carmone et al., 2020).

[11] In this study, 'allied health professionals' was a broad term that clustered a range of health disciplines that do not include medicine and nursing, such as audiology, psychology, social work, physiotherapy, occupational therapy, dietetics, and exercise physiology.

both inside and outside of their own communities, broadening their areas of practice. In Canada, leaders from the Government of Northwest Territories (2019) have implemented team-based models in primary care consisting of healthcare aides, nurses, pharmacists, physicians, physiotherapists, and other practitioner roles. Further evidence for team-based models of care is presented in Chapter 6: Deployment & Service Delivery. *Alberta's Rural Health Professions Action Plan* (n.d.) provides funding through their *Financial Incentive for Rural Staff Training Program* for interdisciplinary teams to build collaborative training sessions when funding for such training does not already exist.

Engagement participants also noted that flexibility in staffing models that allow for optimized scopes of practice could provide more comprehensive care in fewer visits. If a patient from a fly-in community has access to an integrated team of healthcare practitioners, they may be less likely to need to fly back and forth multiple times. Participants also suggested new roles for paraprofessionals and developing the skills of existing rural and remote support staff for greater integration within team-based models of care. For example, the Northwest Territories' long standing *Ophthalmic Medical Technologist Training Program* continues to train students to become certified ophthalmic medical technologists and fill service gaps in rural and remote regions (Northwest Territories Health and Social Services Authority, n.d.)

3.1.3.2 Considering the limitations of digital connectivity in delivery of virtually enabled care

Virtually enabled care[12], which includes videoconferencing and remote monitoring, may be a means to improve access to care such as rehabilitation and mental health (Davies et al., 2020; Eze et al., 2020) for patients living in rural and remote settings, while maintaining the quality of care (O'Sullivan & Worley, 2020). The ophthalmology profession has integrated a number of virtually enabled care programs and platforms that have improved service delivery in rural and remote regions, such as in Alberta (Conway et al., 2021). Conway and colleagues (2021) highlighted northern *Alberta's Remote Teleglaucoma Program* in which suspected glaucoma patients underwent a virtual review by glaucoma specialists. This program not only improved patient access to care, but also led to efficient service delivery by reducing visits to retinal specialists by 48%.

Virtually enabled care may also be delivered by linking rural areas to base hospitals via mobile vans which can reach road-accessible rural communities served by solo healthcare practitioners (Conway et al., 2021; Goncalves-Bradley et al., 2020).

Virtual technologies can additionally increase connectedness between rural and remote practitioners to their colleagues and specialists (Goncalves-Bradley et al., 2020).

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[12] Virtually enabled care refers to the use of digital health technologies to support the delivery of care and is a resource for efficient delivery of health services (Borycki & Kushniruk, 2022). For more information see *Chapter 5: Support and Retention*.

Successfully integrating virtually enabled care as a replacement for or as an extension to on-site healthcare practitioners requires a number of critical enablers that take rural and remote connectivity-related challenges into account (Aghdam et al., 2021; Davies et al., 2020; Eze et al., 2020; Goncalves-Bradley et al., 2020; O'Sullivan & Worley, 2020). These include:

- access to high-speed internet service and network coverage,
- supportive infrastructure to address bandwidth limitations,
- a local champion to support community member competence in utilization to prevent further isolation of rural and remote patients, and
- technology and change management support within organizations adopting virtually enabled care.

A more nuanced discussion of the enablers and barriers to incorporating telemedicine and virtually enabled care is detailed in Chapter 6: Deployment & Service Delivery.

The initial introduction of virtually enabled care can be met with hesitance stemming from concerns around digital literacy and maintaining the quality of care as users and healthcare practitioners adjust to virtually enabled care platforms and programs (Davies et al., 2020). Provincial and territorial government representatives saw the potential for better connecting their rural and remote workforce to their patients and recognized that promoting collaboration across healthcare practitioner groups and coordination between sites merits further exploration. In the Yukon, a virtually enabled care approach leveraging Cloud DX technologies to monitor cardiovascular patients with stents has been used to expand the reach of healthcare practitioners into the most remote areas of the territory (Cloud DX Inc., 2022).

Since 2011, *Ontario's Community Paramedicine Remote Patient Monitoring Program* provides care to high needs patients in outlying regions of Southern Ontario (Kawartha Lakes Ontario Health Team, 2021). This includes remote monitoring post-discharge with follow-up by community paramedics. The program was shown to reduce emergency department transport by 31% (Brohman et al., 2018).

Participants also noted that virtually enabled care may improve the continuity of a healthcare practitioner who works itinerantly with a remote community (i.e. physician who visits the community in person monthly, provides virtually enabled care to the same community when not physically present).

3.1.4 Enabling the mobility of healthcare practitioners to fill service gaps

Policies and practices that enable the mobility of practitioners with unique aptitude and training for rural and remote practice can help to fill service gaps, provide valuable locum[13] relief opportunities, offer support to rural communities in a crisis, and deliver virtually enabled

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[13] Locum refers to a healthcare practitioner who temporarily fills in for a practitioner of the same profession (Locums for Rural BC, 2022).

care interprovincially where appropriate (Advancing Rural Family Medicine: The Canadian Collaborative Taskforce, 2017). The *Northern Specialist Locum Programs* provides respite and vacancy locum coverage to help support the recruitment and retention of specialists in Northern Ontario communities (Government of Ontario, 2020). Such strategies can be a starting point for expansion of programs to other healthcare practitioners. They are not a suitable replacement for all specialized services, such as maternity care, where continuity of care is particularly important. When locum relief programs are implemented, attention to the experience of organizational belonging is necessary to ensure retention and positive working relationships (Beccaria et al., 2021; Obamiro et al., 2020).

3.1.4.1 Exploring opportunities for greater flexibility and innovation to improve access to care

Given the limited number of practitioners in various healthcare practitioner groups who are willing or able to work in rural and remote settings and the challenge of accessing locums, there may be a specific role for increased mobility of locums in various disciplines to support retention of existing rural workforce. Greater mobility within provinces and territories is an approach that has been used successfully. For example, Manitoba's Ongomiizwin Health Services, is an interprofessional health services agency where practitioners (e.g. physicians, physician assistants) work part time in both remote and urban areas to provide a range of health services (Rady Faculty of Health Sciences, 2023). According to program administrators, this flexible approach has contributed to significantly longer retention of these practitioners. Nurses practicing in the Ongomiizwin Health Services have also expressed increasing interest in this model. Formal support for such models, including appropriate travel and housing, broadens practitioner mobility to include non-remote and remote settings.

Engagement participants suggested evaluating the feasibility of the structural supports for a pan-Canadian, rurally-focused, mobile workforce organization. They noted that a pan-Canadian organization focused on rural workforce mobility and deployment, with a 'brand', identity, and culture, such as the Red Cross or Doctors Without Borders, could foster retention of a skilled mobile interdisciplinary workforce. Such a workforce could be valuable over the coming several years, particularly when a rapid and sudden influx of healthcare practitioners is needed. Engagement participants described how many communities might benefit from having access to a dedicated crisis team for local systems undergoing extraordinary stress (e.g. fires, floods, COVID-19 collapse). The disciplinary make-up of such crisis teams may depend on the needs of the particular geographic area. In some Australian regions where farming or animal handling is a major occupation such teams might include veterinarians and technicians alongside other healthcare practitioners (Fairles et al., 2020; Stanley-Clarke, 2019).

3.1.4.2 Increasing workforce mobility by reducing jurisdictional barriers

As introduced in Chapter 1: Introduction, a regulated healthcare practitioner must be licensed and registered within a province or territory to provide care (Leslie et al., 2022).

Licensure: refers to the credential to practise within a specific profession within a province or territory and is a prerequisite to register with a regulatory body (Leslie et al., 2022).

Registration: refers to the process of successfully meeting the eligibility requirements (including having a licence) of a professional regulatory body and having the legal authority to practise within a province or territory (Leslie et al., 2022).

Regulated healthcare practitioners: refers to practitioners who are overseen by individual health regulatory colleges. Regulatory colleges ensure that practitioners provide safe, professional and ethical services by setting standards of practice for the profession and investigating breaches of conduct (Government of Ontario, 2018).

Requiring regulated healthcare practitioners to only provide care to patients within the province or territory where they are registered restricts the movement of healthcare practitioners between provinces and territories (Leslie et al., 2022). These mobility restrictions also have significant implications for virtually enabled care and can prevent practitioners from filling service gaps outside of their licensed jurisdictions (Leslie et al., 2022; Vogel, 2020).

Greater mobility of practitioners between provinces and territories has been discussed by several national physician and nurses' associations and unions (Ben Ahmed & Bourgeault, 2022; Canadian Medical Association, 2022). The Canadian Medical Association report (non-peer reviewed) noted that benefits of greater mobility include improved work-life balance and retention rates. It also highlighted the success of a similar strategy implemented by Australia. The report cited that 90% of the 6,700 Canadian physicians surveyed supported a system of licensure allowing for practice across all provinces and territories (Canadian Medical Association, 2022).

The Government of Ontario (2023) recently announced that they will recognize the credentials of healthcare practitioners registered in other provinces and territories, enabling healthcare practitioners from across Canada to work immediately upon arrival in Ontario – without first having to register with the regulatory college. The recently announced *Atlantic Physician Registry* was established to enable greater mobility within the region and may be extended

to other healthcare practitioners (Canadian Broadcasting Company News, 2023). Pan-Canadian licensure was strongly supported by engagement participants who noted that it could constitute a long-term goal for both domestically trained and internationally educated healthcare practitioners.

There was limited evidence on workforce mobility within the Canadian context and no discussion around national or interprovincial licensure as an enabler of mobility. There was no evidence that delineated the nuances between a national portable licensure (which would be broadly applied for all work) and a national locum license (which would allow brief supportive work in communities for services at times of need).

Engagement participants and the literature (MacQueen et al., 2018; O'Sullivan & Worley, 2020) identified three broad domains in which an itinerant workforce, enabled by national licensure, may be valuable:

- to support intermittent service delivery in communities too small to sustain daily services, or special services,
- to support permanent rural and remote workforce to be able to take necessary breaks for vacation, family, illness, and continued professional development, and
- to provide a bridge to fill vacancies when the local workforce is not retained.

3.1.4.3 Improving housing and other infrastructure

The shortage of housing and infrastructure impacts the number of visiting healthcare practitioners that can be in rural and remote communities at any given time.

Addressing the lack of housing and its relationship to health service provision, requires provincial, territorial, and federal governments to work with rural and remote communities to plan and develop processes that account for the infrastructure needs of health service delivery including housing for healthcare practitioners.

For example, the Alberta Medical Association's (2023) *Rural Physician Locum Program* provides medical students and residents fully-serviced rural housing free of rent during their rural placements. Engagement participants also discussed how many visiting and permanent healthcare practitioners also desire access to high-speed internet – not only for work purposes, but also to ensure they can link with family and friends on their off hours. Such services may not always be available in more remote areas or the housing provided.

Laksh grew up in an urban centre and attended graduate training in physiotherapy in another large urban area. During his learning he was able to do some of his clinical training in a smaller rural centre. Despite his urban upbringing, he had cultivated strong interests in skiing, hiking, and other outdoor activities. After working for a couple of years in a physiotherapy clinic in the city - where he mostly treated basic orthopedic injuries, Laksh applied for a position in a rural area of the province. He received support from a liaison at the hospital to find housing subsidized by the health authority for incoming healthcare practitioners. The hospital liaison discovered that Laksh's partner was a social worker and was able to make some introductions to help facilitate her local job search. Once Laksh arrived, he was buddied up with another young healthcare practitioner who had just moved to the area. They began attending the weekly trivia night at the local community centre. Laksh and his partner were provided with a free tour of the tourist attractions in the area, and offered half price ski passes at the local hill. In addition to the financial benefits and community linkages he was making, Laksh enjoyed the range of patients he now saw across multiple units of the hospital.

3.2 CHAPTER SUMMARY

This chapter was focused on identifying strategies to address health workforce challenges experienced by underserved rural and remote communities. Strategies to build the rural and remote health workforce begin with strengthening the education pipeline by recruiting students from rural, remote, and Indigenous communities or who have an interest in practising in these settings. It also involves offering positive rural and remote learning opportunities, including distributed practice-based learning. Retaining healthcare practitioners in rural and remote areas can be strengthened by multi-pronged community efforts by offering financial and other incentives, adequate support and mentorship, and community integration for the practitioners and their families. The evidence highlighted that the integration of team-based models and virtually enabled approaches to care, while recognizing the limitations of high-speed internet access and digital connectivity, could also improve the delivery of care in rural and remote regions. Where retaining full-time healthcare practitioners may be difficult or inefficient, strategies to enable workforce mobility to fill service gaps may be warranted. This may involve reducing barriers to mobility within and between jurisdictional boundaries, and by addressing shortages of short-term housing and infrastructure.

CHAPTER 4:
SYSTEMICALLY DISADVANTAGED POPULATIONS

Leading Policies & Practices

➡️ Increasing the diversity and representativeness of those in training and leadership positions through targeted admissions, recruitment, retention, and support

➡️ Improving the professional integration of internationally educated healthcare practitioners through multi-faceted supports from pre-arrival through to licensure and employment.

➡️ Supporting safe, just, and anti-racist work environments to support the growth of a healthy, robust, and diverse health workforce.

➡️ Enabling healthcare practitioners to provide culturally and linguistically safe care through curricula, training programs, tools, and resources that are reinforced by policy and procedure changes.

➡️ Augmenting data collection and analysis to help evaluate the efficacy of quality improvement approaches for diversity, anti-racism, and cultural safety initiatives.

4.0 CONTEXT

This chapter starts with a discussion of the gaps in providing culturally safe and equitable care that is free of discrimination. We describe how a more diverse and representative health workforce could be more responsive to the healthcare needs of a changing Canadian population. We describe the data, tools, and resources that are needed to create a health workforce that reflects the racial, cultural, age, and gender diversity of the Canadian population, and that better serves the needs of historically underserved groups. We also provide evidence-informed strategies for rapidly integrating internationally educated healthcare practitioners into Canadian healthcare settings. Finally, we offer evidence on the tools and resources for addressing systemic issues of racism and discrimination, which impact the mental health and wellbeing of the health workforce.

Systemically disadvantaged populations and groups are those facing significant barriers to participation in different facets of society, primarily due to policies and practices that produce inequitable access, treatment, and outcomes (Cooper Brathwaite et al., 2022). This marginalization is created by historic and current attitudinal, social, economic, legal, patriarchal, and environmental obstacles, differentially experienced based on factors protected through the *Canadian Charter of Rights and Freedoms* (1982). This includes age, race, ethnicity, language, religion, immigration status, disability, economic status, gender, nationality, sexual orientation, and gender identity.

Systemic disadvantage violates the principles of social justice, which is the equitable distribution of opportunities, resources, and privilege within a society (World Day of Social Justice, 2022). Social justice and human rights are strongly linked concepts. The overarching goal of social justice for all is to promote fairness and equity (Pan American Health Organization, 2019).

Systemic disadvantage is embedded in legislation, policies, and processes, and results in unequal access within education, health, social, and other systems. The creation of disadvantage leads to advantage, or privileged access to goods, services, and opportunities. Many individuals are subjected to multiple, intersectional forms of oppression, such as those who are queer and disabled (Hassen et al., 2021). Gender also intersects with race, class, age, and categories such as professional status to produce gradients of power and privilege (Aspinall et al., 2022). These examples highlight the importance of critical perspectives on the dynamics of power within the health workforce. The wheel of privilege (Figure 14) illustrates how different aspects of identity intersect and can lead to privilege, indicated at the centre of the wheel, or disadvantage, at the outskirts of the wheel.

Figure 14. The wheel of privilege.

Adapted from the Canadian Institute of
Health Research (2021a) and Duckworth (2020)
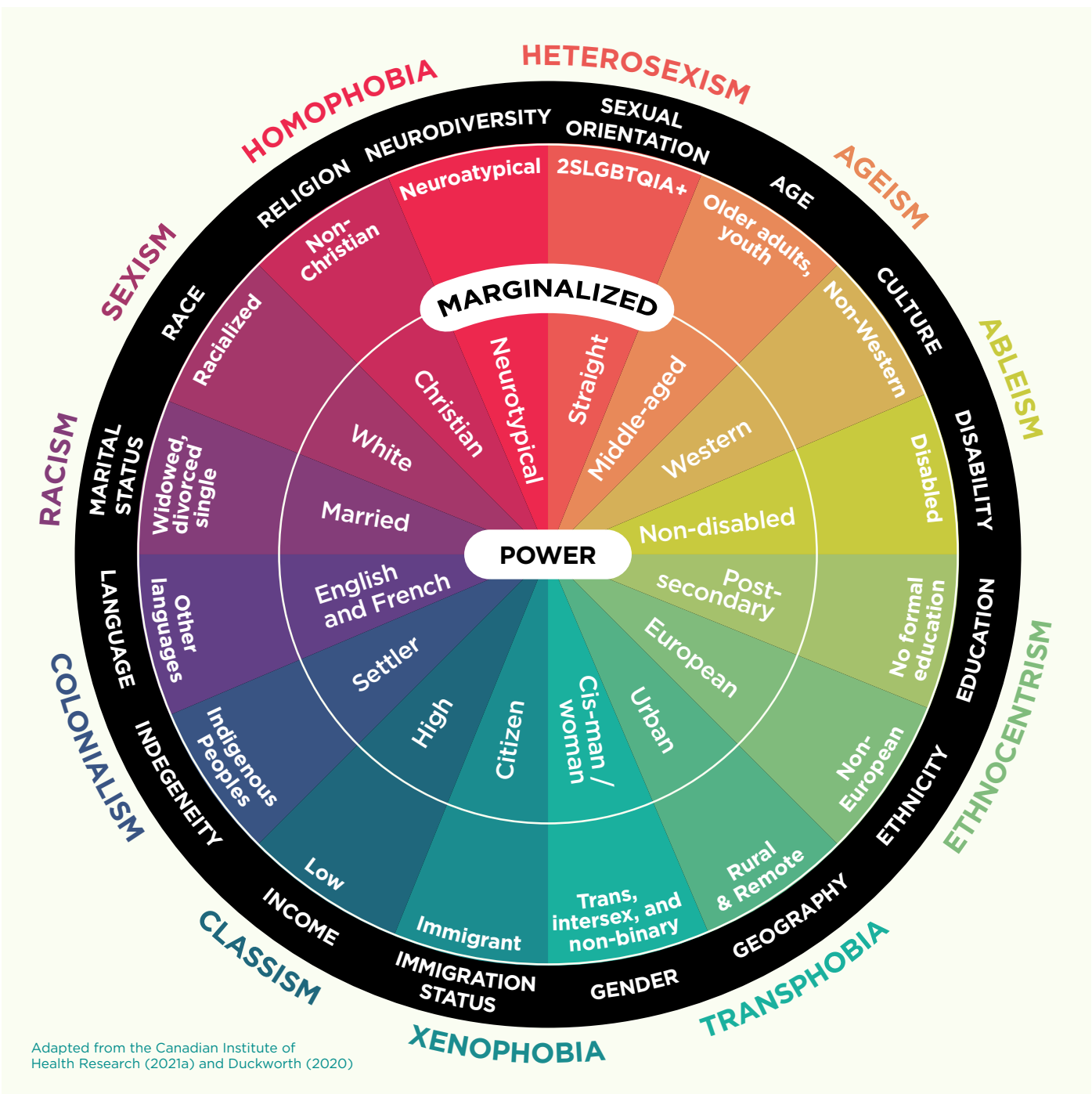
Both healthcare practitioners and patients can experience discrimination and systemic disadvantage within health systems. The sections below cover the experiences of both these groups, starting with healthcare practitioners.

4.0.1 Discrimination and structural barriers faced by healthcare practitioners

Ample research has documented healthcare practitioners' experiences of racism and systemic discrimination in the workplace. A review that included a Canadian study found that nurses can experience discrimination and racism from patients, colleagues, and the institutions where they work (Schilgen et al., 2017; Vaismoradi et al., 2022). Asian Canadian and American healthcare practitioners reported that they experienced a significant increase in microaggressions, discrimination, and threats of violence during the COVID-19 pandemic (Shang et al., 2021). Internationally educated healthcare practitioners and ethnic minority nurses have also reported experiencing racism and discrimination from patients and colleagues (Nourpanah, 2019). A recent survey of Black Ontario physicians reported that more than 70% had negative experiences based on their race (Mpalirwa et al., 2020).

Discrimination and racism took many forms such as stereotyping in the form of assumptions that racialized staff are housekeeping or personal support workers, and having their competency questioned by patients.

Discrimination from peers and superiors included behaviours such as being excluded, reduced access to opportunities, lack of support and mentorship, and lack of recognition for their work compared to their peers. A non-peer reviewed survey of Black nurses in Ontario found that more than 88% reported experiencing racism or discrimination (Registered Nurses Association of Ontario, 2022).

Racialized[14] women physicians experience more discrimination than racialized men or white women physicians (Filut et al., 2020). Experiencing discrimination and racism is associated with factors such as (Filut et al., 2020; McKenzie, 2003; Public Health Agency of Canada, 2020; Vaismoradi et al., 2022):

- emotional stress,
- poor mental health,
- psychological distress,
- anxiety and depression, and
- poor physical health outcomes.

Sexist and racial or ethnic microaggressions contribute to burnout among healthcare practitioners (Sudol et al., 2021). In addition, discrimination can lead to pressure to take on diversity-related tasks ('minority tax') which adds to workload, and feelings of isolation, fatigue, hurt, invisibility, and high turnover (Filut et al., 2020; Schilgen et al., 2017).

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[14] The authors use the term "physicians of colour" to refer to the following groups: "Asian, Black or African American, Hispanic or Latino, American Indian or Alaskan Native".

Discrimination includes and extends beyond racism. Research on the experience of 2SLGBTQIA+ healthcare practitioners is sparse but indicates that they can experience harassment and discrimination from fellow practitioners and patients (Eliason et al., 2017). A recent review that included Canadian studies reported that workplace disability-related discrimination (ableism) is prevalent in healthcare practitioner groups and serves to discourage people with disabilities from entering or completing education and training (Lindsay et al., 2022). According to the authors, ableism is also associated with depression and poorer health for practitioners with disabilities. It can involve inaccessible environments, physical barriers, and lack of support in the work environment.

Older and younger adults may also be disadvantaged in the workplace because age discrimination reduces both younger and older people's commitment to their communities and organizations (World Health Organization, 2021b). Although the number of women in highly paid health occupations globally has increased since 2000, women compared to men are less likely to have full-time employment and are paid significantly (about 11%) less than men (World Health Organization, 2019a).

Individuals belonging to systemically disadvantaged populations experience higher rates of workplace violence and harassment compared to other Canadians (Berlingieri et al., 2022). Hostility, harassment, bullying, and violence in healthcare is both gendered and racialized and often goes unreported. The many forms of workplace violence are discussed in Chapter 5: Support & Retention.

Internationally educated healthcare practitioners face a particular set of structural barriers as they attempt to integrate into the Canadian health workforce. Many have reported that the skills they have acquired in their place of origin are often undervalued by their Canadian-trained peers, and their previous work experience was not recognized at the institutional level when promotions were considered or when salaries were established (Balante et al., 2021). This has led some to feel like their status as healthcare practitioners was undermined (Bond et al., 2020). For example, although migrant nurses can experience stress due to lack of sufficient time and support for acculturation, the review authors concluded that discrimination is the leading cause of impaired health amongst migrant and minority nurses (Schilgen et al., 2017).

4.0.2 Gaps in the provision of culturally safe and unbiased care

Racialized populations have reported discriminatory practices such as unequal health access, not receiving proper assessment, being viewed as inferior and belittled, and having their symptoms ignored (Mahabir et al., 2021). As described in Chapter 2: Indigenous Peoples & Communities, Canadian research reveals how racism, discrimination, and stereotyping limits access to medical care for Indigenous populations and negatively affects their health (Kitching et al., 2020; Nelson & Wilson, 2018). Transgender Canadians have experienced an inability to

access services due to a lack of knowledge from healthcare practitioners about their health needs, as well as discrimination, lack of privacy, and fear of being outed which can result in threats of violence within the broader community (Brooker & Loshak, 2020). Moreover, Chang et al., (2020) found that ageism is significantly associated with adverse health and with denial of access to health services. Neurodiverse populations also face discrimination. A recent Canadian Academy of Health Sciences assessment (2022) found that while Autistic people have more concurrent health conditions than their peers, they face difficulty receiving care from practitioners with specialized knowledge of autism.

Authors, de Moissac and Bowen (2018 documented how language barriers from Francophone minority patients residing outside Québec influenced their healthcare experience. Most of the Francophones interviewed shared experiences where they believed language barriers had contributed to poorer quality of care, such as misdiagnosis, delayed treatment, or an incomplete understanding of their condition (de Moissac & Bowen, 2018). Furthermore, most participants (71%) reported a limited availability of interpreter services. Similarly, in a recent study of Syrian refugees in Canada, participants identified a lack of proficient and timely interpretation services as a critical problem that hindered their use and access to health services (Guruge et al., 2018).

There is evidence that some health outcomes are more likely to be successful when patients and practitioners are from similar cultural backgrounds (Greenwood et al., 2018; 2020; Mahase, 2020; Gahagan & Subirana-Malaret, 2018). Yet there is no standardized population-based data collected consistently about the cultural, linguistic, or ethnic diversity of the health workforce in Canada. Consequently, it is difficult to capture the full representation of systemically disadvantaged practitioners within the Canadian health workforce. However, according to the Canadian Institute for Health Information (2022b), internationally trained healthcare practitioners make up a significant proportion of the Canadian health workforce, including between a quarter and a third of healthcare practitioner groups, such as physicians, physiotherapists, and pharmacists. In the United States between 2000 and 2015, African Americans, Latinos, and Native Americans/Alaska Natives represented 31% of the country's population, but only 12% of practising physicians (Kelly-Blake et al., 2018). Furthermore, in Canada, less than 5% of healthcare practitioners report having a disability, which is among the lowest representation of the working population with disabilities (Lindsay et al., 2022).

4.1 LEADING POLICIES & PRACTICES

The following evidence-informed leading policies and practices, which were introduced at the beginning of this chapter, serve to address the challenges faced by both systemically disadvantaged healthcare practitioners and patients.

4.1.1 Increasing diversity and representativeness of learners and leaders

Increasing the diversity and representativeness of healthcare practitioners, particularly among leaders, educators, and trainees, helps to overcome racism and discrimination directed at healthcare practitioners and at disadvantaged groups. Discrimination leads to underrepresentation of individuals from disadvantaged groups throughout the healthcare system, leading to an even greater exclusion at the leadership level (Karani et al., 2017).

The literature suggests that a diverse health workforce creates a more dynamic learning environment, and therefore enhances the delivery of needed health services to underserved populations (Kelly-Blake et al., 2018). Research also indicates that healthcare practitioners from disadvantaged communities are more likely to serve the communities they are from (Xierali & Nivet, 2018). However, recruitment initiatives cannot occur with requirements that healthcare practitioners from systemically disadvantaged backgrounds serve specific communities, as this in itself is a form of discrimination (Kelly-Blake et al., 2018).

While much of the research evidence on increasing diversity and representativeness of trainees and leaders is related to physicians, there is relevance for other healthcare practitioner groups.

4.1.1.1 Increasing equitable access for systemically disadvantaged trainees

Medical training programs that rely on metric scores from tests such as the medical college admission test (MCAT) can disproportionately exclude applicants from underrepresented backgrounds (Ware et al., 2021). This includes for admission to medical school (e.g. because of bias in the MCAT) or for residencies (e.g. because of bias in clerkship evaluations or the United States medical licensing examinations; Ware et al., 2021). Moreover, educational indebtedness from fees for clinical rotations and residency applications limits underrepresented applicants from certain medical residency specialties (Ware et al., 2021). There are efforts underway to address these barriers. For example, the Queen's University's *Accelerated Route to Medical School* (Faculty of Health Sciences, n.d.) accepts Black and Indigenous secondary students who meet academic requirements into an enriched two-year undergraduate program. Then, if interested, they may receive an offer of admission for direct entry to medical school – without an MCAT requirement.

Multi-pronged approaches to increase minority representation from the research evidence include (Kelly-Blake et al., 2018; Ware et al., 2021):

- pipeline programs to attract and prepare students at an early stage in their education,
- employment equity[15] laws to create a diverse workforce that will address and decrease the health disparities in underserved communities,
- admission policies focused on qualitative and holistic assessments of applicants rather than test scores alone, and
- implicit bias training including interventions that use the Implicit Association Test for selecting committee members.

Employment equity programs were identified as an effective tool for attracting and retaining a diverse workforce (Kelly-Blake et al., 2018; Koea et al., 2020). Although they have been found to be effective at increasing diversity in undergraduate medical programs, evidence of the success of these programs at postgraduate levels was scant (Koea et al., 2020). Employment equity programs are most effective when coupled with preparation, support, and mentorship from initial training through to active service and leadership (Aseffa et al., 2021; Koea et al., 2020). For example, in Ontario, the experiences of midwifery students who identified themselves as Black, Indigenous, or a person of colour suggested there is need for greater racial, cultural, and religious representativeness (Aseffa et al., 2021). These results echo findings from other regions on the benefits of increasing diversity to help mitigate experiences of racism.

Engagement participants suggested that university admissions adopt policies that increase diversity of Indigeneity, race, gender, sexual orientation, income, ability, and language. To address this, the University of Toronto implemented its *Black Student Application Program* in 2017 (University of Toronto MD Program, 2023a). As reported in the media, this program has led to a steady increase in the number of Black medical students (Collie, 2021).

In addition to the Indigenous healthcare practitioner associations described in Chapter 2: Indigenous Peoples & Communities, other organizations have been formed to support racialized students and healthcare practitioners. These include the Canadian Black Nurses Alliance (2022) and the Black Physicians of Canada (2022). These groups offer a number of tools and supports, including:

- scholarships to students interested in pursuing healthcare careers,
- mentorship for active healthcare practitioners,
- leadership development opportunities, and
- resources for mental wellness.

Engagement participants also supported multiple approaches that address participation barriers such as dedicated pathways, peer support, mentorship, and loan forgiveness for

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[15] 'Employment equity' is the preferred term in the Canadian context (Employment Equity Act, 1995). The academic reviews used the term 'affirmative action.'

systemically disadvantaged students. The *Community of Support* program offered through the University of Toronto's MD program (2023b) is an ongoing, collaborative initiative that provides support to students during medical school who are Indigenous, Black, Filipino, economically disadvantaged, or those who self-identify as having a disability.

4.1.1.2 Enhancing diversity in health leadership by addressing equity issues

Health leadership can occur in multiple ways, including clinical and non-clinical roles in health organizations, government, and academia.

Increasing the diversity and representativeness within the health workforce, especially in these leadership positions, is a primary strategy to address systemic racism and discrimination.

And yet, there continues to be limited gender, racial, and other forms of diversity in senior health leadership positions (Bourgeault et al., 2018).

Increasing gender diversity in health leadership

In Canada for many years, women have lagged behind men in terms of holding health leadership roles (Glauser, 2018; Yang, Rhee et al., 2019). Some reviews have found that women are commonly excluded from health leadership, decision-making, and policy development positions (Ayaz et al., 2021; Bucknor et al., 2018; Glauser, 2018). In contrast, in a recent study of more than 3,000 health leaders in Canada, gender parity was present across Canada's largest hospitals and all provincial and territorial health ministries (Sergeant et al., 2022). Gender parity, however, does not necessarily equate to gender equity, particularly in healthcare where the majority of the workforce is women.

Elsewhere, Canadian research reveals a gender pay gap in medicine that is not explained by women working fewer hours or less efficiently but, as the authors explain, relates to systemic biases in medical school, hiring, promotion, clinical care arrangements, fee schedules, and other societal structures (Cohen & Kiran, 2020). Moreover, significant barriers for women physicians are associated with balancing work and family, working hours, work environments, discrimination, and gender bias (el Arnaout et al., 2019; Tricco et al., 2021; World Health Organization, 2022b). For example, during COVID-19, women healthcare practitioners found it difficult to remain involved in leadership, administration, or research due to increased caregiving responsibilities (Morgan et al., 2022). These factors are rarely considered in workforce planning as is described in Chapter 7: Planning & Development. These findings emphasize the need for policies and strategies that take into account societal norms and gender equity within health workforce planning (Ayaz et al., 2021).

The World Health Organization (2021c) recommends that actions at all levels of government are needed to build greater gender equity in health leadership positions. Recommended actions

include that governments create legal foundations for gender equity, such as:

- equal pay for equal work,
- transparency, mandated through publishing of gender pay gaps,
- instituting family friendly policies such as parental leave and enabling flexible working practices, and
- laws against violence and sexual harassment at work.

Furthermore, within workplace systems and culture, important measures include visible and accountable senior leaders that champion gender equity, set and achieve targets for gender parity, and track and publicize other key metrics (World Health Organization, 2021c). Workplaces can enable women to achieve through establishing formal and informal networks for women's leadership development, developing peer support mechanisms, and mentoring women through the education pipeline (Tricco et al., 2021; World Health Organization, 2021c; World Health Organization, 2022b).

Increasing racial diversity in health leadership
While inroads have begun in gender diversity, racial diversity in health leadership still lags. For instance, a recent review of executives in the hospital sector and among provincial and territorial leaders found racialized executives still remain underrepresented, with a representation gap of between 7 and 28% across analyzed provinces (Sergeant et al., 2022). An analysis of the diversity of health leadership in Ontario, found that only 16% of senior management positions were held by racialized individuals (Sinha et al., 2013). The authors also found that more than 40% of regional health authorities and community agencies had no racialized individuals in senior management. While not specific to only health professions, there are also diversity gaps in university leadership positions in Canada. For example, nearly 99% of university professors are non-Indigenous (Diversity Gap Canada, 2019). These analyses could be strengthened by standardized race-based data for the health workforce (see Chapter 7: Planning & Development).

To address these gaps, social norms and stereotypes require inclusion and critical discussion in healthcare practitioner curricula. This may include targeted campaigns to attract underrepresented groups and address conscious and unconscious bias and stereotypes (World Health Organization, 2021c). Engagement participants noted the importance of leadership and selection committees to reflect values of equity, diversity, and inclusion in both their membership and the groups they oversee. They also supported the need for greater collection of gender and race-related health workforce data.

4.1.2 Integrating internationally educated healthcare practitioners

Internationally educated healthcare practitioners (IEHPs) are a valuable and underutilized part of the Canadian health workforce. According to a recent Statistics Canada report, skilled newcomers are underutilized in the health sector – 47% of skilled newcomers with a health education from abroad are unemployed or underemployed in non-health jobs that require only a high school education (Hou & Schimmele, 2020).

The World Health Organization's (2010b) *Global Code of Practice on the International Recruitment of Health Personnel*, which was signed by Canada, discourages active recruiting from countries facing critical health workforce shortages. The code prioritizes policies to better support the professional integration of IEHPs who already reside in the country.

4.1.2.1 Streamlining integration by improving licensure and registration processes

There are many barriers to licensure and registration processes that hinder rapid integration of internationally educated healthcare practitioners (IEHPs) into the health workforce (Covell et al., 2016; Davda et al., 2018; Eklund & Bailit, 2017; Kalu et al., 2019; Safari et al., 2022). For instance, the licensure process can be inconsistent with few resources available to aid IEHPs (Safari et al., 2022), the systems to recognize international education and bridge training are often lacking (Davda et al., 2018; Safari et al., 2022), and pre-registration internship programs often appear to be implemented on an *ad hoc* basis (Kalu et al., 2019) leading to stress and frustration among IEHPs.

Issues with licensure and registration are compounded by inaccurate information prior to arrival, with recruiting agencies sometimes misrepresenting the educational and competency requirements needed to join the health workforce upon immigration (Safari et al., 2022). This practice can lead to unrealistic expectations exacerbated by inconsistent levels of organizational support on arrival (Bond et al., 2020). A Canadian review noted these challenges, suggesting that IEHPs are not always able to begin work upon arrival to Canada due to a lack of information or access to exams when overseas, or misinterpreting the immigration point system as a measure of their ability to register and work immediately upon arrival (Covell et al., 2016).

Given these challenges, there are many opportunities to enhance the transparency, fairness, timeliness, and associated costs of licensure recognition and bridge training of IEHPs. Researchers have suggested increasing the level of institutional support for new arrivals, developing fair systems to recognize international education and training, and establishing clear rules with necessary resources to accredit previous qualifications and expertise (Bond et al., 2020; Davda et al., 2018; Safari et al., 2022).

In 2022, in partnership with Immigration, Refugee, and Citizenship Canada, the Children's Hospital of Eastern Ontario expanded the focus of their newcomer navigator program to IEHPs. Their *National Newcomer Navigation Network* provides an online hub for IEHPs to access regional resources such as navigator services, training, bridging, and education programs, communities of practice, and settlement toolkits. Additionally, the *Foreign Credential Recognition Program* is currently funding projects that aim to remove barriers to foreign credential recognition, provide relevant work experiences, and facilitate labour mobility (Employment and Social Development Canada, 2022a).

There are also pockets of IEHP integration support offered across Canada and by practitioner group. For example, the *Pre-Arrival Supports and Services (PASS)* program provides 100 hours of virtual programming on labour market entry to internationally educated nurses prior to their arrival to Canada (Centre for Internationally Educated Nurses, 2019). Prince Edward Island is currently partnering with Nova Scotia to run a *Registered Nurse Bridging/Re-entry Program* (Government of Prince Edward Island, 2023). They are working towards expanding this program to include academic centres and collaborations with New Brunswick to create a stronger pipeline. In Manitoba, the *Internationally Educated Nurses Project* offered through Red River College offers mentorship opportunities to help with required language assessments (Government of Manitoba, 2021). The *Medical Laboratory Technician Gateway Canada Project* provides training for entry of science degree holders and internationally educated medical laboratory technicians into the workforce (Canadian Alliance of Medical Laboratory Professionals Regulators, 2023). Similar programs could be spread and scaled to other healthcare practitioner groups.

Engagement participants suggested expediting sustainable funding for bridging programs available to IEHPs immediately upon arrival as a promising practice. They also supported the development of a single pan-Canadian point of entry for licensure applications and the harmonization of a pan-Canadian approach for each healthcare practitioner group that upholds official bilingualism. Additionally, engagement participants suggested the digital transformation of the licensure process as another potential intervention to improve integration of IEHPs.

4.1.2.2 Facilitating cultural integration through language and cultural supports

Internationally educated healthcare practitioners (IEHPs) benefit from support programs that aid them in integrating into a new culture and healthcare system. Language and cultural issues can be significant barriers for integration by IEHPs (Aseffa et al., 2021; McKitterick et al., 2021; Safari et al., 2022), and many of them may struggle to understand culture-specific verbal and nonverbal expressions (Balante et al., 2021; Kalu et al., 2019). Due to these challenges, IEHPs felt like outsiders because of communication difficulties and cultural differences in their new countries, both in general and at their place of work (Covell et al., 2016; Balante et al., 2021; Kalu

et al., 2019; Safari et al., 2022). Issues of isolation are worsened by discrimination and deskilling (Balante et al., 2021; Bond et al., 2020; Davda et al., 2018).

Promising practices for mitigating language issues included shifting from a purely language-developed competency to a broader cultural language one that begins upon arrival (Kalu et al., 2019; Safari et al., 2022), ongoing formal language support from the organization (Bond et al., 2020; McKitterick et al., 2021), and informal support from colleagues and mentors to develop the required cultural and language competency to integrate effectively (Kalu et al., 2019). The language skills that IEHPs bring could be leveraged by the Canadian health system to promote language concordant care, in which healthcare practitioners and patients communicate in a shared language, as is discussed later in this chapter.

Although there were many reviews that examined the integration of IEHPs (Balante et al., 2021; Bond et al., 2020; Davda et al., 2018; McKitterick et al., 2021; Kalu et al., 2019; Safari et al., 2022), the overwhelming majority focused on the experiences of doctors and nurses, and only two of the reviews focused primarily on the Canadian context (Covell et al., 2016; Kalu et al., 2019).

4.1.3 Ensuring safe, just, and anti-racist work environments

Safer work environments free from racism, sexism, ageism, and all other forms of discrimination can be created through the application of anti-oppression and social justice frameworks to support the growth of a robust, healthy, and diverse workforce.

4.1.3.1 Integrating policies to address racism and other forms of discrimination

To buffer the negative impacts of discrimination, healthcare practitioners indicated the importance of personal and organizational supports (Filut et al., 2020). Without it, some participants of this study indicated their intention to leave an organization after experiencing racism and discrimination.

Policies and practices that seek to dismantle pervasive institutional and systemic racism and discrimination could be addressed through a multi-level approach that targets organizational and individual-level change (Aseffa et al., 2021; Hassen et al., 2021; Filut et al., 2020). For example, intergenerational contact interventions in the workplace reduce ageism against older workers and may also reduce ageism behaviour amongst young people (World Health Organization, 2021b). Hassen and colleagues (2021) recommend:

- using explicit anti-racism and anti-discrimination language,
- establishing leadership approval and commitment,
- investing in dedicated funding and resources,
- involving members of racialized, systemically disadvantaged populations to create interventions and educational materials,

- hiring facilitators from specific racialized groups,
- establishing ongoing, meaningful community partnerships,
- using a multi-level, long-term approach with interventions targeted at systemic, organizational, and interpersonal levels simultaneously,
- developing equity policies and procedures regarding race and other forms of discrimination and in terms of hiring, retention, and promotion,
- linking mandatory anti-discrimination work (including staff education and training) to broader systems of power, hierarchy, and dominance, and
- including ongoing monitoring, evaluation, and accountability of the existing programs, interventions, and policies.

4.1.3.2 Addressing gender-based pay inequity

Gender-based pay inequity has been of considerable recent interest across professions, but particularly in medicine. A review of 46 studies across 10 countries found a gender pay gap where physicians who identify as women earn significantly less than men, despite having similar work characteristics (Hoff & Lee, 2021). This earnings gap, often reaching tens of thousands of dollars annually, was persistent across both medical specialty and country, and seemed to be unabated.

Recently published Canadian research confirms these findings. Cohen and Kiran (2020) found the pay gap between women and men is consistent both within and between medical specialties and could not be fully explained by fewer working hours for women physicians. Merali and colleagues (2021) similarly revealed a systemic bias in Ontario fee-for-service care, again with women claiming less earnings than men overall, and across specialty.

4.1.4 Enabling the provision of culturally and linguistically safe care

To address the multiple system-level barriers to equitable participation in the health workforce, a comprehensive strategic approach could ensure healthcare practitioners provide non-discriminatory, culturally, and linguistically safe care (Handtke et al., 2019; Hassen et al., 2021; Jongen et al., 2018; Mental Health Commission of Canada, 2016). There is growing interest in identifying solutions to address these challenges; however, the evidence base on culturally competent training that addresses racism, cultural generalizations, and stereotypes is limited (Hassen et al., 2021; Jongen et al., 2018). The concepts of cultural safety and humility are discussed in Chapter 2: Indigenous Peoples & Communities.

4.1.4.1 Providing equitable access to culturally safe care

Constructions about culturally and linguistically diverse people held by practitioners influence their attitudes and behaviours (e.g. racism, institutionalized discrimination) and pose a barrier to equitable care (Dune et al., 2018).

Cultural competency training represents one component of ensuring practitioners provide culturally safe care (Mental Health Commission of Canada, 2016). This training is best framed within the context of system-level factors that contribute to health inequities.

Culturally competent care can be successfully implemented provided that it occurs across individual, interpersonal, organizational, and political levels (Handtke et al., 2019; Hassen et al., 2021).

Embedding cultural safety training in mandated professional development

Several reviews highlighted the need for cultural safety education programs within educational curricula and training programs (Dune et al., 2018; Joo & Liu., 2020; Handtke et al., 2019; Hassen et al., 2021; McCann & Brown, 2018; Minnican & O'Toole., 2020; Pitama et al., 2018; Sekoni et al., 2017; Tremblay et al., 2020; Wilson et al., 2022). They suggested more time be spent discussing health issues affecting systemically disadvantaged populations such as Indigenous, Black, other racialized populations, and 2SLGBTQIA+ individuals, and encouraging continued professional development to identify and manage personal biases.

Continuing education and training ensure practitioners remain up to date within an evolving multicultural society (Dune et al., 2018). Continued participation is particularly important for practitioners who did not receive any cultural competency training during or since their preparatory education (Dune et al., 2018; McCann & Brown, 2018; Sekoni et al., 2017). Similar education and training programs have been proposed or implemented to improve the delivery of culturally competent healthcare to individuals who identify as 2SLGBTQIA+ (Kirubarajan et al., 2021; McCann & Brown, 2018; Sekoni et al., 2017). A best practice includes developing curricula offered on an ongoing or embedded basis that (Kirubarajan et al., 2021; McCann & Brown, 2018; Sekoni et al., 2017):

- incorporates the latest evidence and key terminology,
- explains stigma and discrimination and sexuality and sexual concerns,
- provides communication techniques for discussing sex and specific health issues, and
- discusses health disparities relevant to the 2SLGBTQIA+ community.

These strategies can be broadened to other underrepresented groups and racialized individuals and can include addressing implicit biases that negatively impact the provision of care (Hostetter & Klein, 2018). Specific components recommended for anti-oppression training programs are synthesized in Figure 15.

Figure 15. Effective aspects of anti-oppression training programs regarding systemically disadvantaged populations. Synthesized from the evidence.

Well-designed, multi-pronged training programs[10]

Evaluation of training outcomes[6]

Unique systemic health impacts[9]

Intersectionality training[1]

Critical power & decolonization training[8]

Participation with systemically disadvantaged groups[2]

Cultural humility training[7]

Cross-cultural placements & supervision[3]

Learning offered across multiple sites & sectors[5]

Just & anti-discriminatory leadership[4]

1   Alpert et al., 2020; Hassen et al., 2021
2   Jones et al., 2017; Sekoni et al., 2017
3   Dune et al., 2018; Hostetter & Klein, 2018
4   Chen et al., 2020; Hostetter & Klein, 2018
5   Wilson et al., 2022
6   Filmer & Herbig, 2018; Jongen et al., 2018; Pitama et al., 2018
7   Agner, 2020; Alpert et al., 2020; Lekas et al., 2020
8   Pitama et al., 2018; Wilson et al., 2022
9   Dune et al., 2018; Joo & Liu, 2020; Handtke et al., 2019; Hassen et al., 2021; McCann & Brown, 2018; Minnican & O'Toole, 2020; Pitama et al., 2018; Sekoni et al., 2017; Tremblay et al., 2020; Wilson et al., 2022
10 Hassen et al., 2021

A central aim of training is to shift healthcare practitioner perspectives and support learners as they explore and resolve possible racist and intolerant attitudes, and alter perspectives through continued growth (Dune et al., 2018; Hassen et al., 2021; Minnican & O'Toole, 2020). This can lead to a deeply personal shift in interpretations of one's worldview (Dune et al., 2018; Hassen et al., 2021; Minnican & O'Toole, 2020; Wilson et al., 2022). The learnings lead to a greater understanding of how systemic oppression influences the health of populations with multiple, intersecting stigmatized identities, as well as the unique health needs of systemically disadvantaged populations.

Handtke and colleagues (2019) reported that a cultural training initiative in two United States primary care clinics led to improved ratings in practitioners' behaviours and attitudes by African-American patients. Similar findings were reported following the compulsory inclusion of sexual health and 2SLGBTQIA+ health in medical, nursing and other healthcare disciplines' undergraduate and postgraduate curricula (Sekoni et al., 2017).

Engagement participants echoed that education, certifying, accrediting and regulatory bodies need to collectively embed and enforce mandatory training about bias awareness and create standards for cultural safety. Engagement participants also recognized that cultural humility was an important enabler and highlighted the importance of continuing professional development for all healthcare practitioners to identify and manage personal biases. Engagement participants identified the need to include greater and clearer diversity training (e.g. anti-racism training) at all levels of education, noting the opportunity to engage individuals from systemically disadvantaged populations to lead and co-develop such training modules.

4.1.4.2 Providing equitable access to linguistically safe care

Canada is an officially bilingual country with legislated access to federal services in either English or French (Official Languages Act, 1985). While this legislative obligation does not extend to provinces and territories in the delivery of healthcare services, there are English and French speaking Canadians across the country who seek services in either official language. In many regions of Canada, there is a mismatch between the distribution of French speaking healthcare practitioners and French speaking patients. For instance, French speaking pharmacists in Ontario were found to be most concentrated in the regions with the smallest French speaking populations (Timony et al., 2022). A study of Francophone physicians in Ontario found a similar mismatch. Most physicians are concentrated in southern and urban areas, leaving the north of the province with many Francophone patients and few Francophone practitioners (Gauthier et al., 2012). When healthcare practitioners do not speak the same language as their patients, it can be challenging for both parties, and has been shown to increase workload (Squires et al., 2019).

Access to language-concordant healthcare, in which the healthcare practitioner and the patient communicate in a shared language, is important for all Canadians (Mental Health Commission of Canada, 2016). Recognizing that language is fundamental to Indigenous identities, cultures, spirituality, and self-determination, the Canadian government passed the *Indigenous Languages Act* (2019) which codified the right to access federal services in Indigenous languages (Government of Canada, 2021b). Yet, in Nunavut, Inuit patients, the majority of whose first language is Inuktitut, are unlikely to receive healthcare services in this language (Webster, 2018). As described in Chapter 2: Indigenous Peoples & Communities, training local healthcare practitioners (who speak local languages) can reduce these linguistic barriers and improve overall healthcare access.

Improving access to language-concordant healthcare services

While patient-to-healthcare practitioner language concordance may be preferable, it might not always be possible. Some strategies to alleviate problems accessing healthcare services in Canada's official languages include having non-Francophone healthcare practitioners (Gauthier et al., 2015):

- use interpreter services,
- develop a flexible dialect when interacting with patients,
- hire bilingual administrative staff, and
- provide health education pamphlets in both English and French.

Other suggestions include determining linguistic competency at the time of hiring to avoid frustrations (Narayan, 2017), developing written resources in the language of care to help support unilingual staff (Baretto et al., 2021), and assigning bilingual staff to patients who speak the same language.

An increasing number of Canadians speak a language other than English or French at home (13% in 2021 up from 8% in 1991; Statistics Canada, 2022d). As discussed in Chapter 7: Planning & Development, there is limited standardized data collected on healthcare practitioners, so the linguistic diversity and representativeness of the Canadian health workforce is unknown.

Although interpreter services do exist in healthcare, there are inconsistencies in the availability and quality of such services across the country (de Moissac & Bowen, 2018). Even when interpreter services are available, there are challenges to using such services for healthcare practitioners (Hsieh, 2014). Organizational linguistic and interpretation guidelines and resources developed for healthcare practitioners can improve patient outcomes, such as safety, when the language of the patient and the healthcare practitioner are not concordant (Hsieh, 2014). Researchers have also suggested that healthcare organizations evaluate practitioners' non-English language proficiency and set policies about use of language skills in clinical care (Diamond et al., 2019).

Engagement participants highlighted the need to approach language as a question of safety and quality of care and to provide linguistically appropriate services across the healthcare continuum. Participants discussed initiatives aimed at improving official language proficiency of healthcare practitioners by providing extra support for students to practise in Francophone communities, as well as to those that do not speak Canada's official languages. An example is the *Official Languages Health Program* which was launched in 2003 and aims to improve access to health services for official language minority communities (Government of Canada, 2022c). Additionally, the Société Santé en français (2023) works with health networks and organizations across the country to develop and mobilize bilingual talent management strategies to promote the development of French language health services for Francophone and Acadian minority communities in Canada.

4.1.5 Augmenting data collection to evaluate equity initiatives

Augmenting data collection and analysis to help evaluate the efficacy of quality improvement approaches for diversity initiatives and anti-racism and cultural safety training programs is essential to ensure there are positive outcomes for people within systemically disadvantaged populations. Researchers have noted that it is not sufficient to just implement diversity initiatives; these programs need to be evaluated on an ongoing basis to ensure that the desired outcomes are being achieved (Filmer & Herbig, 2018; Jongen et al., 2018; Pitama et al., 2018).

4.1.5.1 Collecting comprehensive data to evaluate outcomes of equity initiatives

Engagement participants suggested that collecting race and gender-based data (which some health authorities already do) about healthcare practitioners could enable progress evaluation of diversity initiatives. Currently, Canadian health workforce data collated by the Canadian Institute for Health Information (2023a) does not include race or ethnicity for healthcare practitioner groups. However, their new minimum dataset includes guidance for the voluntary collection of race-based data (Canadian Institute for Health Information, 2022c). One enabler for this could be partnering with licensing and regulatory bodies for the purpose of better identifying individuals belonging to systemically disadvantaged populations through self-reporting during the annual licensing renewal process.

Engagement participants expressed a need for the creation of safe reporting spaces to capture lived experience of racism, discrimination, and inequity, and endorsed the development of an action plan for evaluating diversity policies using outcome data with clearly defined milestones and accountability measures. Additional suggestions from engagement participants included the implementation of a supportive assessment framework for anti-racism and cultural safety training programs so that these programs can be standardized and assessed.

Michelle is the manager of an acute medical unit in a busy downtown hospital. Cleas, a registered nurse, is a new hire. He recently immigrated to Canada from Haiti. Michelle begins to notice that Cleas seems to be assigned to less complex patients than the other registered nurses (RN) on the unit. She has also seen Cleas doing tasks usually assigned to the licensed practical nurses or personal support workers. At first, she assumes these staffing decisions were made by the team lead to help him gradually become accustomed to the new unit processes and patient flow. But then she overhears the team lead say to a colleague, "Cleas just got here and who knows what kind of training he got in his country." Michelle realizes that there is a pattern of systemic discrimination towards Cleas by the team lead and perhaps other colleagues that must be addressed. She meets with the team lead one-on-one, shares her observations, and asks if there is any evidence of performance concerns that warrant consistently assigning Cleas to less complex patients and tasks. The team lead, while defensive at first, recognizes that her decisions were based on assumptions and agrees to rectify the staff assignments immediately so that Cleas has similar responsibilities as the other RNs. Michelle coaches the team lead on creating a safe, just, anti-racist working environment, starting with an open conversation with Cleas. The team lead meets with Cleas, apologizing for this pattern of discrimination and inviting him to provide input on how to create a more welcoming work environment for racialized and internationally trained employees. Michelle ensures that staffing coverage is available so that all team members can attend the hospital training on workplace discrimination, sets a target date by when this training should be completed, and regularly monitors progress.

4.2 CHAPTER SUMMARY

This chapter presented solutions-oriented strategies to address racism and discrimination in the healthcare sector that is directed at either patients or healthcare practitioners. The leading policies and practices encapsulated increasing diversity and representativeness of healthcare learners and leaders, supporting the professional integration of internationally educated healthcare practitioners, ensuring safe, just, and anti-racist work environments, and enabling culturally and linguistically safe care. The evidence strongly recommended staff education and training. In combination, multi-pronged strategies at the individual, organizational, and systems level can serve to reduce racism and discrimination in healthcare work.

SECTION B

Thematic-Specific Approaches

SECTION B
Thematic-Specific Approaches
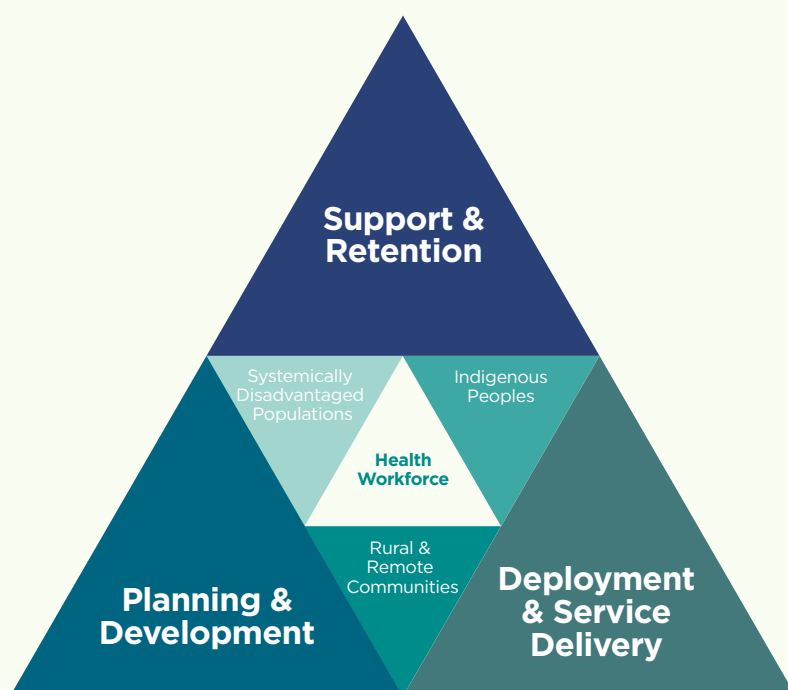
Whereas the previous three chapters focused on cross-cutting considerations for key populations, in the next three chapters, we transition to understanding how the health workforce can be strengthened by addressing three distinct but interconnected themes: (1) support and retention, (2) deployment and service delivery, and (3) planning and development.

In Figure 16, these outcomes are situated within a comprehensive, logic-based framework of health workforce planning and development (Bourgeault & Chamberland-Rowe, 2023). This framework represents an updated and comprehensive modelling of health workforce planning proposed by Canadian researchers Bourgeault and Chamberland-Rowe (2023) based on earlier work by O'Brien-Pallas et al., 2004, Birch et al., 2007, and Birch et al., 2009. The inclusion of the 'quintuple aims' in this model signals an outcome-based approach to planning. The multiple, transactional components of the model, which take into consideration multiple system levels and factors, demonstrate the complex and adaptive nature of health systems, and thus health workforce planning. Without applying such tools to planning and development, significant factors can be unintentionally missed. For example, if health planners base future decisions

strictly on current utilization patterns, they may maintain current health inequities in service access. Accordingly, such frameworks can provide guidance when engaging in planning, development, and evaluation activities. This framework and its structural and procedural components are discussed in more detail in Chapter 7: Planning & Development.

Given the urgency of the current situation, first, we describe the practices, tools, resources, and policies that can be used to support the mental health and wellbeing of the health workforce and that are associated with improved retention. Second, we describe how the health workforce can be enabled or hindered by policies and practices related to deployment and service delivery. Third, we describe how to improve health workforce planning and development so that current and future societal health needs are met, and future health workforce crises can be averted.

Figure 16. An integrated Donabedian and logic model framework of health workforce planning and development.

Adapted from Bourgeault & Chamberland-Rowe (2023)
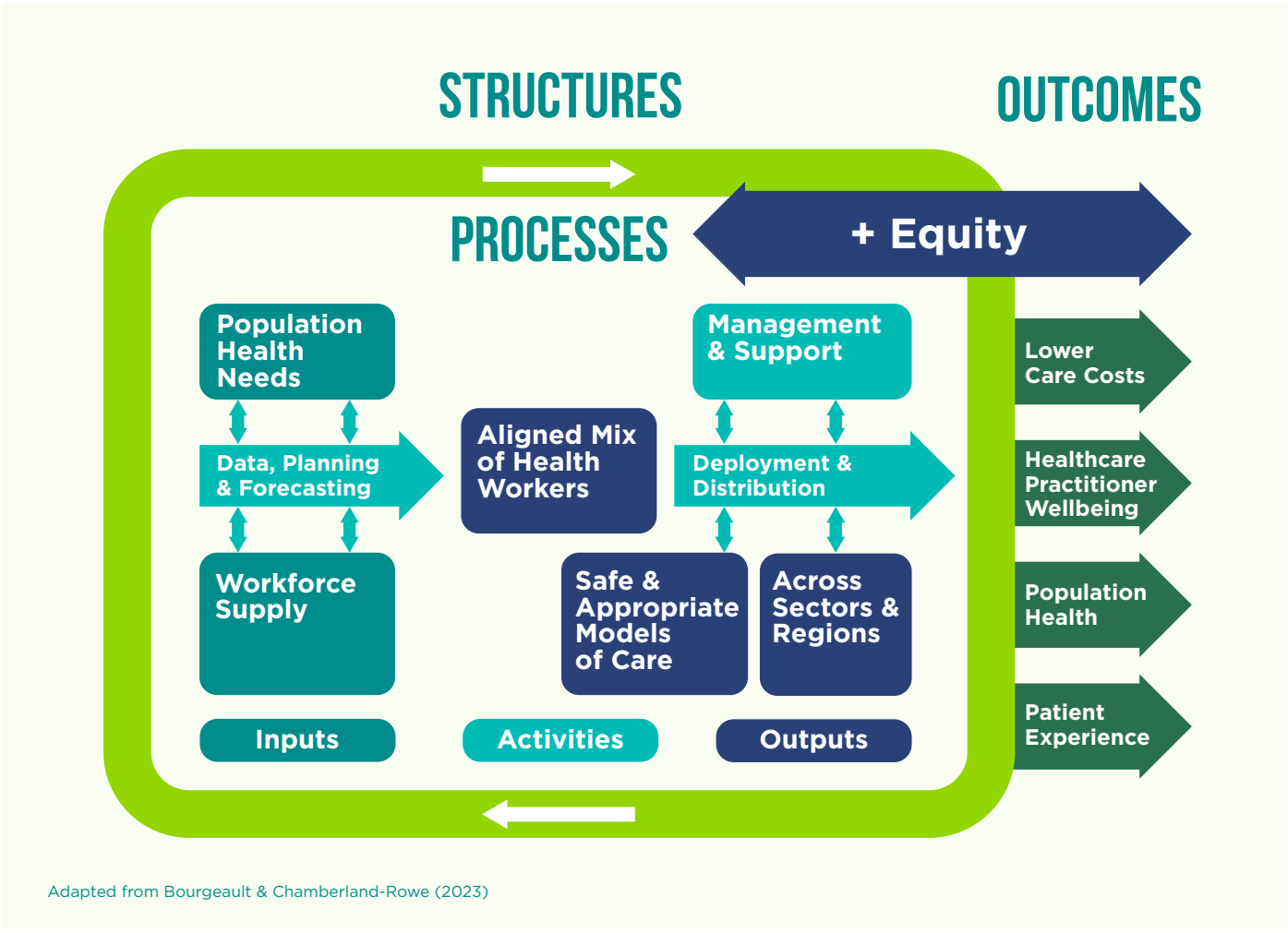
CHAPTER 5:
SUPPORT & RETENTION

Leading Policies & Practices

➡️ Developing and enhancing supportive leadership.

➡️ Creating healthy, safe, just, and equitable working environments that have adequate staffing levels and are free from hostility, harassment, bullying, and violence.

➡️ Reducing administrative time for healthcare practitioners through improved implementation of electronic health records, harmonized forms, and shifting of documentation and non-clinical tasks.

➡️ Retaining healthcare practitioners through policies and processes that enhance their autonomy, recognition, and professional growth.

➡️ Providing individual and group supports for healthcare practitioners to enhance their mental health and wellbeing and develop their resiliency to work stressors.

5.0 CONTEXT

Canada is currently experiencing a historic labour shortage. By the first quarter of 2022, job vacancies had reached the highest levels on record (Statistics Canada, 2022e). There are many complex reasons for these job vacancies including a shrinking working age population (The Economist Intelligence Unit Ltd., 2020). However, in the healthcare sector, vacancies, as well as turnover, intention to leave, and absenteeism, have also been linked to workplace hostility, harassment, bullying and violence, unsafe working conditions, high and unsustainable workloads, and a lack of recognition and job security.

According to Statistics Canada (2022e) data from the third quarter of 2022, job vacancies in healthcare and social assistance increased 9.5% to an all-time high of more than 150,000 vacancies. Furthermore, many Canadian healthcare practitioners have expressed an intention to leave their jobs in the next three years: almost one in four nurses, close to one in six

personal support workers or care aides, over one in eight other healthcare workers and just over one in 10 physicians (Statistics Canada, 2022a). Among those not intending to retire, the reported reasons for wanting to leave their jobs included job stress or burnout (63%), concerns about their mental health and wellbeing (53%), followed by a lack of job satisfaction (49%). Healthcare practitioners with less experience (less than five years) were more likely to state that they intended to leave their jobs (Statistics Canada, 2022a).

Research suggests that even modest changes to the work environment can precipitate a cascade of positive effects on work culture and outcomes (Berta et al., 2018).

Before considering these leading policies and practices, we provide some background on workplace violence in healthcare, the current state of mental health and wellness of the Canadian health workforce, as well as discussing how historical and current staffing decisions may play a role in the current challenges facing both the health workforce (e.g. in terms of job instability, attrition, and burnout) and Canada's health systems (e.g. in terms of backlogs, patient experiences, and public health responses).

5.0.1 Workplace violence in healthcare

While there is wide variation in how workplace violence is defined, it broadly refers to acts or threats of violence directed against employees, either inside or outside the workplace, from hostility, verbal abuse, bullying, harassment, and physical assaults through to homicide (Lim et al., 2022). The *Violence Facing Health Care Workers in Canada Report* (Standing Committee on Health, 2019) stated that workplace violence is a pervasive problem in healthcare settings in Canada that often goes unreported due to a culture of acceptance. Healthcare practitioners can experience workplace violence from other co-workers, supervisors, and patients and families.

Workplace violence, racial and gender discrimination, and sexualized violence all contribute to healthcare practitioners' intention to leave (Filut et al., 2020; Hawkins et al., 2019; Olsen et al., 2020; Pariona-Cabrera et al., 2020).

As described in greater detail in Chapter 4: Systemically Disadvantaged Populations, workplace hostility, harassment, bullying, and violence is closely linked to discrimination and racism, and occurs more frequently to systemically disadvantaged populations.

Healthcare practitioners are four times more likely to experience workplace violence than any other profession (Standing Committee on Health, 2019). Additionally, more than 75% of individuals working in Canadian healthcare and social services sectors reported experiencing harassment and violence in a recent online survey (non-peer reviewed; Berlingieri et al., 2022). Experiencing workplace violence is associated with diminished mental health in healthcare practitioners (Velando-Soriano et al., 2020; Jarden et al., 2021).

5.0.2 The mental health of healthcare practitioners

The mental health of healthcare practitioners was challenged before and exacerbated by the COVID-19 pandemic. As summarized by Bourgeault et al., (2022), health professions are ranked among the most stressful occupations, and healthcare practitioners experience burnout, anxiety, depression, post-traumatic stress disorder, and substance use at rates higher than the general population. The COVID-19 pandemic exacerbated feelings of anxiety for many Canadians, but particularly for healthcare practitioners. An online poll by Mental Health Research Canada (2021) found that the rate of diagnosed anxiety amongst Canadian healthcare practitioners has doubled to 40% during the pandemic; 17% higher than in the general population.

The nature of healthcare work is emotionally demanding – and when compounded with organizational factors, such as higher levels of workplace hostility, harassment, bullying and violence, unsustainable workloads, inadequate or inequitable pay, and conflict, healthcare practitioners are at risk of experiencing compassion fatigue and moral distress. A recent case study of nurses from Nova Scotia and Saskatchewan found that the reasons for turnover included workplace issues related to mental and emotional wellbeing (e.g. high stress, workload, job strain), safety concerns due to staff and resource issues, poor work-life balance (e.g. vacation time not granted), and lack of management support (Tomblin Murphy et al., 2022). Due to these intersecting factors, healthcare practitioners are one and a half times more likely to be off work due to illness or disability than workers from other sectors (Casselman, 2013).

The World Health Organization (2019b) has recognized burnout as an occupational hazard that when unmanaged can leave a worker feeling exhausted, cynical, and less professionally effective. In particular, burnout and other effects (eye fatigue, neck pain, inattention, stress, problems with multitasking, and exhaustion) have been associated with the uptake of electronic health records and other digital technologies within healthcare (Hilty et al., 2022; Kruse et al., 2022; Li et al., 2022).

5.0.3 Attrition, amplified systems issues, and an unstable workforce

Of concern, a survey (non-peer reviewed) conducted early in 2021 found that 16% of registered nurses stated that they were likely to leave nursing for a different occupation after the pandemic (Registered Nurses Association of Ontario, 2021). A cross-sectional survey of more than 400 family physicians conducted in Toronto in 2021 found that 18% were planning to close their existing practices in the next five years (Kiran et al., 2022). Family physicians may be leaving to retire or to transition to other medical specialities (Dunn, 2022).

In the 1990s, a major aim in healthcare in multiple Canadian jurisdictions was reducing costs. In line with this aim, a common staffing approach was to employ fewer full-time healthcare practitioners, instead relying on casual and part-time workers, as well as private agency staff and overtime shifts (Baumann et al., 2006). While some healthcare practitioners prefer the

flexibility that part-time or contractual work provides (Birmingham et al., 2019; Simpson & Simpson, 2019), there have been multiple consequences to workforce stability and patient care of this staffing approach – one that arguably still exists in many jurisdictions to this day. For example, for personal support workers in home care, casual hours and perceived employment insecurity are strongly associated with intent to leave and job turnover (Zeytinoglu et al., 2009). During COVID-19, the need for considerable numbers of long-term care staff to hold more than one job to make up a full-time equivalent position had major ramifications for an effective public health response (Ontario Ministry of Long-Term Care, 2021).

The increased intention to leave by some healthcare practitioners has also been linked to long-term inadequate staffing levels and service backlogs in Canada. In 2019 a survey of Canadian nurses (non-peer reviewed) revealed that 73% of survey respondents reported that their institution was regularly over capacity and 83% stated that the regular healthcare staff was not sufficient to meet the needs of patients (Stelnicki et al., 2020). Various reports have documented that healthcare staffing in Canada was very tight pre-pandemic (Ontario Hospital Association, 2022; Tomblin Murphy et al., 2022). In the current context, the workforce challenges appear to be amplified. There is now a backlog of healthcare services and surgical procedures that were delayed due to the pandemic (Canadian Institute for Health Information, 2022d; Tomblin Murphy et. al., 2022; Ontario Hospital Association, 2022). Healthcare practitioners are still grappling with an opioid crisis and the significant morbidity and mortality that strains emergency department staff and first responders (Humphreys et al., 2022; Simha et al., 2022).

Reports also indicate that overtime has been high for many healthcare practitioner groups (Tomblin Murphy, et al., 2022; Ontario Hospital Association, 2022). For example, the average overtime worked by nurses in Québec increased from about six hours in May 2019 to almost 17 hours in May 2020 (Alami et al., 2021). In contrast, agency work can provide healthcare practitioners with more flexible schedules and may offer higher compensation (Birmingham et al., 2019; Simpson & Simpson, 2019). Engagement participants added that agency nurses did not have to contend with potential mandatory overtime, refusal of vacation time requests and last minute schedule changes that occurred when employed through the public sector.

Increased reliance on agency staff has also been reported (Ontario Hospital Association, 2022; Yang & Mojtehedzadeh, 2022). The Canadian Institute for Health Information (2022e) reported that in 2021 there was an increase in nurses (7% for registered nurses; 8% for licensed practical nurses) in settings such as private nursing agencies, while the number of nurses in other settings such as community and long-term care shrunk.

In Québec, reliance on agency nurses has been linked to consequences such as staff turnover, deterioration of the quality of care, inequities in working conditions and salaries, and destabilization of teams (Institut de recherche et d'informations socioéconomiques, 2022).

Media reports indicate that the shift towards agency staff bears a significant cost. For example, one large downtown Toronto hospital paid up to "550% more" resulting in an extra $6.7 million CAD spent on agency staff in its last fiscal year compared to pre-pandemic years (Yang & Mojtehedzadeh, 2022). Another media report revealed that spending on agency staff by Alberta Health Services increased more than tenfold (from less than $400,000 to $5.1 million) during the last seven years (French, 2023). Meanwhile in Nova Scotia, spending on agency travel healthcare practitioners increased by more than $3 million just in the past year according to media reports (Luck, 2022). In addition to increased salary costs, there are significant administrative fees charged by private agencies (Ontario Hospital Association, 2022; Yang & Mojtehedzadeh, 2022). Engagement participants and government representatives expressed concerns that this increased reliance on agency staff was a leading line item contributing to deficits and as a single issue, posed a direct threat to the organization's financial solvency.

5.1 LEADING POLICIES & PRACTICES

An extensive research and collaboration process led by the National Academy of Medicine (2022) identified changes needed across the health system and at the organizational level to reverse the concerning trend in healthcare practitioner burnout. They prioritized the need to create and sustain positive work and learning environments and cultures, as well as institutionalizing wellbeing as a long-term value. This comprehensive initiative calls on key actors to drive policy and systems change through collective action. The plan can serve as a tool for actors to take evidence-based steps to improve the health system, with evaluation and accountability**.** This is also a goal of the leading, evidence-informed policies and practices presented at the start of this chapter, which were identified to address the significant challenges currently faced by the Canadian health workforce.

5.1.1 Developing and enhancing supportive leadership

In healthcare, leadership can be enacted at multiple levels. Many decisions regarding resource allocation, wages, program implementation, and organizational policies have influenced the mental health, wellbeing, and retention of healthcare practitioners. These decisions occur at the senior executive level within health organizations and also at the government level. But research indicates that immediate supervisors and managers of healthcare practitioners also play an important role in influencing the mental health, wellbeing, and retention of their staff members as described below.

5.1.1.1 Developing supervisors to effectively address health workplace challenges

Support from supervisors is important for the mental health of healthcare practitioners and is associated with retention (Halter, Pelone et al., 2017; Harrison, 2019; Niinihuhta & Haggman-Laitila, 2022). A lack of supervisor support is linked to emotional health issues, depression, and

low job satisfaction (Harrison, 2019). Leaders set the tone in terms of interpersonal relations and establish norms regarding the accepted behaviours in a department (Hawkins et al., 2019).

Research indicates that bullying and abuse by colleagues are more likely to occur when these behaviours are part of the work environment and not addressed by management (Nowrouzi-Kia & Isidro et al., 2019).

Support is particularly critical for healthcare practitioners in highly stressful and distressing situations. Support from supervisors and colleagues was found to be protective against post-traumatic stress disorder, depression, and anxiety during pandemics (d'Ettorre et al., 2021; Rony et al., 2022; Schneider & Weigl, 2018). There is evidence that emotional input and support from managers is important to healthcare practitioners who have experienced workplace violence or racial discrimination and can buffer the negative impact of these adverse events (Zhang et al., 2020; Filut et al., 2020). The lack of support from management after a violent workplace incident, or after experiencing discrimination can distress healthcare practitioners, and it has been found to be associated with healthcare practitioners leaving the profession or their organization (Filut et al., 2020; Zhang et al., 2020). More information about programs to address racial discrimination is provided in Chapter 4: Systemically Disadvantaged Populations.

5.1.1.2 Improving healthcare practitioner wellbeing through supportive leadership

Establishing and enhancing positive, supportive leadership in the healthcare setting can enhance the wellbeing of healthcare practitioners and improve retention and recruitment (Compton et al., 2021; Halter, Pelone et al., 2017; Harrison, 2019; Niinihuhta & Haggman-Laitila, 2022). Research provides detail about the types of leadership styles that are negatively or positively associated with healthcare practitioner wellbeing and retention.

Research on healthcare practitioners indicates that those who have supervisors with negative leadership styles report higher levels of stress, poorer mental health, higher burnout, and higher levels of emotional exhaustion (Abraham et al., 2020; Albendin-Garcia et al., 2021; Karatuna et al., 2020; Niinihuhta & Haggman-Laitila, 2022; Sanfilippo et al., 2017). Negative leadership styles include behaviours such as poor treatment of others, abusive or authoritarian styles, having unreasonable expectations of others, and laissez-faire leaders who avoid their responsibilities (Niinihuhta & Haggman-Laitila, 2022; Cummings et al., 2018). Workers who have leaders with negative leadership styles are more likely to state that they have an intention to leave their organization (Cummings et al., 2018; Halter, Boiko et al., 2017).

Healthcare practitioners who have supportive and empowering leaders are more likely to have better mental health and to report that they intend to stay in their workplace (Adams et al., 2021; Compton et al., 2021; Halter, Boiko et al., 2017; McCay et al., 2018).

There are several leadership attributes and skills that are positively associated with healthcare practitioner wellbeing and retention. Healthcare practitioners appreciate leaders who:

- support and offer praise and recognition (Adams et al., 2021; McCay et al., 2018),
- build group cohesion and communication based on respect and trust (Pedrosa, 2020; Halter & Pelone et al., 2017),
- value and often implement staff suggestions (Adams et al., 2021; Compton et al., 2021; Halter & Boiko et al., 2017), and
- enhance the growth of their workers, using organizational procedures and resources (Adams et al., 2021; Compton et al., 2021; Halter, Boiko et al., 2017).

Empowerment, control, and shared decision-making, where suggestions of staff are valued and often implemented, has been shown to be associated with recruitment and intent to stay across numerous studies (Adams et al., 2021; Compton et al., 2021; Halter, Boiko et al., 2017).

5.1.1.3 Providing training opportunities to prepare future health leaders

Research evidence indicates that leadership development interventions can have a favourable effect on staff healthcare practitioners. A systematic review found that some interventions produced a favourable effect on healthcare practitioner wellbeing and that leadership development initiatives produced no adverse effects (Stuber et al., 2021). Another systematic review found that leadership training in healthcare organizations was associated with increased support for healthcare practitioners from their supervisors and improved problem solving within groups (Seidman et al., 2020). There is also some evidence that management training in positive leadership behaviours can be associated with intent to stay among healthcare practitioners (Halter & Pelone et al., 2017). Stuber and colleagues (2021) concluded that while there is a need for more high-quality studies, there are some common elements to effective leadership interventions including educational parts, reflective parts, and practical parts where leaders can implement their new knowledge in their day-to-day work. In order to be effective, programs need to be adapted to the context and support from senior leadership is important (Seidman et al., 2020). In addition to leadership training, succession planning has also been recommended to better prepare health leaders for the future (Hartney et al., 2021).

Suggestions from engagement participants included greater support for leadership training and mentorship. It was suggested that a provincial or national strategy that helps leaders deal with change would be beneficial. They also emphasized including healthcare practitioners in key decision-making processes to enhance their autonomy in work and life balance and encouraging and rewarding dispositional leadership,[16] so that healthcare practitioners feel safe to take initiative, including new tasks and responsibilities. There are leadership development

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[16] Dispositional leadership is used to describe taking on roles outside of formal titles.

initiatives underway across Canada. For example, the Northwest Territories' *Executive Leadership Development Program* provides opportunities to develop leadership skills and core competencies essential to leadership roles within the health and social service systems (Northwest Territories Health and Social Services Authority, 2017). The LEADS in a Caring Environment framework is a foundational element for health leadership development (Canadian College of Health Leaders et al., 2015).

An intentional approach to building a more diverse health leadership was previously discussed in Chapter 2: Indigenous Peoples & Communities and Chapter 4: Systemically Disadvantaged Populations.

5.1.2 Creating healthy, safe, just, and equitable work environments

Creating a healthy and safe work environment enhances the wellbeing and resiliency of healthcare practitioners, and thus attracts and retains healthcare practitioners. The following sections describe how excessive workloads and inadequate staffing are associated with higher levels of stress for healthcare practitioners, higher rates of work-related hostility, harassment, bullying and violence, and lower rates of retention, as well as potential solutions.

5.1.2.1 Ensuring safe staffing levels and workloads

Studies have documented how high workloads are associated with higher levels of stress and burnout (Labrague & McEnroe-Petitte, 2018; Suleiman-Martos et al., 2020; Cohen et al., 2021; O'Connor et al., 2018; Hui et al., 2019). This association has been found for a range of healthcare practitioners such as nurses, physicians, midwives, speech language pathologists, sonographers, and mental health professionals (Labrague & McEnroe-Petitte, 2018; Suleiman-Martos et al., 2020; Cohen et al., 2021; O'Connor et al., 2018; Hui et al., 2019). Excessive workloads are associated with intention to leave positions (Azam et al., 2017; de Saxe Zerden et al., 2021; Jun et al., 2021; Suleiman-Martos et al., 2020; Yong et al., 2020). As described in Figure 17, excessive workloads and insufficient staffing are associated with the following factors:

- Long working hours and longer shift lengths are associated with higher rates of burnout and depression (Sanfilippo et al., 2017; Gribben & Semple, 2021; Buckley et al., 2020).
- During the COVID-19 pandemic, longer working hours on the front line was associated with increased risk of acute stress reactions, such as post-traumatic stress symptoms (Sanghera et al., 2020).
- Workplaces with insufficient staffing are associated with higher rates of workplace violence (McDermid et al., 2019; Nowrouzi-Kia & Isidro et al., 2019; Zhang et al., 2020).
- Insufficient breaks or annual leave is associated with burnout (Gribben & Semple, 2021; Buckley et al., 2020).
- Fatigue is strongly associated with work absenteeism and the potential to make errors (Cho & Steege, 2021).

- Lack of time to deliver high-quality care is associated with burnout (Gribben & Semple, 2021; Buckley et al., 2020; Azam et al., 2017; Hui et al., 2019).
- Workload pressures can lead to early retirement among healthcare practitioners (Cohen et al., 2021).

Figure 17. Workload factors associated with negative direct and indirect outcomes for healthcare practitioners. Synthesized from the evidence.
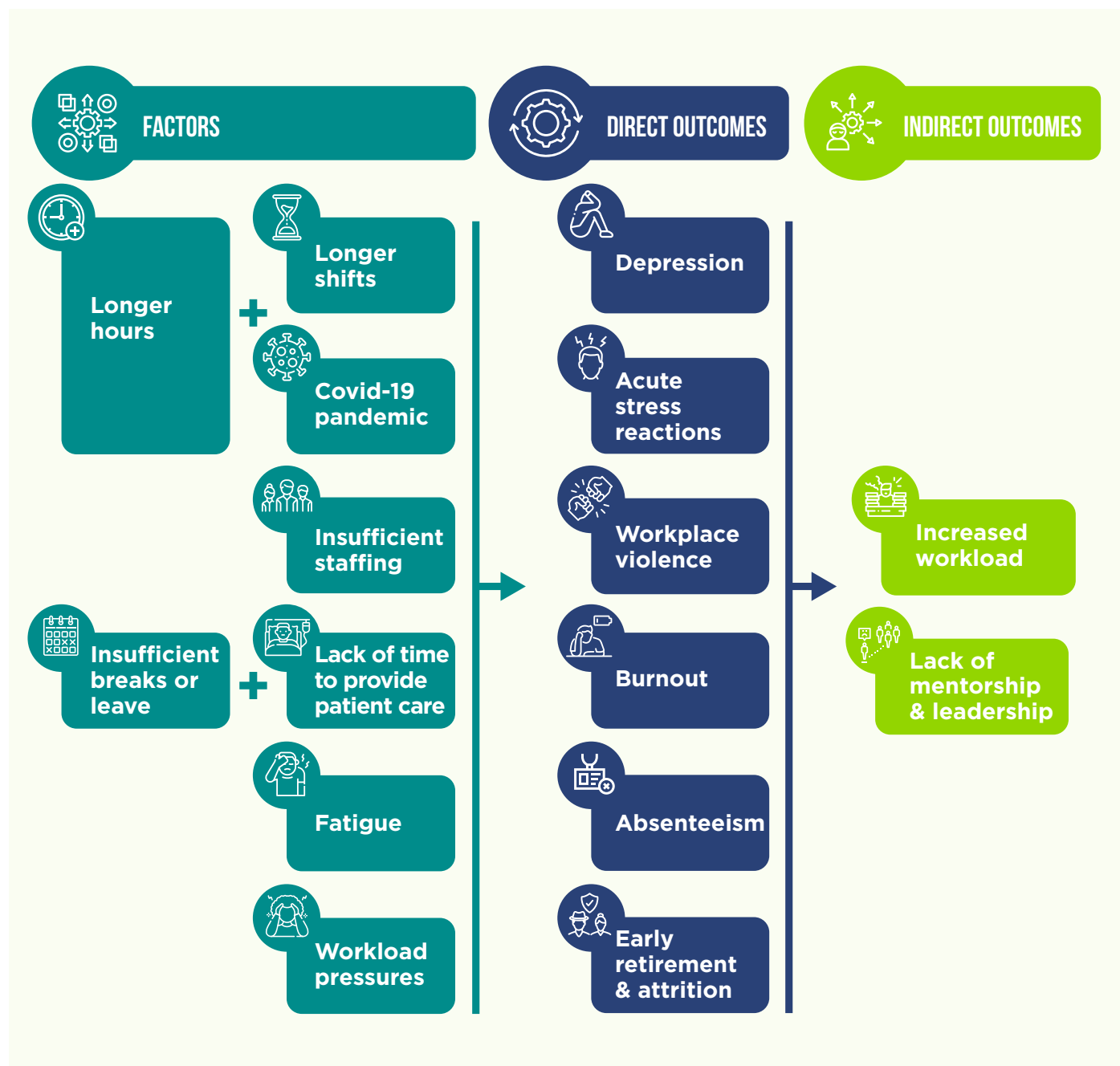
In addition to the direct consequences on the healthcare practitioner listed above, there are important indirect consequences. For example, work absenteeism and early retirement potentially place additional strains and workload on the staff who remain (Cho & Steege, 2021). Early retirement can lead to fewer senior staff available to mentor junior staff (Cohen et al., 2021).

Applying organizational interventions to manage workload

Workplace-level interventions to reduce workload have been found to be beneficial for healthcare practitioners' wellbeing. Healthcare practitioners have higher rates of burnout when they feel they lack the time to deliver high-quality care (Gribben & Semple, 2021; Buckley et al., 2020; Azam et al., 2017; Hui et al., 2019). Lack of time has been measured through staff to patient ratios among nurses (Gribben & Semple, 2021; Buckley et al., 2020) and excessive patients cared for each shift or per week among physicians (Azam et al., 2017; Hui et al., 2019). Reducing overall workload is associated with improved wellbeing and reduction in burnout among residents and physicians (Bazargan-Hejazi et al., 2021; Busireddy et al., 2017).

Other schedule modifications that can prevent work overload include providing in-house evening and overnight resident supervision, reducing patient-to-attending physician ratio, and increasing the number of teams who do medical rounds (Thomas Craig et al., 2021). The development of a cohesive and highly skilled float pool team within organizations has been suggested as an effective strategy to decrease reliance on nursing overtime and contract labour support (Lebanik & Britt, 2015; Straw, 2018).

The regulation that limited work hours for medical residents in the United States has been extensively studied. The *Accreditation Council for Graduate Medical Education* implemented duty hour restrictions (in 2003 and 2011). Across studies, this limit of residents' work hours was consistently associated with a decrease in emotional exhaustion (a component of burnout) and a reduction in overall burnout rates (Busireddy et al., 2017; Simmons et al., 2019; Walsh et al., 2019). During our virtual consultation sessions, participants suggested ensuring safe staffing levels through pan-Canadian standards for workload, using measures such as staff-patient ratios informed by workplace safety data.

Considering the health impact of staffing approaches

Unmanageable workloads can have implications for patient or long-term care resident experiences and outcomes (including mortality), as well as practitioner outcomes, such as burnout, absenteeism, and attrition. The first wave of the COVID-19 pandemic offers a relevant case study for how staffing approaches and other workplace infrastructure had major, inter-linked implications for both residents and staff in long-term care.

The long-term care (LTC) workforce in provinces such as Ontario and Québec was stretched to the limit long before COVID-19 struck (Alami et al., 2021, Ontario Ministry of Long-Term Care,

2021). In Ontario, the vast majority of LTC homes, particularly those operating in the for-profit sector, already had an unstable workforce and a severe shortage of staff (Ontario Ministry of Long-Term Care, 2021). When the first wave hit, many LTC homes became overwhelmed and staffing collapsed (Ontario Ministry of Long-Term Care, 2021). Additionally, in multiple settings in the health system, medical supplies, including personal protective equipment were in short supply (Alami et al., 2022). Strategic stocks were rapidly depleted, meaning that many staff were instructed to extend the use of N95 masks or even recycle them (Institut national de santé publique du Québec, 2020). There was no plan for how to replace healthcare practitioners who could not or would not come to work (Alami et al., 2021). As such personnel from the Canadian Armed Forces and the Canadian Red Cross were called in as reinforcements.

Higher levels of nursing and personal support staff are associated with better quality of care and patient health outcomes (Boscart et al., 2018; Clemens et al., 2021). For-profit LTC facilities, however, typically have lower staffing levels compared to not-for-profit facilities, particularly when operated by large management corporations (Hsu et al., 2016; McGregor & Harrington, 2020). In addition to this variability in staffing levels, which directly impacts healthcare practitioner workload, other workplace infrastructure had major, inter-linked implications for residents in long-term care. Studies on pandemic-related deaths of LTC residents in Ontario found significant differences in excess mortality observed in relation to the ownership model and geographic region (Akhtar-Danesh, 2022; Stall et al., 2020). Higher prevalence of older design standards (i.e. smaller room sizes, fewer single-occupancy rooms, and more shared washrooms) in for-profit LTC homes and chain ownership was associated with both the extent of an outbreak in a LTC home and the number of resident deaths (Stall et al., 2020). This study did not include data on staffing levels, nor mobility of staff which was identified as an important vector of transmission (McGregor & Harrington, 2020; Ontario Ministry of Long-Term Care, 2021). Furthermore, for-profit LTC homes in general have more complaints from residents and family, more acute care hospital admissions, and higher mortality rates (Akhtar-Danesh, 2022). The associated impact of ownership models on staffing and workloads warrants further research, including the ripple effects across settings.

In acute care settings, the impact of nurse staffing levels on improved patient outcomes is less clear and requires further research (Butler et al., 2019; Olley et al., 2019); however it may be beneficial for healthcare practitioner wellbeing and retention (Twigg et al., 2021). For example, in California, the state mandated minimum nurse-to-patient ratios in acute hospitals. On average, California hospital nurses cared for one less patient than nurses in comparator states and two fewer patients in medical and surgical units (Aiken, 2010). The enactment of this law has been associated with increased retention among nurses and improved job satisfaction (Wynendaele et al., 2019).

There is evidence that when nurses' workloads were in line with California-mandated ratios in other states, nurses' burnout and job dissatisfaction were lower and they reported better quality of care (Aiken 2010).

These findings are consistent with the results reported above, that nurses are more likely to suffer from burnout when their workloads are high and when there is insufficient time to deliver high quality care to patients.

5.1.2.2 Addressing workplace hostility, harassment, bullying and violence

As described previously, workplace violence encapsulates hostility, harassment, and bullying, as well as physical violence. Intention to leave can be caused by negative workplace behaviour, workplace violence, harassment, racial/gender discrimination, and sexualized violence (Filut et al., 2020; Hawkins et al., 2019; Olsen et al., 2020; Pariona-Cabrera et al., 2020).

Altering work environment factors to reduce workplace hostility, harassment, bullying and violence from patients to healthcare practitioners

Evidence from cross-sectional studies and qualitative research suggests that certain contextual factors are associated with greater incidents of workplace violence, such as:

- Staffing – staff shortages, heavy workloads, under-resourced staff, lack of group cohesiveness and teamwork, and staff who lack training in how to diffuse workplace violence (McDermid et al., 2019; Nowrouzi-Kia & Isidro et al., 2019; Zhang et al., 2020).
- Physical spaces – overcrowded spaces, with lack of visible security, and in emergency departments, psychiatric departments, long-term care, and home care (Nowrouzi-Kia & Chai et al., 2019; Varghese et al., 2021).
- Organizational – when there are inadequate workplace violence policies, lack of protective measures, and lack of penalty for the perpetrator when they are violent (Pompeii et al., 2020; Varghese et al., 2021).

Rates of workplace violence can vary according to the type of care or care setting (Pompeii et al., 2020; Raveel & Schoenmakers, 2019; Weltens et al., 2021). For example, healthcare practitioners working in community or mental health settings with patients with addictions or mental health conditions are more likely to experience violence (Weltens et al., 2021). Additionally, violence has been linked to unclear patient-healthcare practitioner interactions where there is a discrepancy between patients' expectations and the services offered (e.g. failure to provide a sick note) (Pompeii et al., 2020; Raveel & Schoenmakers, 2019). In the current pandemic context, there are currently staff shortages (Statistics Canada, 2022e), overcrowded emergency departments with long waits (Alberta Health Services, 2023a; Health Quality Ontario, 2023), and increased numbers of temporary agency staff (Ontario Hospital Association, 2022) who may lack workplace violence or de-escalation training. Accordingly,

patients are experiencing longer wait times (e.g. for surgeries, emergency care; Canadian Institute for Health Information, 2022d), which may lead to unsatisfied expectations. Many provinces publicly report emergency department wait times and congestion data to help manage expectations (Alberta Health Services, 2023a; Health Quality Ontario, 2023).

Many have argued that addressing the contextual factors listed above would be effective at reducing workplace violence (Raveel & Schoenmakers, 2019; Weltens et al., 2021). Addressing these factors is consistent with the recommendations of the *Standing Committee on Workplace Violence* for the Canadian House of Commons (Casey, 2019). This report, which was written in the pre-pandemic era, recommended: addressing staffing shortages in healthcare settings, including settings for senior care and community-based care settings, and providing targeted funding to upgrade existing physical spaces, specifically long-term care facilities and other healthcare infrastructure.

Addressing patient hostility, harassment, bullying, and violence towards healthcare practitioners

There is an emerging consensus among researchers that effective violence prevention programs have an integrated comprehensive approach featuring multiple components (Raveel & Schoenmakers, 2019; Wirth et al., 2021) and specific policies to address workplace violence (Pompeii et al., 2020; Varghese et al., 2021). Many of these initiatives have been tested in environments that are associated with high levels of workplace violence such as psychiatric units, emergency departments, and long-term care. Key elements include:

- good teamwork and group cohesiveness (McDermid et al., 2019; Nowrouzi-Kia & Isidro et al., 2019; Zhang et al., 2020),
- a comprehensive risk assessment of the workplace (Wirth et al., 2021; Nowrouzi-Kia & Isidro et al., 2019; Varghese et al., 2021),
- patient risk assessments for high-risk patients such as psychiatric patients (Pompeii et al., 2020; Raveel & Schoenmakers, 2019; Weltens et al., 2021),
- reporting requirements (De la Fuente-Solana et al., 2019; Hawkins et al., 2019; McDermid et al., 2019; Raveel & Schoenmakers, 2019),
- management commitment and employee involvement (Wirth et al., 2021), and
- education, training, and support of staff (Bekelepi & Martin, 2022; Zhang et al., 2020; McDermid et al., 2019; Nowrouzi-Kia & Isidro et al., 2019; Raveel & Schoenmakers, 2019).

Education, training and support for workers who experience patient violence features multiple components. Education and training enhances employee awareness, which is associated with violence prevention (Zhang et al., 2020). Teaching communication skills with patients is recommended because communication breakdown can result in exposure to violent incidents (Bekelepi & Martin, 2022). Training on de-escalation – which involves cognitive, affective, and

practical skill-based improvements in behaviour and reaction in case of an assault is helpful (Raveel & Schoenmakers, 2019). After experiencing a violent event, supportive strategies include sharing knowledge on how to handle future violent incidents, group discussions on coping strategies and healthy ways to deal with the stress associated with being exposed to violent behaviour (Bekelepi & Martin, 2022). Research has documented how many of the interventions described above can alleviate healthcare practitioner stress (Bekelepi & Martin, 2022).

Reducing worker-to-worker hostility, harassment, and bullying

The term 'incivility' surfaced multiple times in the literature on safe work environments. Note we have chosen to use the term hostility instead of incivility. We heard from the Indigenous Health Workforce Committee that for communities with histories of being considered 'uncivilized' or of a lower class of humans in the development of the Canadian Nation state, and who were systemically excluded from participation in the workforce and development of group norms, the terms 'civility' or 'incivility' can be used to create expectations of assimilation into dominant cultures. Failure to assimilate can be considered a reason for performance management and can serve as a distraction from interrogating and disrupting systemic racism in work environments.

Research exploring the antecedent factors or contextual factors associated with worker-on-worker hostility is sparse. There are indications that co-worker or supervisor harassment is more likely to occur in contexts where there are (el Ghaziri et al., 2022; Rafique, 2022; Torkelson et al., 2016):

- high workloads,
- emotional exhaustion, and
- high demands.

The following initiatives, programs, and policies are associated with a reduction of worker-on-worker hostility in the workplace:

- leaders that model appropriate groups norms regarding accepted behaviour (Hawkins et al., 2019),
- implementation of policies (e.g. zero tolerance for hostility and bullying) with specific consideration of how to establish and enforce these policies (Olsen et al., 2020), and
- multicomponent educational interventions that include sharing information, applying skills and reflective learning that is empowering to participants, and helping staff recognize hostility can positively impact job satisfaction and turnover (Olsen et al., 2020).

5.1.3 Reducing administrative time

Excessive time on documentation, including that spent on electronic health records, has been found to contribute to burnout and lower job satisfaction across a range of healthcare practitioners, especially physicians (Bateman & Viana, 2019; Kruse et al., 2022; Sibeoni et al., 2019; Yan et al., 2021; Nedvedova et al., 2017). Medical nurses assigned to units with high amounts of documentation and computer work and low amounts of patient contact have higher rates of burnout (Molina-Praena et al., 2018). When asked about factors contributing to burnout, physicians refer to high workloads and in particular high documentation loads (Sibeoni et al., 2019; Gajjaar et al., 2021). Engagement participants also noted that administrative workload was a key factor in retention and remarked that healthcare practitioners were frustrated that the administrative workload interfered with time for patient care.

5.1.3.1 Addressing the unintended consequences of electronic health records

Technology-related burnout of healthcare practitioners is a real concern in today's health systems. While electronic health records are meant to create efficiencies in care and teamwork, when developed and implemented without consultation with end users (including healthcare practitioners, administrative personnel, and patients), they may frustrate and overburden them, ultimately leading to system inefficiencies, attrition, and poorer quality care (Hilty et al., 2022; Organisation for Economic Co-operation and Development, 2020; Li et al., 2022). Healthcare practitioners are more likely to be unsatisfied with electronic health records when they are viewed as inefficient, difficult to use, and are linked to a loss of professional autonomy (Hilty et al., 2022; Kruse et al., 2022).

For teams, electronic health records were viewed in one study as most challenging for teamwork when they lacked integrated care manager software and care plans, had poor interoperability with other systems, and could not easily track patient data over time (O'Malley et al., 2015). While few technology-related burnout interventions have been evaluated, helpful systems and organizational strategies from the evidence include ensuring strong usability and clinical utility for all end users (Kruse et al., 2022; O'Malley et al., 2015). When implementing new electronic health management systems and software, co-designing elements with end users can prime healthcare teams for behavioural change and promote usability and utility (Hilty et al., 2022).

At a team level, features of more effective health records systems involve dynamic care plans, integrated care management software, more interoperable systems, and offer greater ease of tracking patient data over time (O'Malley et al., 2015). Meanwhile, organizational implementation should involve consideration of training, professional development, and administrative workflows (Hilty et al., 2022). Such implementation typically requires the technical expertise of health informatics practitioners (Bernstein et al., 2015; Brommeyer et al.,

2023; Kruse et al., 2022). These practitioners can not only manage and update systems, but also play an important bridging role between healthcare practitioners, managers, and vendors (Bernstein et al., 2015; Kruse et al., 2022; O'Malley et al., 2015). Additionally, technicians for onsite electronic health records and voice recognition software can help to train practitioners, optimize workflow, reduce time for record-keeping, and enhance efficiency and job satisfaction (Nguyen et al., 2021; Saxena et al., 2018).

If implemented thoughtfully, with each of the quintuple aims in mind, digital health technologies can have multiple benefits for systems, patients, and healthcare practitioners (Hilty et al., 2022; Iyamu et al., 2022; Spinks et al., 2017). The consequences (both intended and unintended) of implementing technology on the workflows, load, and teamwork of healthcare practitioners requires consideration at multiple levels. Furthermore, research specifically on the association amongst electronic health record use and documentation burden is warranted, given the lack of conceptual knowledge and robust interventions (Li et al., 2022; Moy et al., 2021). The shift to digital health technologies and its consequences for the health workforce is discussed more broadly in Chapter 6: Deployment & Service Delivery.

5.1.3.2 Harmonizing and centralizing patient documents to reduce documentation time

Intervention studies found that the use of standardized templates reduced total documentation time and improved practitioner documentation efficiency (Thomas Craig et al., 2021). Engagement participants provided suggestions on how to coordinate documentation requirements to reduce documentation time. They suggested that documents could be harmonized and centralized so that duplicates are not re-created for different purposes such as insurance/third party payers or when patients change facilities. They suggested that a pan-Canadian sharing platform would make data more portable. Such a combined federal-provincial based initiative could support data sharing and portability, while ensuring that privacy and data legislation requirements are satisfied. Undertaking crucial conversations among various partners about what amount of documentation is necessary/optimal for quality patient care was also recommended.

5.1.3.3 Shifting documentation and non-clinical tasks

Implementing task shifting is another potential solution to the growing challenge of documentation-related burnout fuelled by electronic health records (Shah et al., 2021). Shifting some documentation between and from healthcare practitioners to other members of the care team has many benefits. Studies of physicians, including specialists and primary care physicians, found that the expansion of care teams to include scribes or medical assistants to document patient encounters in real-time under physician supervision led to a reduction in physician documentation time, including time spent after-hours and weekends (Thomas Craig et al., 2021). Other benefits included improved efficiency, productivity, quality of patient

interactions, and physician satisfaction along with increased revenue and patient satisfaction (Nguyen et al., 2021; Thomas Craig et al., 2021). Similarly, expanding the role of pharmacist assistants to support administrative tasks can lead to time savings for both pharmacists and nurses (Banks et al., 2020).

Engagement participants supported the concept of introducing or expanding the role of team members such as clinical or physician assistants to absorb necessary documentation tasks. Re-assigning non-clinical work to administrative staff was also seen as beneficial by provincial and territorial representatives; however, representatives noted it has been difficult to implement this strategy due to challenges in securing funding and resources.

5.1.4 Enhancing autonomy, recognition, and growth

Attracting and retaining healthcare practitioners can be achieved through providing more autonomy in work processes and flexibility in work hours, granting recognition such as through pay or formal recognition, and providing opportunities for growth.

5.1.4.1 Enhancing job control and autonomy

Low job control and low autonomy are associated with poorer mental health and higher turnover rates for healthcare practitioners across multiple healthcare practitioners and sectors (e.g. Halter, Boiko et al., 2017; Suleiman-Martos et al., 2020). Autonomy is defined as a perceived capacity to influence decisions that affect one's work (O'Connor et al., 2018), including such things as workflow and shifts. Lack of work autonomy was reported as a major source of burnout among physicians, midwives, nurses, and mental health professionals (Dall'Ora et al., 2020; De Sio et al., 2020; O'Connor et al., 2018; Suleiman-Martos et al., 2020), while higher levels of work autonomy are associated with improved wellbeing among physicians, nurses and other healthcare practitioners, and primary care providers (Abraham et al., 2020; Schneider & Weigl, 2018) and with resiliency amongst mixed healthcare practitioners (De Brier et al., 2020). For instance, paramedics reported that although they had control over clinical decisions, a key stressor in their workplace was a lack of control over organizational factors such as the pace of the daily assigned workload, when breaks could be taken, and their shift length (Harrison, 2019).

Research indicates that work schedule flexibility is associated with reduced burnout and increased retention among healthcare practitioners (Suleiman-Martos et al., 2020). As discussed earlier in the leadership section, shared decision-making, whereby suggestions by staff are valued and often implemented, is associated with recruitment and intent to stay across numerous studies (Adams et al., 2021; Compton et al., 2021; Halter, Boiko et al., 2017).

During virtual consultation sessions, many participants noted that there had been a "huge move" towards working casually because healthcare practitioners were looking for "flexibility rather than consistency." According to participants, the current environment allows many

healthcare practitioners to easily find full-time equivalent hours working casually – giving them the income they desire but with more freedom to decline undesirable shifts. However, as described at the start of this chapter, there are consequences to public financing and delivery of care when healthcare practitioners choose employment with private agencies.

As a result of these consequences, the Government of Québec has committed to regulating, reducing, and even eliminating the use of agencies to fill health delivery gaps (Institut de Recherche et d'Informations Socioéconomiques, 2022).

Instead, current initiatives are underway to increase hiring of public sector nurses and personal support workers and to limit the rates that can be charged by agencies.

5.1.4.2 Providing recognition through pay, pay equity, and job stability

Remuneration is a critical feature of retention. Healthcare practitioners (i.e. nurses, physicians) who are well paid are more likely to stay in their jobs (Adams et al., 2021; Darbyshire et al., 2021). Conversely, being dissatisfied with pay or perceiving that the salary is not sufficient for the work demands, the responsibility, or the work-family conflict makes healthcare practitioners more likely to leave their jobs (Adams et al., 2021; Halter, Boiko et al., 2017; Yong et al., 2020). Pay is important to healthcare practitioners, both for its real practical significance and for how it signifies respect for their role and discipline (Adams et al., 2021).

For example, pay equity refers to receiving equal pay for the same work. As discussed in more depth in Chapter 4: Systemically Disadvantaged Populations, gender pay equity thus aims to ensure that work done by men and women is compensated equally (World Health Organization, 2019a). Perceptions of the fairness of how pay is distributed within the organization (distributive justice) and the process through which pay is administered (procedural justice) are linked to retention in and outside of healthcare (Darbyshire et al., 2021).

There can be financial disparities between sectors for healthcare practitioners in the same roles. These disparities can lead to the 'cannibalization' of a lower paying sector's (e.g. long-term and community care) workforce by a higher paying one (e.g. hospital), as healthcare practitioners look for higher paid, more stable income (Ontario Ministry of Long-Term Care). For example, there is labour market discrepancy for personal support workers in community versus hospital-based sectors. A recent Canadian study found that in Ontario personal support workers in homecare had fewer permanent positions, more were working multiple jobs, and had irregular or part-time work schedules and jobless spells compared to personal support workers in other sectors (Berta et al., 2018). This temporary and part-time staffing model had significant health implications for long-term care residents during the COVID-19 pandemic (Ontario Ministry of Long-Term Care, 2021). In response, the the Government of British Columbia (2020) limited staff working across multiple sites by offering the same or higher wages and working conditions to all long-term care staff.

Pay equity between sectors can ensure sufficient staffing for all sectors.
Respecting the contributions that particular healthcare practitioner groups make can also occur through provision of job security, which may take the form of full-time work or permanent roles, as well as access to employee benefits, supports, and status recognition. Through a shift towards specialization in healthcare, more generalist practitioner roles (e.g. family medicine, personal support workers) are less popular than more specialized practitioner roles (Drummond et al., 2022). For example, it has been suggested that the unregulated nature of personal support workers has contributed to the lack of recognition of their role in long-term care, which in turn adds to the recruitment and retention issues facing the sector (Ontario Ministry of Long-Term Care, 2021).

Enhancing the status, professional standing, and rates of compensation of generalist practitioner groups and improving working conditions could lead to increased supply and better retention of these in-demand occupations (Drummond et al., 2022).

5.1.4.3 Providing opportunities for growth and resilience

Career growth, training, and promotional opportunities are associated with retention and intent to stay for healthcare practitioners. Research indicates that nurses who receive mentorship are more likely to stay with their organizations than those who do not receive mentorship (Bakker et al., 2020; Kakyo et al., 2021). Training programs, including preceptor programs, transition to practice models, programs to develop leadership skills and evidence-based practice, and residency programs are associated with retention and intent to stay for new nurses (Brook et al., 2019; Jarden et al., 2021; Kakyo et al., 2021; van Camp & Chappy, 2017; Bakker et al., 2020). Among physicians, post-graduate speciality certifications in the United States and one-year fellowships are associated with lower rates of attrition (Darbyshire et al., 2021). In contrast, intention to leave is higher among nurses who experience fewer possibilities for development or professional growth (Halter, Boiko et al., 2017). Poor perception of career advancement and lack of career development for pharmacists and midwives are associated with them leaving positions (Yong et al., 2020; Suleiman-Martos et al., 2020). These findings suggest that providing growth for healthcare practitioners through interventions such as education, training, and promotional opportunities can be beneficial for retention (Kim & Kim, 2021) and are presented in Figure 18. Mentorship and training programs, including a description of successful programs, are discussed in greater detail in Chapter 7: Planning & Development.

Figure 18. Professional growth processes to strengthen the personal resilience of healthcare practitioners.
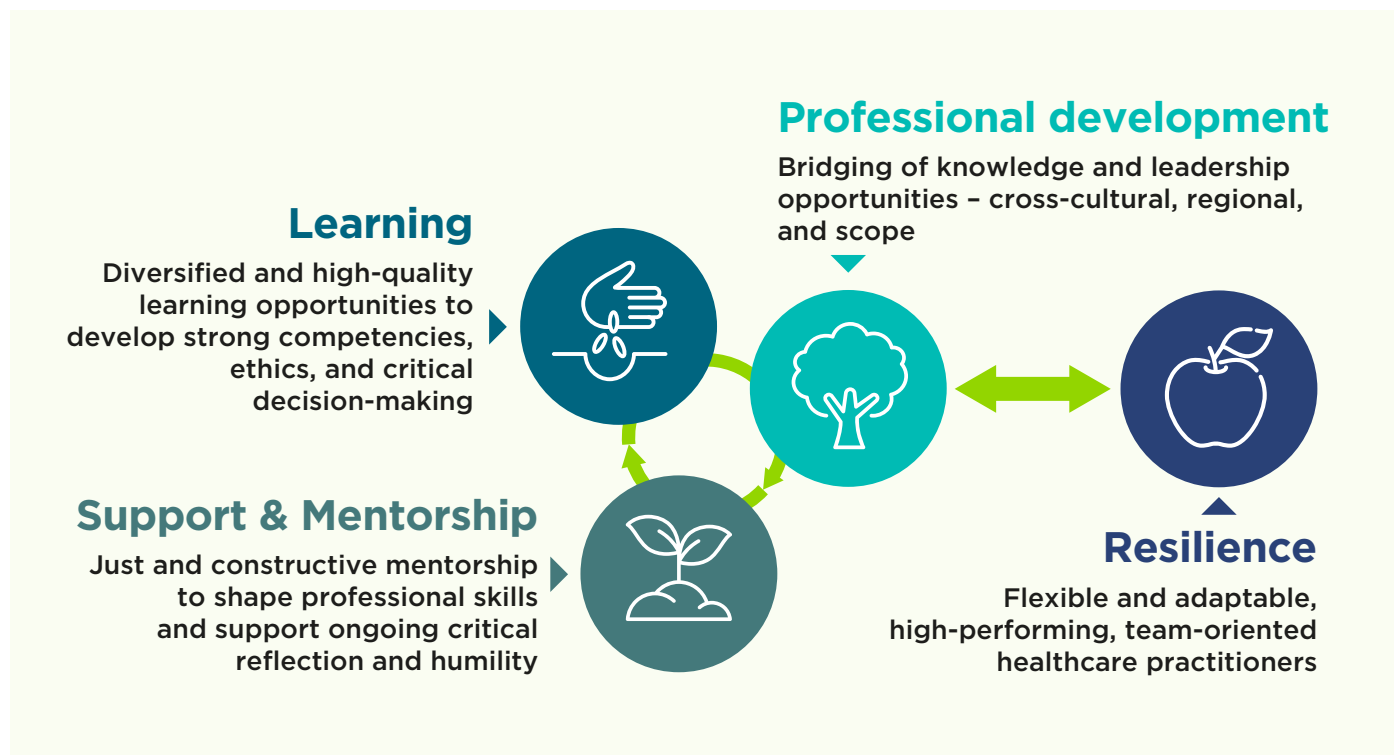
5.1.5 Providing wellbeing supports for healthcare practitioners

As described previously, poor workplace mental health can be better managed through assigning appropriate workloads, increasing autonomy, and providing supportive leadership. One aspect of organizational wellness is developing the culture and infrastructure for healthcare practitioners to seek and have access to confidential mental health services when they need them. Providing individual or group support for healthcare practitioners can also enhance mental health and wellbeing and may play an important role in retention. Furthermore, specifically directing interventions to healthcare practitioners who are most vulnerable to having higher rates of work-related stress, distress, anxiety, and burnout is an important form of support.

5.1.5.1 Improving wellbeing and resilience through clinical interventions

Wellbeing and professional fulfilment are not only driven by an individual's personal resilience, but also organizational and system-level dedication to a wellness culture and efficiencies in practice (Olson et al., 2019).

While the organization is responsible for most factors related to professional wellbeing, improvements in healthcare practitioners' resilience have also been promoted through individual-level interventions such as cognitive behavioural, self-reflection, mindfulness, simulation, and stress reduction therapies, workshops, or courses (Huey & Palaganas, 2020).

Many studies have investigated the effectiveness of individually targeted strategies to reduce stress and improve the wellbeing and resilience of healthcare practitioners. Some of the most studied interventions include mindfulness-based interventions and cognitive behavioural therapy (CBT). Mindfulness programs have been found to be more effective than more passive comparators (e.g. a psychoeducational leaflet) in reducing psychological distress, stress, depression, and burnout among healthcare practitioners (Alkhawaldeh et al., 2020; Fendel et al., 2021; Ramachandran et al., 2022). Similarly, studies based on CBT principles or therapy had positive effects on mindfulness, sleep, fatigue, depression, and work engagement (Alkhawaldeh et al., 2020; Melnyk et al., 2020). A challenge in these interventions is the time required to attend the sessions, therefore many of these intervention studies had a high rate of attrition (Ramachandran et al., 2022). Although these interventions were found to be effective for those healthcare practitioners who completed the program, generally the effect on those who drop out early is unknown (Ramachandran et al., 2022). Adapting programs to the local context and schedule are important in that regard (Cleary et al., 2018; Melnyk et al., 2020). For instance, interventions to reduce burnout among physician residents found that programs that were most successful included multiple teaching methods and occurred during protected time as part of their residency (Vasquez et al., 2021).

5.1.5.2 Providing targeted mental health support to healthcare practitioners

Some interventions are specifically targeted at workers who are at higher risk of developing anxiety, stress, depression, or post-traumatic stress symptoms. Research indicates that some healthcare practitioners are more vulnerable to having higher rates of work-related stress, distress, anxiety, and burnout (Figure 19; Buckley et al., 2020; De Brier et al., 2020; Gribben & Semple, 2021; Lowe et al., 2021; Schneider & Weigl, 2018; Busch et al., 2021; Bekelepi & Martin, 2022).

New healthcare practitioner graduates are another group that can experience high levels of stress (Eckerson, 2018). The transition from student role to healthcare practitioner can be overwhelming. One report estimates that 35 to 60% of nurses leave their first place of employment within one year (Eckerson, 2018). This stress may be exacerbated in the current context where there may be inadequate support from colleagues and supervisors due to staffing shortages. Mentorships and other forms of supports for new graduate healthcare practitioners are described in greater detail in Chapter 7: Planning & Development.

Figure 19. Healthcare practitioner groups at high risk of burnout.
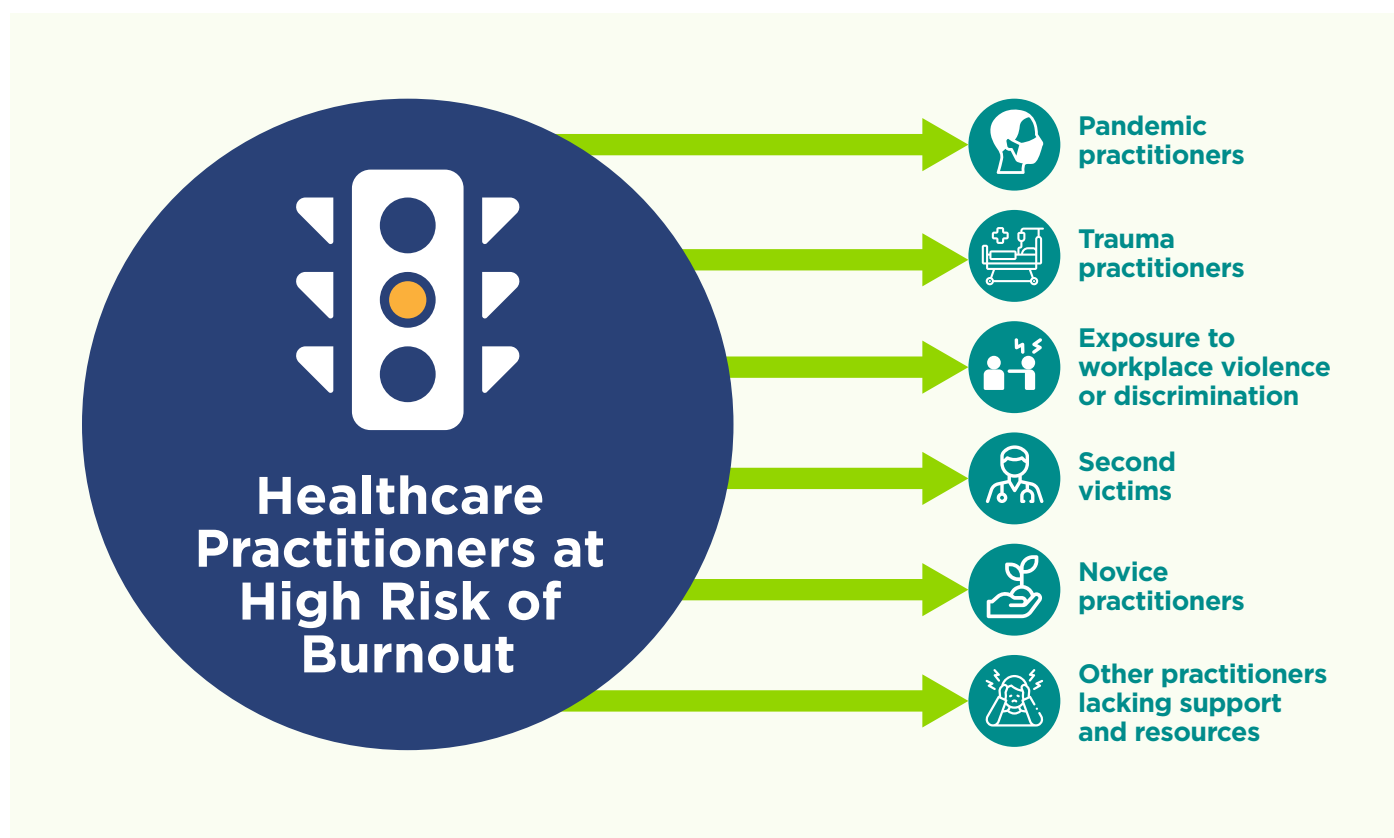
5.1.5.3 Supporting healthcare practitioners during pandemics

Research indicates that organizations have an important role in supporting the mental health of their healthcare practitioners during pandemics (Brooks et al., 2018; Chigwedere et al., 2021; De Brier et al., 2020; Zace et al., 2021). This support can take many forms. Healthcare practitioners who received training in handling infectious disease outbreaks had lower rates of anxiety (Brooks et al., 2018). In contrast, those who perceived their training as inadequate were more likely to experience burnout and post-traumatic stress symptoms even after the pandemic. Healthcare practitioners who received clear communication and support from their organization were less likely to develop mental health problems (De Brier et al., 2020). Other organizational-level interventions that were favourable for mental health include (Zace et al., 2021; Chigwedere et al., 2021):

- promoting leadership and teamwork,
- adjusting working hours to ensure that workers have sufficient rest,
- providing sufficient personal protective equipment and other sufficient material and human equipment, and
- offering opportunities for frontline staff to provide feedback to administrators.

Researchers have concluded that addressing the source of stress experienced by healthcare practitioners is an important venue for high impact interventions. (Zace et al., 2021). In terms of psychological support, healthcare practitioners who accessed mental healthcare services were at lower risk of developing mental health problems (De Brier et al., 2020). When choosing interventions to support the psychological health of healthcare practitioners, appropriate barriers and enablers need to be considered. Possible barriers include lack of equipment and staff time, and workers and the organization not being fully aware of what they need to support their mental wellbeing. Facilitators include interventions that are adapted for local needs, offer a positive, safe, and supportive environment, and using effective communication (Zace et al., 2021).

Paying particular attention to how the pandemic has had a disproportionate impact on certain healthcare practitioners can be instructive. A 2022 review of women healthcare practitioners' experiences during the COVID-19 pandemic, as well as earlier crises, revealed that women experienced higher rates of depression, anxiety, and post-traumatic stress disorder due in part to higher risks of exposure, increased workloads, and caregiving responsibilities (Morgan et al., 2022). The authors' recommendations for gender-informed strategies included economic assistance to address COVID-19 related pay gaps, support for personal caregiving duties, and increase in women's representation in pandemic decision-making.

Our engagement participants spoke favourably of wellness initiatives for healthcare practitioners. Ontario's Centre for Addiction and Mental Health (2017), for example, provides support for healthcare practitioners and students through the *ECHO Coping with COVID* program. Similarly, British Columbia has a new provincial health workforce wellness team to support and supplement existing mental health resources for healthcare practitioners (Government of British Columbia, 2022), and others are also creating or expanding mental wellness initiatives. These initiatives are particularly appreciated given the current anxiety among healthcare practitioners.

5.1.5.4 Providing second victim support programs

Patients can be subject to adverse events and medical errors in the healthcare system. 'Second victim' is the term used to refer to a healthcare practitioner who provides care for a patient harmed by an adverse medical event. Symptoms such as remorse, guilt, shame, anxiety, and depression are highly prevalent among healthcare practitioners when patients are harmed by care. There is research evidence that second victim support programs have a beneficial impact on wellbeing (Busch et al., 2021). There is also evidence that these programs can have a positive impact on the safety culture of healthcare institutions.

"The implementation of a second victim support intervention is by itself a powerful statement against blame culture and stigmatization of mental issues and sends a signal to the entire health workforce that their professional and personal wellbeing is important and that they are deserving of psychological support," (Busch et al., 2021, p. 12).

Additional interventions at the organizational level could include policies to prevent, report, and address any near misses or errors.

LEADING POLICIES AND PRACTICES IN ACTION:

Gerald took a position as a registered nurse (RN) in a long-term care home. As the only RN working with a large team of nursing assistants and personal support workers, Gerald soon realized that it was his sole responsibility to administer medications to the hundred residents living in the home. He no longer had time to provide much other frontline care to patients — something he had both enjoyed and been praised for by other colleagues and past managers. Moreover, while he was preparing medications, he was constantly being bombarded with questions, calls from disgruntled families, and support to de-escalate behaviourally complex patients. One day, Gerald made a fatal medication error. The manager who had recent training in leadership recognized that the error was grounded in systemic issues — an excessive workload and staffing shortages. After a formal review and debrief process, the manager added a second RN to all shifts, increased administrative support, and provided Gerald with immediate support recognizing him as a second victim.

5.2 CHAPTER SUMMARY

The purpose of this chapter was to address questions regarding how to support and retain the health workforce, including the influence that the working environment has on the mental health of its workers. The evidence reinforced that excessive workloads and inadequate staffing are associated with more stress, higher rates of work-related hostility, harassment, bullying, violence, and absenteeism, and lower rates of retention, particularly for healthcare practitioners from systemically disadvantaged groups or groups at higher risk for burnout. To address these critical challenges, several leading policies and practices were suggested including developing and enhancing supportive leadership and organizational infrastructures, ensuring safe staffing levels and workloads, addressing workplace hostility, harassment, bullying, and violence, and reducing administrative burden. Additionally, strategies to promote retention and workplace wellbeing included recognizing the professional contributions and autonomy of healthcare practitioners through job control, pay, pay equity, and job stability, as well as adequate access to evidence-based mental health support.

CHAPTER 6:
DEPLOYMENT & SERVICE DELIVERY

Leading Policies & Practices

➡ Enabling healthcare practitioners to optimize their scopes of practice to meet community health needs efficiently, effectively, and safely.

➡ Supporting the deployment of more team-based models of care which integrate and support the utilization of a broader range of healthcare practitioners.

➡ Ensuring accessibility, quality and interoperability of digital health technologies, including virtually enabled care, by investing in infrastructure and building on user experience data from patients, healthcare practitioners, and other key actors.

➡ Providing individual and group supports for healthcare practitioners to enhance their mental health and wellbeing and develop their resiliency to work stressors.

6.0 CONTEXT

The Canadian Academy of Health Sciences has previously examined health systems transformation through the lens of complex, chronic conditions (Nasmith et al., 2010), models of care optimizing scopes of practice (Nelson et al., 2014), and access to oral healthcare for vulnerable Canadians (Canadian Academy of Health Sciences, 2014). More recent assessments by the Academy identified the impact of the current health systems on specific populations (Canadian Academy of Health Sciences, 2019; Canadian Academy of Health Sciences, 2022). This chapter expands on this previous work.

Efficient deployment of healthcare practitioners remains a challenge and significantly affects the quality of, and access to, services and care for many Canadians. It is influenced by several multi-level factors, including, but not limited to: different models of care delivered at local and organizational levels, presence or absence of healthcare infrastructure, economic matters (i.e. funding, financing, and remuneration of healthcare practitioners), and legal, regulatory, and accountability or liability dynamics (Bourgeault et al., 2014).

6.0.1 Barriers to collaborative, team-based care

There is ample evidence supporting a collaborative approach to healthcare that allows practitioners to optimize their scopes of practice (Duignan et al., 2020; Hatton et al., 2021; Wilson et al., 2021); however, many barriers continue to exist (Girard, 2021; Hatton et al., 2021; Nelson et al., 2014; Teper et al., 2020; Wilson et al., 2021):

- rigidity of legislation, regulations, funding, and remuneration,
- lack of communication between and across care settings and practitioners,
- inflexible hierarchies within organizations,
- lack of clarity in role definitions, and
- lack of buy-in to expanded scopes of practice.

One well-known barrier is the highly fragmented professional regulation standards and processes that exist across the provinces and territories that have obstructed national standards, seamless information sharing, and practitioner mobility (Lewis, 2023). Clearly articulating practitioner practice parameters and reducing barriers to practise were two elements of regulatory responses during the COVID-19 pandemic that may have ongoing relevance moving forward (Bolislis et al., 2021).

There is also a misconception that collaborative care models are adopted to substitute lower for higher paid practitioners (Lafontaine, 2022). On the contrary, the goal of team-based care is to remove barriers to care so that patients get what they need, from the most appropriate practitioner, at the time when they need it (Wei et al., 2022; Lafontaine, 2022).

Another significant barrier to team-based models of care is reputed to be payment models and wage structures to reimburse practitioners. The evidence, however, linking cost-effective remuneration practices and the positive outcomes of team-based care remains unclear.

6.0.2 Funding and remuneration

Spending on healthcare in Canada forms such a significant portion of the gross domestic product. As such, there is always considerable tension in whether it should be funded through public or private sources, and whether private or public healthcare practitioners deliver these services, as well as the source, manner, and extent of their payment for these services (Marchildon & Allin, 2022).

While often discussed in simple, binary terms, Canada's health systems are actually made up of an entanglement of public and private financing, service delivery, and remuneration.

Who pays for healthcare delivery in Canada, and how and how much healthcare practitioners are remunerated to deliver healthcare services is highly complex. These complexities and their implications for the health workforce are briefly discussed later in this chapter.

6.0.3 Digital health and virtually enabled care

There is tremendous potential for using digital technology in healthcare with significant implications on the health workforce. Digital technology can aid in improving accessibility for patients that are far from care centres, as described in Chapter 3: Rural & Remote Communities. In addition, it increases access in general, regardless of distance. When technology facilitates the provision of care and practitioners can do more with less or more quickly, it can augment the capacity of the overall system.

Yet, implementation in practice does not always consider the consequences of new technologies on the health workforce (i.e. in terms of expectations, competencies, usability, workload). For example, on average, Canadian healthcare practitioners reported spending more than an hour per day *beyond* what they felt was reasonable searching for patient information (Canada Health Infoway, 2022). Practitioners may also have other concerns about digital tools, such as possible lack of transparency, threats to data privacy, or the sustainability of their own roles (Brommeyer et al., 2023; Organisation for Economic Co-operation and Development, 2019; Socha-Dietrich, 2021). They may also face challenges to using systems, especially if they do not see them as clinically useful or find the systems have low interoperability[17]. Other impacts, in terms of technological burnout, were discussed previously in Chapter 5: Support & Retention.

6.1 LEADING POLICIES & PRACTICES

The following evidence-informed leading policies and practices introduced at the beginning of this chapter serve to support the efficient delivery of services and deployment of healthcare practitioners.

6.1.1 Optimizing scopes of practice

Enabling healthcare practitioners to optimize their scope was identified as a leading policy and practice to support the efficient delivery and deployment of healthcare in Canada. Optimizing scopes of practice can encompass a combination of strategies that include healthcare practitioners working to the top of their scope and expanding their scope.

Working at the top of scope refers to a practitioners' ability to take on tasks for which they were trained and are competent to perform (Nelson et al., 2014). Expanded scopes of practice refers to healthcare practitioners taking on a broader range of tasks that would fall outside of their normal scope.

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[17] Interoperability can be defined as the seamless exchange or sharing of specific patient information between healthcare practitioners across care settings (Canada Health Infoway, 2022).

Optimizing scope of practice can include task shifting and task sharing, as well as considering new emerging roles.

6.1.1.1 Supporting practitioners' ability to work to top of scope

According to the evidence, an important element of efficiently deploying healthcare practitioners is maximizing their ability to work at the top of their scope (Nelson et al., 2014). This can be facilitated by workplace processes and procedures and may not always require legislative or regulatory changes. There are opportunities for enabling greater flexibility for the healthcare team or institution to make decisions about, and be accountable for, assigning appropriate and optimal scopes of practice within a regulated structure (Nelson et al., 2014).

For example, nurse practitioners working in primary care in the United States practised at the top of their scope and decreased health system costs by lowering rates of emergency department visits and hospital admissions, and providing preventative healthcare (Barnett et al., 2022). In both Canadian and international contexts, registered nurses practising at top of scope demonstrated increased efficiencies in team-based care models (Norful et al., 2017). Similar findings were reported for nurses within homecare settings (Ganann et al., 2019), and for dental hygienists and dental therapists (Barnes et al., 2020).

Multi-level support (e.g. individual, organizational, policy) is typically required to maximize healthcare practitioners' ability to work at top of scope (Ganann et al., 2019; Girard, 2021; Schirle et al., 2020). At the organizational level, policies include fostering supportive environments that facilitate greater autonomy and independence, relationships with other practitioners, and greater professional recognition (Schirle et al., 2020).

At a policy level, evidence from the Canadian context and other jurisdictions suggests legislation may support healthcare practitioners to work at the top of their scope (Nelson et al., 2014; Egerod et al., 2021; Girard, 2021; Litchman et al., 2018; Norful et al., 2017). Examples of supportive legislation include providing clear definitions of scopes of practice so that healthcare practitioners can confidently practise to the fullest capacity of their competence (Girard, 2021).

An important enabler is greater support from organizational managers, other healthcare practitioners, and leaders from professional associations (Bollen et al., 2019; Karimi-Shahanjarini et al., 2019; Hatton et al., 2021; Hindi et al., 2019; Teper et al., 2020). For example, integrating pharmacists into hospital-based teams was facilitated when other team members recognized the importance of the pharmacists' role and supported their ability to take on an expanded scope (Hatton et al., 2021).

Leveraging task sharing and task shifting
In this report, we use the term task sharing and task shifting to refer to the proactive redistribution of specific aspects of healthcare amongst healthcare practitioners, administrative

staff, patients, lay or peer workers, or caregivers and families. This terminology and approach are preferable to 'substituting' healthcare practitioners with the sole aim to lower costs. Instead, the rationale for task sharing should relate to:

- improving patient access to care,
- optimizing healthcare practitioners' scopes of practice,
- offering all involved meaningful and fulfilling ways to contribute to care, and above all,
- ensuring high quality outcomes.

 Some examples of effective task shifting include:

- *Administrative staff/scribes:* Documentation delegation to medical scribes or administrative staff resulted in notes that were of equal or greater quality (Shah et al., 2021)
- *Families/parents:* Preterm infants whose parents were provided teaching to participate in care roles in the neonatal intensive care unit were discharged home 2.5 days sooner than infants receiving standard care (Benzies et al., 2020),
- *Lay/peer workers:* Mental health peer workers were found to relate well to patients, and produced greater patient satisfaction (Mutschler et al., 2021; Naslund et al., 2019).

If implemented thoughtfully, task shifting may help to address health workforce resource shortages and expand the healthcare capacity (Leong et al., 2021).

In addition to organizational facilitators such as adequate funding, task shifting can be enabled by (Leong et al., 2021; Mutschler et al., 2021):

- educating all team members throughout implementation, including making presentations to sites about benefits, research evidence, and roles,
- setting clear roles and responsibilities of each team member,
- offering appropriate clinical supervision and support to team members taking on new or expanded roles, and
- ensuring appropriate liability insurance protection is provided to team members taking on new or expanded roles.

Increased overlap of scopes of practice will broaden the ability of the health workforce to meet population health needs by improving access to services in some areas. It may also create opportunities to develop new emerging roles. For example, community health workers in low-income countries have had a positive impact on health services and patient outcomes (Anthony et al., 2019; Jack et al., 2017). In the Canadian context, government representatives identified that they may also be more readily available to lead health promotion work in certain regions. A recent review on the integration of community health workers into higher income countries found that this approach has demonstrated potential to both reduce health inequity

of systemically disadvantaged populations and cost of medical services (Najafizada et al., 2015). However, in Canada their roles are still largely unrecognized and unregulated. In contrast, in Alaska, community health workers already conduct more than half of all yearly patient encounters (Alaska Native Tribal Health Consortium, 2018).

The need to re-distribute non-clinical workload burden (e.g. documentation) back to administrative personnel to limit the number of hours spent on these tasks by healthcare practitioners was also highlighted as an implementation strategy by engagement participants. Redistributing non-clinical workload could free up healthcare practitioners' time for providing direct clinical care. As discussed in Chapter 5: Support & Retention, this also enhances job satisfaction as the current administrative burden of some healthcare practitioners is contributing to burnout.

6.1.1.2 Expanding scopes of practice with appropriate training and supports

The evidence reinforces that expanding scopes of practice across a wide range of healthcare practitioners is possible and, depending on context and settings, can improve patient or health systems' efficiency and effectiveness (Anthony et al., 2019; Banks et al., 2020; Jansson et al., 2021). Role expansion across the health workforce has broadly been shown to provide practitioners with new challenges, opportunities for career progression, and greater job satisfaction (Banks et al., 2020; Fox et al., 2021).

Yet, expanding scopes of practice can be complex and often requires legislative and regulatory changes to ensure the practitioners are qualified and legally permitted to perform a wider range of tasks (Nelson et al., 2014).

With appropriate training, advanced practice nurse-led care in ambulatory or community care settings demonstrated high-quality care and more accessible, productive, and safer care (Chan et al., 2018). Nurse-led services also supported the continuity of care in both primary and tertiary healthcare settings (Davis et al., 2021). However, the potential economic benefits of nurse-led care in the Canadian context require further evaluation (Anthony et al., 2019; Chan et al., 2018).

Pharmacists with appropriate training to support expanded scope (e.g. prescribing, case management) have been found to be cost effective in some settings and contexts (Anthony et al., 2019; Bullock et al., 2019; Dawoud et al., 2019; Graham-Clarke et al., 2019; Hall, 2018; Hatton et al., 2021; Hindi, 2019; Howarth et al., 2020; Hayhoe et al., 2019). Integrating pharmacists into primary care increased primary care use but reduced the number of physician appointments and emergency department attendance (Hayhoe et al., 2019).

Appropriately trained pharmacy technicians have taken on expanded scope roles across different practice settings, and in some settings (perhaps with augmentation by technology

such as automated dispensing machines), these roles can save time and costs (Banks et al., 2020; Mattingly & Mattingly, 2018). Cost reductions were primarily due to wage differences between pharmacy technicians and pharmacists, where technicians substituted pharmacists to complete certain tasks (i.e. checking the accuracy of medication prior to dispensation; Banks et al., 2020).

Physiotherapists working with an expanded scope were able to reduce the load of orthopedic surgeons, optimize the role of other physiotherapists, shorten patient pathways, and increase efficiencies of service in some settings (Trostrup et al., 2020; Williams et al., 2019).

Across these different initiatives, the following implementation considerations are needed (Aurizki & Wilson, 2022):

- time required for training,
- regulatory changes,
- provisions in place to avoid burnout and possible distress related to increased workloads, and
- time needed to adjust to new processes.

Our engagement participants emphasized the need for laws and regulations to expand the scopes of practice of various professional groups, citing Québec's *Bill 90* (An act to amend the *Professional Code* and other legislative provisions as regards the health sector, 2002) and *Bill 41* (An act to amend the *Pharmacy Act, 2011*) that target nurses and pharmacists respectively. Participants also emphasized the benefits of simplifying the licensure requirements across the country.

Expanded scopes of practice can also help during a healthcare crisis when there is a sudden and urgent demand for increased services.

Legislative changes in Ontario and in some United States jurisdictions, for example, authorized veterinarians to administer COVID-19 vaccines under appropriate supervision (University of Guelph, 2022; McReynolds, 2021). Veterinary diagnostic services in the United States also helped to test for COVID-19 (Cima, 2020).

An expanded role for community paramedics reduced the demand for emergency visits and hospitalizations and improved the support of elderly and high-needs patients in the community (Thurman et al., 2021; van Vuuren et al., 2021). In Canada, some community paramedical services implemented guidelines for paramedics to provide services so that transfer to hospital is not necessary, such as providing immediate treatment for some conditions in the patients' residences or making referrals to specialists for other services (Allana & Pinto, 2021). Examples of this approach include:

- Alberta Health Services' *EMS Mobile Integrated Healthcare – Community Paramedic Program* (2023b),
- British Columbia Emergency Health Services' *Community Paramedicine Program* (2023),
- Ontario's expanded emergency health services for select municipalities (Government of Ontario, 2022b),
- Nova Scotia's *Community Paramedics* (Nova Scotia Paramedics International Union of Operating Engineers Local 727, 2023), and
- Prince Edward Island's *Paramedics Providing Palliative Care at Home Program* (Health Prince Edward Island, 2022).

In some contexts such as palliative care, these practices reduced emergency department visits and improved patient satisfaction (Rosa et al., 2022). Yet, the funding mechanism (e.g. remuneration, cost of services) of these initiatives are unclear (Allana & Pinto, 2021). The Government of Ontario (2019) piloted new payment models to reimburse paramedics providing expanded services.

There are, however, obstacles to implementing expanded scopes. These changes can be viewed as a potential threat to the income and status of healthcare practitioners who were originally providing the clinical care (Leong et al., 2021). It may also suddenly change the nature of their clinical load, for instance leaving only more complicated patient cases, but no change in billing codes to reflect this extra complexity. When expanding scopes of practice, thoughtful consideration needs to be given to developing collaboration amongst all parties, a system for coordinated care, practitioner empowerment, patient preference, shared decision-making, training, supportive organizational systems, clear processes and outcomes, and financing and remuneration (Leong et al., 2021). Coordination mechanisms, such as governance models that embed collaboration and accountability, may also enable further optimization (Menear et al., 2019).

Researching and gathering data to evaluate outcomes on expanded scopes of practice
Uncertainties and challenges around expanded scopes of practice represent a barrier that may be overcome through additional research (Patel et al., 2019). Insights gleaned through these efforts can drive policies aimed at improving the efficient deployment of healthcare services through optimized scopes of practice. This includes consideration of how patient, community, and population health needs influence changes in scopes of practice and models of care, leading to improved outcomes (Figure 20). Engagement participants noted the opportunity for comparative research on scopes of practice in Canada given the high degree of variability across provinces and territories. Furthermore, many found the lack of standardization challenging and unjustified and a potential risk or barrier to increased mobility.

Figure 20. How scopes of practice relate to models of care.
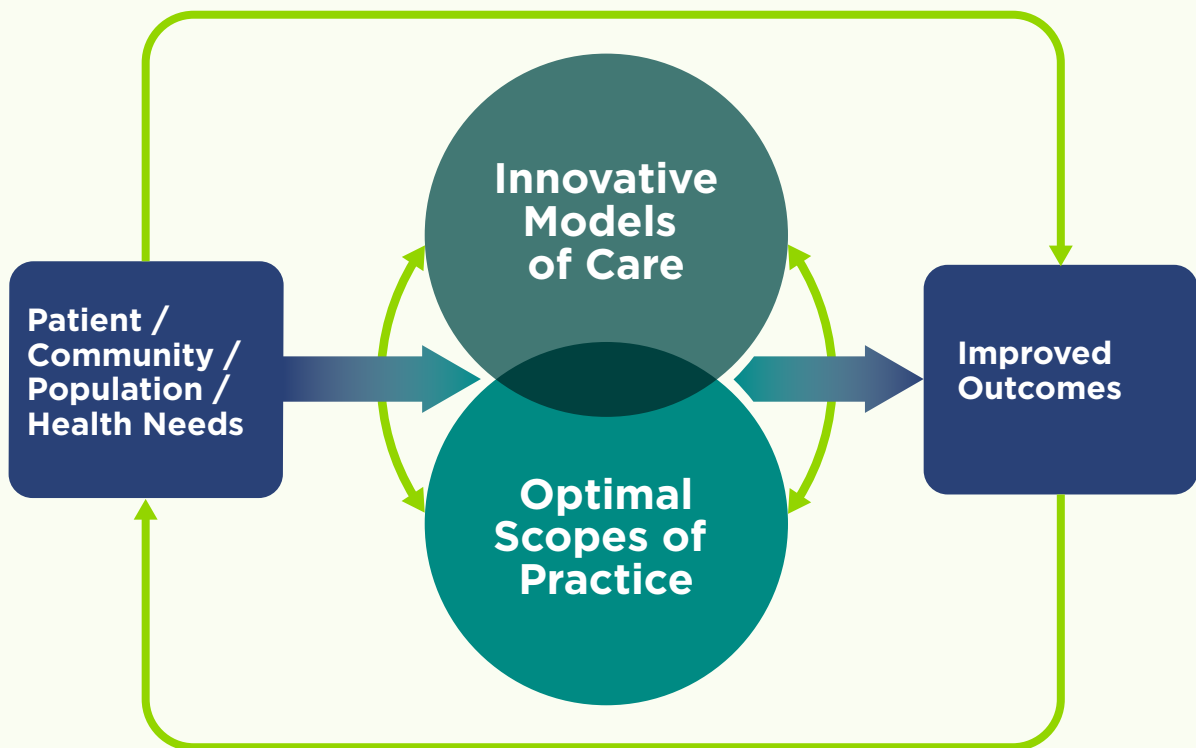
How do Scopes of Practice Relate to Models of Care

Expanding scopes of practice (i.e. phramacists' ability to prescribe), overlapping scopes of practice (i.e. nurse practitioners working with familty physicians), and new roles (i.e. associated with technological innovations) necessitate modifications to the design and delivery of healthcare services.

Adapted from Nelson et al. (2014)

6.1.2 Deployment of team-based models of care

Team-based models represent an opportunity to re-imagine healthcare and provide more comprehensive care by integrating a broader range of healthcare practitioners. This can include taking a transdisciplinary approach to care that involves the integration of work through sharing professional values and language (Opie, 1997). Integrated team-based models can impact the health workforce by equalizing practitioner workload and improving job satisfaction (e.g. practising at optimal or expanded scope, career advancement; Wei et al., 2022) and have the potential to be cost-effective (Segal et al., 2019).

Despite these challenges, pockets of healthcare delivery in specific settings (e.g. in oncology, maternity, primary, geriatric, and chronic care) have integrated a wider array of practitioners (e.g. nurses, pharmacists, midwives) into teams (Hatton et al., 2021; Lisy et al., 2021; Marino et

al., 2018; Norful et al., 2017; Segal et al., 2019). These examples provide opportunities to support the implementation of these models of care. For example, non-physician and community health workers (Jack et al., 2017), and midwives in relation to obstetrics (Thiessen et al., 2020), have been integrated into teams and supported the extension of services. Furthermore, when their roles were clearly articulated, pharmacists integrated into oncology teams yielded cost savings due to better medication management and extended services in primary care (Segal et al., 2019). In Nunavut, a part-time, blended learning model of in-person and remote training support, has trained non-clinical hospital employees as basic radiological technicians (Minogue, 2005). This program has greatly improved access to these services in some of Canada's most northern, remote, and isolated communities, according to engagement participants.

To support the evolution towards integrated team-based models of care, aligning the regulation of healthcare practitioners may be a promising policy response (Girard, 2021). Umbrella laws, which are legal tools that regulate multiple professions under a single statute or act, are recognized as conducive to interprofessional collaboration (Leslie et al., 2021). A common legal structure promotes a culture of equality among professions and facilitates changes in professional structures – an important aspect of interprofessional collaboration (Girard, 2021). For example, Segal and colleagues (2019) suggest that federal policies recognizing pharmacists as licensed independent practitioners may be important for scale-up and allow qualified pharmacists to provide additional patient services.

Engagement participants highlighted that current remuneration structures and lack of funding present barriers to team-based models of care. As a potential strategy, participants expressed interest in understanding the return on investments for team-based models of care and exploring financially sustainable options. Enablers for this could include investments for research and change management to support practitioners participating in team-based programs as well as longer-term financial commitments to expand and spread successful initiatives.

6.1.2.1 Defining team-based roles, structures, process, and pathways between professions to enable interprofessional collaboration

The evidence broadly highlighted that defined roles, structures, processes, and pathways between professions contributed to a more cohesive team unit and thus enabled better team-based care (Bollen et al., 2019; De Brún et al., 2019; Duignan et al., 2020; Ganann et al., 2019; Hatton et al., 2021; Wei et al., 2022; Williams et al., 2019). For instance, in an exploration of pharmacists' role in United Kingdom-based pharmacies, harmonization of services, and roles facilitated the care provision, which included lifestyle advice and behaviour change techniques (Hall et al., 2018).

Interventions to improve healthcare delivery by altering professional roles, and therefore interprofessional collaborative practices, can be effective (Wei et al., 2022). Successful implementation of team-based care is promoted through (Duignan et al., 2020; De Brún et al., 2019):

- attitudes of healthcare practitioners (e.g. do they encourage each other to work at the top of their scopes?),
- nature of communication practices (e.g. are they regular, interactive?),
- presence of structural and organizational features such as resources (are they limited?) and external regulations (e.g. do they constrain collaboration?), and
- management and leadership (e.g. does it resist or support? Is leadership 'collectivist'?).

Engagement participants proposed greater integration of referral pathways to medical and other specialists to increase the efficiency of healthcare services and collaboration amongst healthcare practitioners. In both Ontario and Nova Scotia, new team models that integrate referral pathways and co-locate team members have been developed to improve collaboration of healthcare practitioners working in primary care and mental health and addictions services, and to offer patients more rapid access to care. In Nova Scotia, a number of hospitals are using a collaborative family practice teams model to improve access to mental healthcare practitioners through a shared referral system involving primary healthcare practitioners, clinical psychotherapist, social worker and mental healthcare practitioners (Nova Scotia Health Authority, 2022). In this 'dual model', administrative staff provide shared scheduling support for all practitioners. Ontario's *Rapid Access Addiction Medicine Clinic* has family physicians, psychologists, psychiatrists, nurses, social workers, addictions counsellors, and a system navigator collaborating through multiple referral pathways from emergency departments, community agencies, and primary care practitioners (Sunnybrook Health Sciences Centre, 2023). Similarly, Alberta's *Virtual Opioid Dependency Program* provides opioid dependency care from teams consisting of physicians, nurses, addictions counsellors, social workers, and professional support staff (Opioid Treatment Alberta, 2018).

Co-designing programs whereby team members were given the responsibility to help redesign their service and co-develop their own goals and team charter was an example of team development activities and team training to enable and enhance collectivistic leadership (De Brún et al., 2019).

6.1.2.2 Offering ongoing training in team-based care

The evidence highlights the need for continued training within the practice environment in order to support the learning and development of healthcare practitioners in team-based models (Bollen et al., 2019; De Brún et al., 2019; Hall et al., 2018; Hatton et al., 2021). Protected time for this additional training was highlighted as a key component of training success (De

Brún et al., 2019). For example, within the context of nurses working in long-term care in Norway, greater organizational support (e.g. adequate staffing, physical space) were factors that created a positive work environment, greater job satisfaction, and provided safe spaces for reflective learning (Potrneby et al., 2022).

Co-location (i.e. working in the same building) was also highlighted as a critical organizational facilitator as it can increase interprofessional collaboration at organizational and team functional levels (Wei et al., 2022). Hatton and colleagues (2021) noted that proximity with, and continuity of, team members helped to build and maintain interprofessional relationships. Although this finding is specific to the integration of pharmacists into multidisciplinary teams, it is broadly applicable to integration of other healthcare practitioners. Other examples of facilitators included joint training, education, and regular meetings to raise awareness of practitioners' skills, and mentorship to provide support around navigating the complexities of healthcare practitioner services (Bollen et al., 2019).

6.1.2.3 Fostering safe workplace environments that encourage open communication

Effective communication is a critical enabler of collaboration in team-based care (Bollen et al., 2019; De Brún et al., 2019). It can be facilitated through the development of interprofessional relationships (Bollen et al., 2019; De Brún et al., 2019) and re-thinking hierarchical structures that can create or maintain communication barriers (Hatton et al., 2021). For example, in models where consultant physicians and pharmacists collaborated together, modelled interprofessional behaviours, and provided strong leadership, other team members felt more comfortable in also adopting non-hierarchical collaborative behaviour (Hatton et al., 2021).

Engagement sessions with provincial leaders reinforced the continued existence of professional territoriality, with some practitioners being hesitant towards integrating into team-based models of care. However, participants suggested that since the health workforce is currently exhausted and fragile, they may now be primed for change and open to new approaches to care that support their wellbeing and reduced workload.

6.1.3. Integrating digital health technologies

Digital health technologies and virtually enabled care have broad applications to support the health workforce and improve healthcare delivery and access (Goncalves-Bradley et al., 2020). It covers a broad range of technologies, from simple videoconferencing to AI-powered documentation support to remote robotic surgery and automation (Rotenstein et al., 2019). For the health workforce, digital health technologies touch almost every aspect of healthcare and, in many respects, can make practices more efficient. For example, for pharmacists and medical laboratory technicians, automation of repetitive technical processes may now support their roles (Prodaniuk, 2020; Spinks et al., 2017). Virtually enabled care has been shown to

improve continuity of care and can be delivered both synchronously (real time interactions) and asynchronously (store and forward; Culmer et al., 2019; Goncalves-Bradley et al., 2020; O'Keefe et al., 2021). It has evolved during the COVID-19 pandemic, mainly as a stopgap, but has continued as a hybrid approach (Kondylakis et al., 2020).

Broadly, digital health technologies have been shown to reduce geographic barriers, wait times, and costs, while ensuring comparable clinical outcomes (Culmer et al., 2019; Goncalves-Bradley et al., 2020; Odendaal et al., 2020). For example, in the ophthalmology setting, shorter wait times, lower costs, and improved patient outcomes, in both urban and rural settings were reported, despite high introductory costs of setting up the teleprogram (Conway et al., 2021). Pregnant women who received remote monitoring, and access to nursing support through an online community had significantly higher satisfaction with care, lower prenatal-related stress, and attended about two to three fewer obstetric clinical appointments compared to those in the standard obstetric model (Butler Tobah et al., 2019). Telepsychiatry and other virtually enabled mental health services have also been shown to improve patient and practitioner experiences (Eze et al., 2020; O'Keefe et al., 2021). Several articles suggested that appropriate remuneration for practitioners involved in any virtually enabled programs is essential to the success of such programs (Conway et al., 2021; Culmer et al., 2019).

While widespread mobile broadband connectivity in some communities provides new opportunities for efficient health workforce deployment, the application and success of implementation of telehealth is highly dependent on the care and geographic setting. The facilitators and barriers of delivering virtually enabled care in rural and remote regions (Conway et al., 2021; Goncalves-Bradley et al., 2020; Odendaal et al., 2020; O'Keefe et al., 2021) is discussed further in Chapter 3: Rural & Remote Communities with evidence from low- and middle-income countries (Ciapponi et al., 2017; Eze et al., 2020; Oduor et al., 2021) supporting the discussion.

There are Canadian examples of virtually enabled health monitoring programs aimed at more efficient health workforce deployment. The *Rapid Access to Consultative Expertise* program connects primary care practitioners in British Columbia and the Yukon to specialist colleagues for urgent advice within two hours, reducing unnecessary emergency department visits and face-to-face specialist consultations (Wilson et al., 2016). Nova Scotia Health's Innovation Hub (2022) recently launched its *Virtual Hallway* pilot program which enables primary care physicians and nurse practitioners to conduct brief phone consultations with their local specialist colleagues or those from across Canada (e.g. Alberta, Ontario, Saskatchewan) for patient-specific advice. Additionally, In Nunavut, the *Virtual Nurse Practitioner Chronic Disease Program* features a dedicated workforce and supports continuity of care by ensuring all patients have ongoing teleaccess to a primary care practitioner (Borycki & Kushniruk, 2022). It aims to reduce costs by mitigating the number of patients requiring costly medivac transfers for urgent treatment of progressed disease.

Health informatics and digital health, two rapidly expanding disciplines, are becoming increasingly important to the sustainability of service delivery, as highlighted through the COVID-19 pandemic (Brommeyer et al., 2023). Technology has transformative effects on the health workforce, to which the Ministers of the Organization of Economic Cooperation and Development suggested requires a health workforce agenda encapsulating.

"… assessing health professional skills, remuneration, and coordination, and how these skills and models of care need to adapt in light of digitalization, wider technological changes, and the evolution of patients' needs," (Maeda & Socha-Dietrich, 2021, p. 8).

In response to this technological shift, there has also been a growth in accredited clinical and health informatics educational programs (Feldman et al., 2022). According to the Canadian College of Health Information Management (2023), there are currently 23 accredited programs (certificate to Masters level) at colleges and universities across Canada in the areas (from most to least) of health information and management, clinical documentation, health terminology, and coding. Additionally, the Canada Health Infoway (2023) funds a number of initiatives led by educational and accreditation bodies to help prepare the future health workforce. They are also collecting data to assess citizen accessibility, overall need for virtually enabled care, care needs based on rural or remote settings, and scope of virtually enabled care in Canada, including during the pandemic (Borycki & Kushniruk, 2022).

6.1.3.1 Promoting beneficial adoption of digital health technologies

The effective implementation and responsible use of digital health technologies are contingent on building a health workforce with a sufficient time, willingness, and level of knowledge and skills to effectively navigate these digital transformations (Wong et al., 2021). Healthcare practitioners often report not having opportunities for the up-skilling needed to fully utilize the technology and point to financial and organizational aspects of work – designed for the pre-digital era – that are not adequately reformed for new technology to add value (Socha-Dietrich, 2021). Digital health technologies can be best implemented when building on user experience data from patients and their caregivers, healthcare practitioners, and other key actors and require infrastructure to ensure accessibility, quality, and interoperability.

Limited digital literacy can pose an obstacle to widespread adoption by healthcare practitioners. It can be overcome through training and opportunities to explore the functionalities of technology-based interventions (Davies et al., 2020; Goncalves-Bradley et al., 2020; Koivunen & Saranto, 2018; Odendaal et al., 2020). Nurses highlighted inadequate support and training, insufficient experience in using telehealth, and limited resources (e.g. time, money) as barriers to implementation of telehealth technologies within the nursing practice (Koivunen & Saranto, 2018). In one review, practitioners were generally more comfortable using web

technologies as an adjunct to therapy, rather than as a stand-alone intervention (Davies et al., 2020). They emphasized the need for additional training to feel confident in recommending web-based interventions to patients.

Program development and policies that recognize the increased burden put on healthcare practitioners when considering a transition to virtually enabled care are needed (Davies et al., 2020; Laukka et al., 2020). The transition to the use of advanced technologies can lead to employee burnout and increased workload due to the additional training and education required (Laukka et al., 2020). Engagement participants proposed embedding consistent training and standards into healthcare practitioner education and continuing professional development to improve digital literacy and comfort.

In addition to training and changes to the technical infrastructure (i.e. interoperability), to capitalize on technological benefits to efficiencies of practice, access to care, and integrated teamwork, the workplace culture must shift. This can be promoted through:

- *Co-design:* active engagement of healthcare practitioners in the design and implementation of the digital technologies that they are meant to use in order to avoid usability issues (Organisation for Economic Co-operation and Development, 2019),
- *Access to expertise:* effective and timely technical and expert support supported through health informatic practitioners and clinical leaders (Brommeyer et al., 2023; Iyamu et al., 2022; O'Malley et al., 2015),
- *Sufficient guardrails:* adoption and adaptation of suitable ethical, financial, and legal frameworks (Organisation for Economic Co-operation and Development, 2019), and
- *Strong technical leadership and culture:* drivers for complex adaptive change in human attitudes, skills, and trust, as well as in the organization of work (Brommeyer et al., 2023; Iyamu et al., 2022; Organisation for Economic Co-operation and Development, 2019).

6.1.3.2 Investing in infrastructure and user-experience data collection

There is an opportunity to scale up virtually enabled care provided that implementation strategies recognize the infrastructure requirements and current limitations (Aghdam et al., 2021). For example, big data storage and management, computing and processing requirements for cloud-based platforms, and privacy and cybersecurity needs are challenges that will need to be addressed and considered in pathways forward (Aghdam et al., 2021; Goncalves-Bradley et al., 2020). However, standardization and improved technical infrastructure that are developed in collaboration with practitioners and users across settings are needed to appropriately deliver accessible healthcare.

Engagement participants proposed collecting data on user experience to assess feasibility, practitioner and patient or caregiver uptake, and promoting an open dialogue between

provinces and territories to share best practices from innovative programs. As described in Chapter 3: Rural & Remote Communities, jurisdictional boundaries related to regulated health practitioner licensure requirements can be a barrier to expanding the reach of virtually enabled care. Active participation of regulatory bodies in supporting virtually enabled care in appropriate settings was a critical facilitator noted by engagement participants. Participants suggested federal leadership could involve ensuring harmonization and consistency across virtual care platforms and enabling practitioners to tailor them according to their individual infrastructure capabilities (e.g. bandwidth, technical platforms, panel management).

6.1.4 Aligning funding and remuneration models

Funding and remuneration models can be a policy lever for more efficient deployment of the health workforce to enhance health outcomes. There is a matrix of public and private funding, with service delivery by government employees through health authorities, private practice by healthcare individuals or groups, and independent organizations with a variety of remuneration models and profit and not-for-profit financing structures. In an attempt to address some of the confusion in the current discourse on 'public' and 'private' healthcare, we begin by providing simplified definitions to differentiate between healthcare financing, delivery, and remuneration based on a combination of academic and policy sources (e.g. Buchan et al., 2000; Deber, 2004; Klinton, 2020; Marchildon & Allin, 2022; Nelson et al., 2014).

Healthcare financing: we use this term to refer to the source of the monies, on a continuum of public to private (both not-for-profit and for profit), used to pay for healthcare resources, including service delivery.

Healthcare delivery: we use this term to refer to the sector, on a continuum of public to private (both not-for-profit and for profit), that is providing healthcare services.

Remuneration models: we use this term to refer to the multiple funding mechanisms that exist at and across the interface of public-private funding and service delivery to compensate providers.

6.1.4.1 Healthcare financing and delivery

The *Canada Health Act* is the legislative foundation of Canada's publicly funded healthcare systems and establishes the criteria and conditions that provinces and territories must meet in order to receive full Canada Health Transfer payments (Health Canada, 2020). The primary

goal of the *Canada Health Act* is to ensure that all eligible Canadians have reasonable, universal access to urgent healthcare services that are financed through public funds and are delivered based on need, rather than the ability to pay (Health Canada, 2019).

While often discussed in simple, binary terms (public *and* private), Canada's health systems are actually made up of complicated webs of public and private financing, delivery, and remuneration. The Canadian Institute for Health Information (2022a) estimated that public health expenditures in Canada accounted for 72% of health dollars spent, while the remaining 28% came from private sources in 2022. However, an important nuance is that public health expenditures may or may not be publicly delivered. The gaps and challenges of this mixed system have been exacerbated by the ongoing pandemic and has brought this conversation to the forefront (Béland et al., 2021).

In Canada, financing comes from a mix of public sources (e.g. provincial/territorial and federal monies generated through taxation and other revenues), non-governmental sources (e.g. mission-based or charitable donations), and private (e.g. out of pocket, private insurance) sources. Only the 'deep, but narrow' medicare services are fully covered by public finances, such as essential physician visits, hospital-based services, and recommended immunizations (Marchildon & Allin, 2022).

There is also a public to private continuum in terms of healthcare delivery from governmental delivery to private for-profit actors (Deber, 2004). Private delivery has always been a major component of Canada's healthcare system, in terms of physicians' fee-for-service pay structures (Marchildon & Allin, 2022). Private delivery can be structured as not-for-profit or for-profit. Public delivery is typically by the government directly or through their health authorities. Table 1 aims to clarify the complex public-private financing and delivery interfaces of the Canadian health systems.

Table 1. Public-private interfaces matrix of Canadian healthcare. This table provides some examples of different funding delivery models, but is not an exhaustive list of potential interfaces. Adapted from Marchildon & Allin (2022).

FINANCING OF HEALTHCARE	DELIVERY OF HEALTHCARE		
	Private - For Profit (Corporate, professional)	**Private - Not for Profit (Civil society, religious)**	**Public (Government, health authorities)**
Private (Out of pocket and private Insurance)	Private practices (e.g. physiotherapists, chiropractors, psychologists/ therapists), travel immunization clinics; most dental care	Some respite or assisted living	Emergency care for non- residents; workers compensation claims in some provinces/ territories
Non-Governmental (Mission-based and charitable donations)	Private therapeutic clinics partially funded through charitable donations	Some community-based services (e.g. programs from the Canadian Cancer Society, Heart & Stroke Foundation)	Contributions to hospitals, such as expensive technologies, and other capital expenditures
Public (Federal and provincial – single payers)	Almost all doctors; agency nurses, some diagnostic and surgical centres, Some long-term care	Hospitals in Ontario; Some primary health clinics; Some long-term care	Most hospital care and long-term care, except Ontario

Through our review of the workforce related literature and engagement process, we found limited and inconclusive evidence around the implications for the health workforce of private or public sector financing and delivery of care. While comparisons across the various financing and delivery models is not impossible, it is extremely challenging, and deterred by a lack of transparent evaluations in the Canadian context (Deber, 2002).

6.1.4.2 Remuneration models

Layered on top of these public-private financing and delivery options, are multiple remuneration models implemented by the financiers. Although fee-for-service and salary are perhaps the most customary remuneration models, as summarized by Nelson et al., 2014, there are many other alternative funding mechanisms utilized in both Canadian and international jurisdictions, such as capitation, pay for performance, global budget, case- or activity-based funding, blended or mixed models, population- or diagnosis-based funding, health-based allocation models, patient-based funding, and bundled or block payments.

Contemporary models of care have evolved and deviated away from the traditional approaches that focused on acute, episodic care to those that take a transdisciplinary, comprehensive approach to care (Nasmith et al., 2010; Nelson et al., 2014). Despite this evolution, fee models and wage structures have remained siloed and do not always align with more optimal collaborative approaches to care (Nasmith et al., 2010).

There is scant evidence on the impact of remuneration models in relation to health workforce outcomes and how to best balance the often competing interests of actors such as public and private payers, healthcare practitioners, their unions and associations, and patients. There is limited evidence on factors that influence practitioners or their representative organizations to adopt specific remuneration models. Rather than focusing on health workforce outcomes, studies have concentrated on other quintuple aims such as improving access to care (e.g. reduced wait times), redesigning delivery of care (e.g. patient-centred medical homes), and reducing costs (Quinn et al., 2020).

There is an opportunity to better inform health policies by evaluating the impact of the various models of financing and delivery, as well as remuneration currently being used in Canada on the health workforce and considering lessons learned from international jurisdictions. This is consistent with a learning health systems framework which measures impacts and builds in mechanisms to make cyclical adjustments based on findings (described in more detail in Chapter 8: Vision, Action, & Impact).

LEADING POLICIES AND PRACTICES IN ACTION:

Brian, a townsperson, had been camping. When he returned home on Friday night, he found a large tick on his back. His wife, a nurse, was able to remove the tick and knew he may need medication to prevent Lyme disease. When he called his primary care team, the medical office assistant suggested he go to his local pharmacist who, in his jurisdiction, might prescribe the post-exposure prophylaxis required to prevent Lyme disease. Brian went to his local pharmacist right away who took his history, determined that treatment was necessary, prescribed the necessary medication, offered directions for use and guidelines for monitoring if further treatment might be necessary, and provided some health teaching about tick bite prevention. Due to the pharmacist's expanded scope, Brian did not have to wait to see his family physician or nurse practitioner and his condition was treated rapidly without going to the closest urgent care urgent care in an urban centre more than 40 kilometres away.

6.2 CHAPTER SUMMARY

The purpose of this chapter was to address questions regarding health workforce challenges and opportunities related to effective deployment and service delivery across and amongst healthcare practitioner groups and jurisdictions. To address these challenges within the current Canadian context, several leading policies and practices were provided related to optimization of scope of practice, deployment of team-based models of care, integrating digital health technologies and infrastructure, and aligning funding and remuneration models.

CHAPTER 7:
PLANNING & DEVELOPMENT

Leading Policies & Practices

➤ Embedding ongoing health workforce planning that addresses backlogs, anticipates future requirements to meet population needs, demand, and utilization, and allows for surge capacity.

➤ Developing detailed and standardized health workforce data to support integrated and sector-focused planning across practitioner groups and jurisdictions that is interoperable with other health data.

➤ Engaging diverse partners, including patients and their caregivers, in the development and implementation of health workforce planning to support decisions that maximize the aims of equity, practitioner wellbeing, improved patient experiences, lower costs, and better health outcomes.

➤ Aligning health workforce planning and education options to develop career pathways that address supply challenges, including ensuring educational program, faculty, and preceptor capacity.

7.0 CONTEXT

Health workforce planning and development are important facets of healthcare. One of the primary aims of planning is to find the balance between current and anticipated societal health needs and workforce capacity, in line with adequate resource allocation (World Health Organization, 2016). Planning and development are typically processes that support intentional (medium to long-term) changes to the health workforce. They aim to prevent healthcare practitioner oversupply and shortfalls from occurring, rather than offering a reactive response to immediate staffing issues. Embedding health workforce planning processes iteratively into overall service planning can address the uncertainty embedded in all health systems and mitigate the decreasing accuracy of projections over time (Bourgeault, 2021).

7.0.1 Canadian population shifts

Population growth and an aging population are two key factors that have contributed to increasing the demand for healthcare services in Canada (Gagnon-Arpin & Hermus, 2020). According to Statistics Canada (2022f), Canada's population is an estimated 39 million. Due to ongoing immigration, it has expanded on average 1% per year between 2015 and 2019 (The Economist Intelligence Unit Ltd., 2020). In 2022, Canada welcomed the most newcomers ever since Confederation in 1867 (Statistics Canada, 2022f). It is projected that in 2036 together, immigrants and second-generation individuals could represent nearly one in every two Canadians (Morency et al., 2017). Canada also continues to undergo significant urbanization, with most new immigrants primarily settling in large urban centres (Statistics Canada, 2022g).

Canada also has the lowest fertility in North America. Since 2015, the proportion of older adults has exceeded the proportion of children (The Economist Intelligence Unit Ltd., 2020). Accordingly, the country has an aging population. Since 1950, Canada has had the lowest levels of mortality in North America and life expectancy has continued to increase over the 21st century (Latapi et al., 2021). There are, however, significant inequities. Compared with the non-Indigenous household population, First Nations, Métis, and Inuit household populations have a substantially and consistently shorter life expectancy (Statistics Canada, 2019). Additionally, the gaps are widening in some life domains, such as education. In 2015, 47% of Canadians had at least some college education, and by 2050 this is projected to increase to 74% (Latapi et al., 2021). Conversely, low literacy, and numeracy are increasing (Statistics Canada, 2022h).

In 2018 over 400,000 Canadians, one in four Canadians over the age of 85, were living with dementia (Canadian Institute for Health Information, n.d.). As more people live longer, more people will live with dementia (Ahmadi-Abhari et al., 2017). Medical complexity is an additional consideration. More than 90% of persons living with dementia have at least one other chronic condition and close to 20% have five or more comorbid conditions (Griffith et al., 2016). In addition, there is a small, but growing population of children with medically complex needs, requiring care from multiple service providers over a prolonged period (Cohen & Patel, 2014).

All of these changes in the demographic and epidemiological profile of the population needs to be taken into consideration in sound health workforce planning.

7.0.2 Current data availability and health planning approaches

Planning and development approaches are most effective when they are informed by accurate, timely, and actionable health workforce data. Yet, in Canada, health workforce data are variable and poorly aligned across professions and jurisdictions (Bourgeault, 2021). As a result, health workforce planning in Canada has historically been ad hoc, sporadic, and siloed by profession, jurisdiction, and sector. Indeed, health education and training systems have not been fully

integrated into health workforce planning. Furthermore, any planning for health workforce training positions that does occur may be based on a number of erroneous assumptions, for example, that people trained in a province will stay in that province. A lack of planning can generate significant costs and result in system-wide inefficiencies and duplications. Compounding this gap is when education pathways are not optimized to retain and mentor students, who thus may not be suitably prepared to enter the workforce and address supply challenges.

The framework presented at the outset of this thematic section (Figure 16) offers an updated approach to health workforce planning, development, deployment, and support. It situates planning within the broader context of healthcare quality improvement and health systems optimization (Bourgeault & Chamberland-Rowe et al., 2023). The first way in which it does this is by drawing upon a Donabedian (1982) healthcare quality framework to outline a flexible set of relevant structures, processes, and outcomes.

As explicated by McDonald and colleagues (2007), structures of healthcare represent physical and organizational aspects, such as facilities, equipment, personnel, operational, and financial processes. Bourgeault and Chamberland-Rowe (2023) suggest consideration additionally be given to structures, such as social, technological, economic, environmental, political, legal, ethical, and demographic factors that may facilitate or challenge how health systems operate. For example, regulatory structures may influence what practitioners can do (i.e. scopes of practice) and where (i.e. within provincial or territorial boundaries).

Processes are the interacting mechanisms (i.e. inputs, activities, and outputs) of health workforce development, planning, and deployment. Ideally, through access to necessary population health and workforce supply data (inputs), iterative and consultative planning and forecasting (activities) can occur. These processes can ensure an aligned mix of health workers are then deployed and distributed equitably across sectors and regions into safe and appropriate models of care with adequate management and support (outputs; Bourgeault & Chamberland-Rowe et al., 2023). The second way that this model has been updated is by linking health workforce planning more explicitly to health system outcomes optimization (i.e. the quintuple aims).

This section will review the evidence pertaining to leading practices in effective health workforce planning, including the data required for it, as well as workforce development approaches to educating, training, and mentoring future healthcare practitioners.

7.1 LEADING POLICIES & PRACTICES

The following evidence-informed leading policies and practices introduced at the beginning of this chapter seek to improve upon an aspect of health workforce planning and development.

7.1.1 Embedding ongoing health workforce planning

Health workforce planning is most effective when embedded into a learning health system that provides the structures and culture to encourage implementation. A learning health system approach draws upon best available evidence, aims to deliver the most value, and adds learning through implementation, with an ultimate goal of improving the efficiency and resilience of health systems to improve patient care (Canadian Institute of Health Research, 2021b). In turn, new research and planning knowledge would be systematically and proactively collected to further improve (and scale) health workforce planning, development, deployment, and retention strategies. Both the academic literature and our engagement participants recommended that proactive planning for health workforce challenges consider population needs, demands, and service utilization within the context of our changing demographics and organization of service delivery. Ideally, planning and implementation should be ongoing, occuring at a practice level (e.g. teams of healthcare practitioners), regional level (e.g. professional associations, regulatory bodies, unions, educational institutions), and systems level (provincial and federal governments), supported with enhanced data and interactive decision-making platforms. Nova Scotia's *Action for Health - Public Reporting* interactive dashboard provides transparent information on demand for health services and utilization patterns (Nova Scotia Health, 2023).

7.1.1.1 Integrating multiple approaches into health workforce planning

In 2016, the World Health Organization (2016) released a new global strategy for the health workforce that emphasized a shift to population needs-based planning. Needs-based planning should be based on clinical judgments made by healthcare practitioners on the basis of the best available evidence and considers population health needs, so that the size, skill mix, and deployment of the health workforce required to meet those needs can be determined, both now and into the future (Bärnighausen & Bloom, 2009; MacKenzie et al., 2019). Needs-based approaches to health workforce planning can be contrasted with demand- or utilization-based approaches.

Demand-based approaches examine the number of healthcare appointments or interventions that patients or the public would like, and then plan for a health workforce able to meet that demand in the future. Needs and demands are not always equivalent, as demands may exceed need or vice versa. For example, medical tests may be ordered in excess of clinical guidelines (Chami et al., 2017). Furthermore, provision of expanded, new, or incremental healthcare services can incite demand - and without appropriate monitoring or regulation, can result in increased demand for little or no extra value or impact. For example, some historical approaches to surgical wait times have focused on creating more volume and throughput and have typically been accompanied by a near-commensurate increase in demand, leaving the wait list unchanged in terms of absolute numbers (Chan et al., 2015).

Utilization-based approaches examine how the healthcare system has been used in the past and generate models that describe the usage patterns, with particular attention paid to the demographic features of both the population accessing the services and the healthcare practitioners that are providing them. Then these demographic variables are used to predict the number of healthcare practitioners that are required to maintain the same level of service provision in the future (Denton et al., 2009). Utilization-based approaches do not attempt to decrease inefficiencies or remediate inequalities in access to care (i.e. when certain systemically disadvantaged populations have forgone needed healthcare due to past experiences of discrimination; Tomblin Murphy et al., 2012). They can, however, be essential first steps (baselines) for demand- or needs-based approaches (Denton et al., 2009).

Each of these approaches has strengths and limitations but needs-based planning has been endorsed as a pillar of universal health coverage (World Health Organization, 2016). Figure 21 illustrates the value of a combination of approaches that can be used for healthcare planning.

Figure 21. Using complementary approaches when modelling healthcare requirements and workforce planning.

Based on clinical judgments made by healthcare practitioners on the best available practices, but can change rapidly when new evidence is incorporated

Needs-based

Demand-based

Based on the number of healthcare visits patients would like to make, and may track needs, but divergences are common

Utilization-based

Based on how the healthcare system has been used in the past and generates models that describe these usage patterns, but does not attempt to decrease inefficiencies or remediate inequalities in access to care

Health workforce planning that anticipates future requirements, addresses backlogs, and allows for surge capacity

7.1.1.2 Planning for responsive health systems to meet population needs

The overarching goal of health workforce planning is to provide a supply of healthcare practitioners that can deliver the optimal mix of skills to meet the healthcare needs of the population. Health workforce supply and demand occur on individual, organizational, and regional levels, and the factors involved at each level differ amongst the healthcare practitioners (Squires et al., 2017). Methodologically, population needs-based health workforce modelling and forecasting involve six steps as described in Figure 22. The six steps typically occur chronologically, but a planner can move back and forth iteratively between steps to ensure the best planning outcomes (Asamani et al., 2021; Simkin et al., 2021). Leading practices encourage this to be implemented as an iterative (ongoing) process, as changes to the healthcare system can induce unintended consequences which require remediation. Legislative, regulatory and policy developments, technological changes, evolving clinical best practices guidelines, changes in population needs, and many other factors also drive a need for continuous planning.

Figure 22. Iterative steps to population health workforce modelling and forecasting.

POPULATION HEALTH WORKFORCE MODELLING AND FORECASTING

6. Apply other potential scenarios to consider how outcomes may change

1. Define scope and key actors

5. Consider implications of changes to current system

2. Analyze population's need within specific geographic area

4. Validate modeling with key actors and recalibrate as necessary

3. Model available data to find health workforce requirements

Adapted from Asamani et al., 2021 and Simkin et al., 2021

A multi-professional perspective is the ideal approach to a needs-based planning of the health workforce (MacKenzie et al., 2019; O'Malley et al., 2022). Patients, families, and caregivers can also support workforce planning when offered a meaningful role in sharing their needs and perspectives as partners in care. The planning should also be dynamic to account for changing practice patterns that flow from policy decisions, technological advancements, and workers' choices. Some examples of such changes include:

- evolving scopes of practice (e.g. pharmacists providing prescription renewals; Canadian Pharmacists' Association, 2023),
- shifting to interdisciplinary, team-based care[18] (e.g. Ontario's Health Teams; Government of Ontario, 2022c; Québec's Family Medicine Groups; Gouvernement du Québec, 2023),
- fluctuating work intensity and patient flows (e.g. patient encounters per year; Stetina & Krouzecky, 2022),
- changing in practice focus (e.g. away from food animal veterinary services in response to increase increased demand for care of companion animals; Canadian Veterinary Medical Association, 2020),
- empowering and partnering with patients and caregivers (e.g. self-management and peer-led programs; Rees, 2019), and
- adopting digital health tools and solutions (Organisation for Economic Co-operation, 2019).

For example, like Canada, New Zealand is facing an increased demand for chronic health services, due to an aging demographic, while also facing potential shortages in primary care practitioners. However, in the case of diabetes care, the significant forecasted growth in demand for the primary care workforce has been staved off through changes to the care model that embraces digital health technologies, involves interventions to develop the self-management skills of people with diabetes, uses telehealth and online health services where effective, and facilitates patients' participation in the care process (Rees, 2019). It also works with wider changes to the health system in terms of interoperable information systems that provide decision-making support, aid practitioners in the delivery of coordinated services, and reduces duplication of interventions and administrative tasks (Organisation for Economic Co-operation and Development, 2019).

Yet, in Canada, health workforce planning has usually been siloed by profession and has lacked integration with the broader health system. This approach does not align with how patients access services, as multiple practitioners may be required to meet the varied healthcare needs of a single patient (Bourgeault, 2021). Planning is more effective when done by sector (e.g. long-term care, primary care, etc.), rather than by discipline or profession, while recognizing the relevant links between sectors (e.g. long-term care availability and staffing affect hospital

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[18] Consisting of practitioners such as nurse practitioners, physicians, registered nurses, social workers, pharmacists, and dietitians

bed requirements and associated staffing). Notably, the online interactive dashboard from the Health Resources and Services Administration (2022a) in the United States organizes its projection data by sector and is inclusive of multiple healthcare practitioner groups.

When considering inputs, determining the required health workforce supply involves multiple factors. These factors include the number and mix of healthcare practitioners, their availability to work, time available for service provision, skills and ability to meet current needs, and the rate at which services can be delivered (MacKenzie et al., 2022). Most critically, health workforce planning needs to shift from increasingly inaccurate measures of capacity which are based on head counts alone, without attention to activity and participation rates (Simkin et al., 2021).

The evaluation of population health demand is also a dynamic measure involving multiple factors, including the size and demographics of a population, the incidence and severity of illnesses and diseases, and the volume and mix of services required to treat them successfully (MacKenzie et al., 2022). For instance, Simkin and colleagues (2021) developed an integrated primary care regional planning toolkit in Toronto and found that there was a lack of available or high-quality data to enable quantitative planning for certain segments of the population, including Indigenous Peoples, and homeless and non-insured persons. This lack of data led to the use of alternative sources of data (i.e. local surveys) to obtain the information required for planning.

Translating health workforce plans into action
Translating health workforce planning models into actionable plans is a key limitation in this field. Few planning models found in academic research have been applied in the real world (Safarishahrbijari, 2018). Workforce planning models can be highly conceptual and show broad causal pathways rather than addressing the relationships between specific factors (Sonderegger et al., 2021). Compounding this problem is the lack of available health workforce datasets, few reliable and consistent measures, and disagreement over what constitutes an 'adequate' level of health service delivery (Lopes et al., 2021; O'Malley et al., 2022). This can make it challenging to apply planning models in real life scenarios. Moreover, systems that lack a culture of embedding health workforce planning constitutes a key limitation. Alignment can be enhanced through fostering dialogue amongst those engaged in planning and those implementing policies in response to these plans as indicated in Figure 22.

Aligning the health needs of the population with health workforce supply requires input from key actors including core planners, clinical leads, healthcare practitioners, patients, and caregivers. It also includes the allocation of services across practitioners and models of care to ensure an optimal match between capacity and needs. Both quantitative and qualitative data are required to achieve this alignment (Chamberland-Rowe et al., 2021; Simkin et al., 2021). The greatest chance of successfully translating plans into action involves analyzing a set of key epidemiological indicators for population needs (e.g. age, gender, ethnicity) and demand and

utilization indicators (e.g. office visits, waitlists), as well as ways to model uncertainty (Lopes et al., 2021). Modelling uncertainty involves considering 'unknowns', such as lag effects, that may occur through under-recognized drivers of demographic and service requirement change, and from delays resulting from training new healthcare practitioners.

7.1.1.3 Planning for surge capacity to maintain service delivery during high-demand periods

Surge capacity has been defined as a healthcare system's ability to manage a rapid or sudden influx of patients using the available resources (Canadian Association of Emergency Physicians, 2020) to provide temporary increases in capacity that have ripple effects across systems. In addition to having resources available, health systems must demonstrate flexibility and adaptability to use these resources efficiently and effectively. A scoping review of health workforce responses to natural disasters, extreme weather events, and infectious disease outbreaks categorized the following strategies: as those to increase the numbers of healthcare practitioners in a given area requiring surge capacity; those to enable the flexibility of the health workforce to meet needs in new ways; and those to support and sustain existing healthcare practitioners to remain at work (Coates et al., 2021).

Recent Canadian examples requiring surge capacity include the COVID-19 and SARS pandemics, as well as the ongoing epidemic of toxic drug overdoses. Gupta and colleagues (2021) examined surge capacity during COVID-19 and other recent respiratory pandemics and found that most research has examined intensive care unit (ICU) bed availability and occupancy. Yet, pandemic surges present challenges not only to ICUs, but also to other sectors such as access to ambulances and paramedics, primary, community and long-term care, and public health. However, these, and other authors highlighted a notable lack of evaluation of health workforce strategies in response to crisis events (Coates et al., 2021; Gupta et al., 2021).

Another aspect of surge capacity is the willingness of healthcare practitioners to respond. Murray et al., (2020) examined this in the context of future large-scale biological incidents, including pandemics, and found that healthcare practitioners' willingness to respond may be less than 50% and is unlikely to be higher than 80%. This finding has serious implications for surge capacity planning. Influential factors included:

- availability of vaccines,
- training programs for managing patient load during outbreaks, delivering patient care, and using personal protective equipment, and
- a code of ethics determining when and whether healthcare practitioners are expected to respond to infectious disease emergencies.

With the current health workforce staffing shortages previously described, there is currently limited surge capacity within Canadian healthcare systems for major disruptions like a pandemic. Of even more concern, some parts of the Canadian health systems seem to be challenged to respond effectively to more "predictable" variations in activity, such as the seasonal flu, which in more remote areas results in increased medical evacuations (Lee et al, 2022). Embedding ongoing health workforce planning can mitigate the impact of anticipated and unanticipated surges so that healthcare practitioners are prepared, and patients receive needed services.

7.1.2 Developing detailed and standardized health workforce data

Workforce planning is optimized when it is an iterative and interactive exercise that leverages high quality and available data on health workforce supply and population health needs to assess requirements, capacity, and alignment between supply and demand (Bourgeault & Chamberland-Rowe, 2023; HealthCareCAN, 2022). In Canada, there is also a lack of standardized data, and this has stymied health workforce planning (Barnes & Novosel, 2018).

7.1.2.1 Gathering comprehensive data for health workforce modelling and planning

Accurate, accessible, detailed, and up-to-date data, including not only the number of healthcare practitioners, but also their availability to work (volume and location), their ability to meet specific needs (scope), and their rate of service provision, are essential for health workforce planning (Bourgeault & Chamberland-Rowe, 2023). For example, as the majority of the health workforce identify as women, the workforce may be particularly impacted by societal gendered expectations of caregiving. Gender-disaggregated data should be integrated into robust health workforce modelling and planning, including to understand the differential impact of pandemics on men and women (Gupta et al., 2021). Other important equity data includes racialized and Indigenous identity, respecting Indigenous data sovereignty.

The literature suggests that health workforce data collected could include the type and supply (inflows and outflows) of healthcare practitioners, the availability, accessibility and distribution of healthcare practitioners, and the variety of tasks they perform, as well as system capacity, population demand, utilization rates, health status, demographic data, and socioeconomic status (Blay et al., 2022; Joyner et al., 2020; Khalilnezhad et al., 2020; O'Malley et al., 2022; Witter et al., 2020). Additionally, the ability to link workforce data to other data sources (e.g. demographics, education, practice characteristics) using a unique identifier is beneficial for evaluating bidirectional impacts on practitioner and patient outcomes (Barnes & Novosel, 2018).

Both quantitative data (for modelling) and qualitative data (to provide context and scenarios) are required for robust planning (Chamberland-Rowe et al., 2021). Comprehensive and readily available quantitative data are essential in developing models to align services with needs

(O'Malley et al., 2022). Yet, quantitative data are not always complete, and gaps can lead to mismatches between services and needs. Qualitative data and workforce intelligence supplied by patients and caregivers, healthcare practitioners, and other key actors can minimize gaps in planning by accounting for possible uncertainties in the quantitative data, and by explaining the responses of participants. Horizon scanning (the early detection and assessment of emerging threats), scenario generation, workforce modelling, and policy analysis provide important frameworks for the dynamic updating of health workforce planning (Chamberland-Rowe et al., 2021).

The review literature noted that there is a dearth of accurate and complete health workforce datasets to enable effective workforce planning (Barnes & Novosel, 2018; Blair et al., 2022; Blay et al., 2022; Khalilnezhad et al., 2020; Lopes et al., 2021; O'Malley et al., 2022). For instance, the rate at which services can be delivered may be more available for physicians who bill for each service, than for nurses and other salaried healthcare practitioners. Therefore, proxies, such as those listed below, may be used instead:

- raw numbers of healthcare practitioners can be obtained from headcount data (i.e. from registries of provincial and territorial regulatory authorities) some of which is gathered by the Canadian Institute for Health Information (2023; Denton et al., 2008; Leonard et al., 2014),
- data about incoming (inflow) or exiting (outflow) healthcare practitioners can be obtained from regulatory authorities and labour force surveys as well as vacancy rate estimates and intention to leave surveys (Dass et al., 2022), and
- service delivery volume and type can be obtained from billing records (where available for certain practitioners) or data on full-time equivalents can help to capture service capacity more accurately than simple headcounts.

These data sources are often inconsistent across practitioner groups and specialities and may be lacking in important details (MacKenzie et al., 2022) or require numerous assumptions and extrapolations to be useful for planning purposes.

Rethinking approaches to data collection in Canada to build more comprehensive datasets
There are several different sources (e.g. census, survey) of health workforce data in Canada. Census data from healthcare practitioners are largely derived from provincial and territorial regulatory authorities who are required by government statutes to develop a registry of qualified and licensed practitioners (Bourgeault, 2021). Unless required to produce standardized data, as they do in Ontario in the form of the *Health Professions Database*, governments receive different amounts and types of registry data.

The Canadian Institute for Health Information (2022e & f) is a pan-Canadian organization that collates health workforce data from over 30 health professions gathered largely through provincial and territorial regulatory authorities enabled through data sharing agreements. Importantly, it does not have legislative authority to collect workforce data directly, but rather relies on collaborations with various data-collecting stakeholders. The variability of inputs and lack of standardization results in datasets with differing definitions, as well as variations in data format and timing/frequency of data collection (Bourgeault et al., 2019). The Institute (2022g) has recently updated its minimum dataset data standard to begin to address these limitations and is currently working with the Canadian Health Workforce Network to develop an enhanced minimum data standard purpose built for workforce planning.

Health workforce planners may also combine multiple data sources to model needs, demands, and utilization. For example, to develop a toolkit to support integrated primary care workforce planning in the Toronto region, Simkin and colleagues (2022) used data from the Ontario Community Health Profiles Partnership, the City of Toronto Planning Department, the Institute for Clinical and Evaluative Sciences, the Canadian Institute for Health Information, and the Ontario Ministry of Health. In the United States, the Health Resources and Services Administration (2022b) prepares a *Compendium of Federal Data Sources to Support Health Workforce Analysis* which includes census/registry, administrative, and survey data.

A further issue is that, in Canada, it is not always clear which organizations or groups, if any, may have collected the necessary health workforce data, or which steps are necessary to obtain and integrate data for more optimal planning. Many engagement participants noted that this lack of access to integrated health workforce data was a significant barrier to planning. Across the spectrum of healthcare practitioners in Canada, standardized, detailed, and coordinated data can support planning and evaluation.

Figure 23. Supply and demand data points

Supply

Healthcare practitioner demographics, such as:
- age,
- career trajectory,
- location,
- practice type,
- race & ethnicity,
- regulatory status (across all provinces & territories).

Profession demographics, such as:
- scope of practice,
- service provider information about productivity,
- wages,
- future supply projections.

Utilization, Needs & Demand

Past utilization of healthcare services, such as:
- wait times,
- physician billing data,
- hospital occupancy,
- home support visits,
- long-term care admissions.

Population demographics and expected shifts in needs, such as:
- linguistic profiles,
- ethnic diversity,
- age,
- patient expectations.

Service demands across multiple settings, such as:
- birth rates,
- changes in clinical guidelines,
- alternative level of care beds,
- emergency health service responses.

In addition to the data points described above in Figure 23, engagement participants also suggested that each healthcare practitioner have a unique, but anonymized pan-Canadian identifier that could be linked with care delivery and patient outcomes. Engagement participants also supported the development of an accountable pan-Canadian entity to lead and centralize data collection for health workforce planning. The recent announcement that a *Centre of Excellence on Health Workforce Data* will be created is promising in this regard

(Health Canada, 2023). These recent commitments may start to resolve the current variations in data availability by geographic area, health sector, and profession, which result from a voluntary approach to health workforce data contributions.

Engagement participants expressed the view that data collection requirements could also be included as a condition attached to funding from the federal government, achieved through supporting investments in data sharing infrastructure, as well as leveraging existing and developing new more comprehensive data sharing agreements. Ideally, they suggested, this data collection and sharing would be enabled through pan-Canadian licensure. Engagement participants also discussed the need for more qualitative research aimed at understanding the expectations, motivators, and barriers of healthcare practitioners and how this influences work intentions in the Canadian context.

Health workforce data have particular importance for Indigenous Peoples, as they have been historically excluded both as participants in planning processes and as data owners. Indigenous ownership of health workforce data aligns to the value of self-determination and can be promoted through the development of Indigenous-generated research and data principles (see Chapter 2: Indigenous Peoples & Communities). These data can also be used to evaluate the success of interventions to recruit healthcare practitioners to rural and remote communities (see Chapter 3: Rural & Remote Communities) and to increase the diversity and representativeness of healthcare practitioners (see Chapter 4: Systemically Disadvantaged Populations).

7.1.3 Engaging diverse partners in health workforce planning

Data and models are essential ingredients for health workforce planning, but they require thoughtful and ongoing engagement and implementation to translate into improved outcomes. Implementation of planning models has been hampered by the lack of engagement by relevant actors (e.g. government, health leaders, healthcare practitioners, patients, and caregivers) and a framework to support (and sometimes mandate) their participation in the planning and recommendation processes (Denis et al., 2021; North et al., 2022). Guidelines for identifying and engaging stakeholders are sparse, methodologically varied, and frequently overlook local replication or implementation (North et al., 2022). The inclusion of systemically disadvantaged populations, including Indigenous Peoples, in this process is a crucial step. The strategic orientation to harness health data also requires building health workforce data analytic capacity to effectively and safely put these planning tools to work (Maeda & Socha-Dietrich, 2021).

As previously discussed in Chapter 1: Introduction, some countries, including Australia (Australian Government Department of Health and Aged Care, 2022a), the United States (Health Resources & Services Administration, 2022a & b), and the United Kingdom (National

Health Service Digital, 2022), provide publicly available, accessible, and up-to-date data regarding their health workforce. These datasets are valuable for identifying gaps in service provision, changes in the demographics of the health workforce, trends in geographic movement of healthcare practitioners, and current and future gaps in particular healthcare specialties and practice settings. For example, Australia's *Health Workforce Locator* is a map-based tool offering views of rural, remote, and urban regions needing more physicians and other healthcare practitioners (Australian Government Department of Health and Aged Care, 2022b). Although the data are housed by a single government department or non-governmental organization, many different health workforce partners can make use of these data to enable local or regional health workforce planning decisions. Similar tools could help decision-makers in the pan-Canadian context plan for a range of healthcare practitioners.

The political context can complicate implementation of planning models. For instance, different health facilities mandate different staffing ratios or collaboratively modify the scopes of practice of various members of the workforce (Lopes et al., 2021). These issues are compounded by poor integration and structural inequalities among different healthcare groups which exclude some groups from planning and decision-making processes (Chibuzor et al., 2021; Denis et al., 2021; North et al., 2022). These would be important considerations in generating scenarios to be applied to planning models.

There are also economic hurdles in implementing planning models. Health workforce models are dynamic and most effective when continuously updated. Special expertise is required to develop, interpret, and monitor them (Ayanore et al., 2019; Chibuzor et al., 2021; Lopes et al., 2021; Sousa et al., 2019). Rarely are the funds for this expertise included in healthcare budgets (Lopes et al., 2021). When analysts are not available, health leaders and managers often must take on the responsibility for localized health workforce planning. Professional development to supply basic knowledge of planning techniques is relevant in these situations.

7.1.4 Aligning health workforce planning and education pathways

Health workforce planning is particularly important, given the time and cost involved in training healthcare practitioners (Organisation for Economic Co-operation and Development, 2019). Coordination of healthcare practitioner educational pathways and workforce planning can ensure that education and training (e.g. with regard to numbers, categories of healthcare practitioners, and their skills) do not remain static, but rather meet the forecasted needs of the changing population. Within the Canadian context, there is little coordination between education and training systems and health workforce planning. For example, at the fellowship level – through which most of Canada's medical subspecialists must be trained – the primary determinant of positions is the senior physicians' research and clinical infrastructures rather than a planned approach to anticipate or fill any societal need.

Without pan-Canadian educational planning for supply needs, both under and oversupply can occur. The complexities for educational supply planning are compounded by Canada's mixed system where patients or their insurers are responsible for paying for supplementary services. For certain professions that most often work in private funding contexts, oversupply could be an issue (Eklund & Bailit, 2017; Leonard et al., 2014).

An additional consideration is to ensure that education-to-workforce pathways are aligned to retain healthcare students and new healthcare graduates, as well as promote their smooth transition into the workforce through support initiatives described in Chapter 2: Indigenous Peoples & Communities, Chapter 3: Rural & Remote Communities, and Chapter 4: Systemically Disadvantaged Populations. The development of faculty and preceptor capacity to maintain and potentially expand training programs for future healthcare practitioners is an important aspect of this alignment, and in health workforce planning.

7.1.4.1 Planning for adequate student enrollment and faculty capacity

Training new healthcare practitioners can take many years, and enrollment and graduation information can be important early markers of developing trends. Data about enrollment levels and new graduates from discipline-specific, pan-Canadian organizations provide valuable information for planning. For instance, the Canadian Association of Schools of Nursing (2022) publishes annual reports that provide a high-level summary of the historical and current rates of enrollment, graduation, and vacancies to enable future planning.

One factor that has limited the ability to develop new healthcare practitioners is a lack of faculty and preceptors necessary to instruct the next generation of trainees. In the United States, an estimated 80,000 nursing applicants were turned away from nursing schools in 2019 due to a lack of qualified instructors (American Hospital Association, 2021). Canada faces a similar issue with a lack of instructors and preceptors available to increase the number of seats for new trainees (Boamah et al., 2021). Among the factors that have led to this shortage are the requirements for advanced certifications for faculty, often a Master's degree or higher (American Hospital Association, 2021), whilst being kept at a low rank and a corresponding pay level (Boamah et al., 2021).

Although the literature focused on nurses, engagement participants emphasized a need for more faculty in other health professions to train the next generation of healthcare practitioners. They also endorsed research and knowledge translation platforms to embed clinical practice within universities, colleges, and other healthcare education institutions, address supply challenges, and foster collaboration between universities and hospitals by identifying the necessary resources and competency evaluations. This collaboration is especially important where there may not be the diversity in patient populations that is needed for training.

7.1.4.2 Collaborating across education and health sectors for proactive health workforce development

Integrated and collaborative policies across education and health service delivery can coordinate optimal health workforce outcomes (Tomblin Murphy et al., 2019). This involves consideration of the right mix and skill sets required within and across healthcare practitioner groups in the context of changing demographics and technological innovation. This interprofessional form of planning is in contrast to common discipline-specific approaches.

While more complex at the outset, many countries are moving in this multi- or interprofessional direction. The United Kingdom, Brazil, Australia, and Norway have all found it necessary to legislate mergers between previously siloed sectors, such as education, accreditation, health and social service delivery systems, and government. The United Kingdom, for example, merged Health Education England[19] and the National Health Service to integrate long-term workforce planning and increase recruitment with retention to meet current and future population needs (Government of the United Kingdom, 2021). In Brazil, there is interprofessional healthcare training supported by the National Department of Health Workforce Management and Education for organizing and running healthcare management services within their Ministry of Health (Barreto et al., 2019). In Australia, changes to the registration and accreditation of healthcare practitioners are likely to regulate shared learning across some professions (Thistlethwaite et al., 2019). Overseen and managed by Ahpra (formerly the Australian Health Practitioner Regulation Agency), the *National Registration and Accreditation Scheme* since 2010 has aimed to provide standardized interprofessional education and training across 14 healthcare groups. This approach has been promoted by engaging higher education, health services, health workforce development, accreditation, and government sectors (Thistlethwaite et al., 2019). In 2019, the Norwegian government also established a governance system for determining learning outcomes in health and social education programs overseen by a group with both education and health and social system representatives. This group is responsible for revising as well as, if needed, proposing new learning outcomes for each education field. The aim is to ensure that the learning outcomes are updated at regular intervals to reflect any emerging skills needs (Organisation for Economic Co-operation and Development, 2019).

Interprofessional education initiatives often incorporate topics to promote collaboration in frontline practice and patient experiences such as values/ethics, roles and responsibilities, teamwork, and interprofessional communication (Interprofessional Education Collaborative Expert Panel, 2011). It can also cover topics that are of benefit across multiple practitioner groups. Notable examples from this report would include shared capacities in digital health

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[19] The body responsible for the education and training of the health workforce.

technologies (Brommeyer et al., 2023; Chen & Banerjee, 2020; Nazeha et al., 2020; Nemec & Chan, 2017; Wong et al., 2021), understanding and leveraging the new capabilities of learning health systems (Feldman et al., 2022; Greene & Holmes, 2022), One Health (Courtenay et al., 2014; Food and Agriculture Organization of the United Nations et al., 2022; Mackenzie & Jeggo, 2019), and equity, diversity, and inclusion (Hassen et al., 2021). From a One Health perspective, competencies might include systems thinking and inter-sectoral communications involving policy, research, and environmental and animal health (Courtenay et al., 2014).

Sector specific interprofessional education initiatives can focus on current and emerging workforce needs. For example, *Team Primary Care: Training for Transformation* is a multi-partnered initiative, recently funded by Economic and Social Development Canada to enhance the capacity of interprofessional, comprehensive primary care through improved training, team supports, and planning tools for employers and planners (Foundation for Advancing Family Medicine, 2022).

7.1.4.3 Fostering mentorship to support novice healthcare practitioners

Many review authors suggested increasing support for students and new graduates (Chan et al., 2019; Lee & Song, 2021; Masso et al., 2022; Sunderji et al., 2018; Whitehead et al., 2022). The most commonly suggested support was the implementation of mentorship programs, whereby junior colleagues and trainees are able to meet with and receive advice and encouragement from more senior colleagues (Chan et al., 2019; Lee & Song, 2021; Masso et al., 2022; Sunderji et al., 2018; Whitehead et al., 2022). Research indicates that there is a significant difference in retention rates and intention to stay between nurses who receive mentorship and those who do not (Bakker et al., 2020; Kakyo et al., 2021).

Not all mentorship programs are equally effective (Kakyo et al., 2021). One-to-one mentoring is associated with better outcomes than group mentoring (Bakker et al., 2020). It is also more effective when the mentors and mentees are well matched and when the 'right' mentor has been selected (Kakyo et al., 2021; McKenna & Straus, 2011). A better relationship seems to occur when the mentee is involved in selecting the mentor and when there is reciprocity between mentor and mentee (Kakyo et al., 2021). Research has outlined the qualities a mentor needs to possess in terms of three dimensions: personal, relational, and professional (McKenna & Straus, 2011; Straus et al., 2013). The qualities that were identified as most important for mentors were altruism, honesty, and trustworthiness, as well as being active listeners, accessible, supportive, and established in their field (Straus et al., 2013). For mentees, the salient qualities that were identified were being open to feedback, respectful of time, and prepared to 'drive the relationship' by showing up for meetings prepared and having concrete goals and aims for what they would like to achieve (Straus et al., 2013).

The provision of organizational support for mentors, including through education, training, and protected time for the mentor to engage mentees was found to confer greater benefits

(Kakyo et al., 2021). A study by Fleig-Palmer and Rathert (2015) found that perceived high-level interpersonal mentoring by nurses via organizational support was positively associated with their affective commitment. Institutions can support mentorship by developing processes to help students and trainees identify potential mentors, organize 'meet and greets', or pair trainees with provisional mentors for a defined period of time, so that the trainee is oriented to their new environment and has help to find a permanent mentor (McKenna & Straus, 2011).

A second step in developing institutionally supported programs is to enable the mentorship relationship by defining objectives and conflict resolution mechanisms (McKenna & Straus, 2011). This step can include an evaluation period where the mentor and mentee can assess whether their relationship is meeting both their aims. A third step that institutions can take is to foster training programs designed to provide mentors with the necessary skills to support their trainees (McKenna & Straus, 2011). Institutional recognition of mentors is necessary to support widespread adoption. This recognition can include identifying mentorship as a valuable component for academic positions and in promotion reviews. Although institutional support through protected training time is important, implementing this can be a challenge when there is a lack of organizational infrastructure and culture, and where there is ongoing understaffing (Kakyo et al., 2021).

Engagement participants spoke favourably about mentorship programs for healthcare practitioners and suggested that they help new graduates learn needed skills and competencies. They also noted that in remote and rural settings, the mentorship could occur virtually, and noted the success of several ongoing programs. For example, Ontario Health's *Emergency Department Peer-to-Peer Program* provides virtual support for rural and remote emergency department physicians by engaging consultative services from credentialed emergency department physicians in other regions (Ontario Health, 2022b). Some participants also expressed the view that mentorship programs could be scaled up and supported at the federal level to ensure consistency across jurisdictions and to reach a wider array of healthcare practitioners.

A report developed by the Ontario Hospital Association (2022), based on stakeholder consultations, identified the opportunity to engage late career nurses in being mentors, stating that they "are willing to stay employed at the hospital if they are given more flexibility, such as part-time employment, or where they are developing new skills such as mentorship roles" (p. 17). Another possibility is to engage recently retired healthcare practitioners to work as mentors. Chapter 2: Indigenous Peoples & Communities, Chapter 3: Rural & Remote Communities, and Chapter 4: Systemically Disadvantaged Populations include specific elements pertaining to mentorship, recognizing the value of a tailored approach for smooth transition to the workforce.

7.1.4.4 Enhancing clinical competencies through professional development

Another form of support that was widely endorsed for trainees was the enhancement of clinical skills training (Alberti et al., 2021; Chan et al., 2019; Lee & Song, 2021; Masso et al., 2022; Sunderji et al., 2018; Whitehead et al., 2022), as this was identified as a limitation, and source of stress, for students and new graduates. Reviews suggested that team-based learning approaches could help support learners by matching students and trainees with experienced practitioners in order to build competencies and alleviate stress (Alberti et al., 2021; Butcher et al., 2017; Masso et al., 2022; Sunderji et al., 2018). However, the value of team-based learning approaches varied, and depended on the level of support within the clinical environment (Masso et al., 2022). Simulation methods are also a promising approach to developing clinical skills and practising team-based care, but issues regarding cost, technology access, and best practices require further evaluation (So et al., 2019).

Training programs, such as preceptor programs, transition to practice models, programs to develop leadership skills and evidence-based practice, and residency programs indicate a favourable effect on retention rates for new nurses (Brook et al., 2019; Jarden et al., 2021; Kakyo et al., 2021; van Camp & Chappy, 2017; Bakker et al., 2020). It is difficult to discern from the research; however, which of these programs are associated with the best outcomes (Bakker et al., 2020).

In some cases, the clinical training environment is the issue, as the setting may not be prepared to offer the required support and mentorship required to ease the transition into the health workforce (Masso et al., 2022; Whitehead et al., 2022). A multi-pronged approach was recommended, which includes formal support from designated preceptors or mentors, as well as informal support from colleagues, feedback on their performance (both formal and informal), and a general sense that they are part of a team (Masso et al., 2022). For example, one review examining nurse residency programs noted that they typically include multiple elements such as mentorship from a preceptor, didactic education, case studies, peer reflection, and evidence-based practice projects, and that through their positive impact on retention, these programs have the potential to generate large financial savings for facilities or health regions (Eckerson, 2018).

During virtual consultation sessions, participants spoke favourably of initiatives that support the training of healthcare practitioners. Funding for training programs were considered helpful. An example is the *Professional Development Fund*, which is administered by Health Sciences Association of British Columbia (2023) and is available to their union members including community support workers, medical imaging technologists, and social workers.

Bridging and scaffolding programs were described as a successful strategy to develop a larger, more skilled health workforce. This is particularly pertinent for healthcare practitioners

where there is a large imbalance in supply and demand, such as personal support workers and nurses (Drummond et al., 2022). Nova Scotia's (2023) *Health Learning Institute for Health Care Providers* exemplifies a scaffolding approach whereby personal support workers are trained to become licensed practical nurses, and licensed practical nurses to become registered nurses. It also assists nurses in moving between specialities.

Some engagement participants suggested that in addition to scaffolding programs, there is also a need to strategically scale up funded training initiatives targeting high demand-low supply occupations. In this regard, the Colleges and Institutes of Canada (2023) are currently working to develop a *Supportive Care Assistant Program* to build workforce capacity in the long-term care sector by training up to 2,600 supportive care assistants with expectations that about half of them will pursue full Personal Support Worker certification. This fully subsidized micro-certificate pilot program is funded through the Employment and Social Development Canada's (2022b) *Sectoral Workforce Solutions Program*. An additional $4.4 million (CAD) from the *Sectoral Workforce Solutions Program* was allocated to the *Medical Laboratory Technician Gateway Canada Project* to support the entry of science degree holders and internationally educated medical laboratory technicians into the workforce as medical laboratory technicians (Canadian Alliance of Medical Laboratory Professionals Regulators, 2023). British Columbia has developed several programs to build the health workforce through new certification and skill-building initiatives. In 2020, the province launched a program offering learners work in non-clinical roles while they train to become registered healthcare assistants (British Columbia Health Care Assistants, n.d.). They also recently created an initiative offering grants to kinesiology graduates to complete a clinical exercise physiologist certification (Government of British Columbia, 2022).

Even with financial support, professional development initiatives will not be successful if healthcare practitioners lack the time to participate in them. One recent Canadian report stated that nurses lack the time to attend professional and leadership development opportunities. The study stated that participants experienced "excessive overtime, even pre-pandemic, asking nurses to work 12 to 14-hour days with no breaks and overtime on their days off" (Tomblin Murphy, et. al., 2022, p. 45) and that they were not given an allotment of protected time for continued education.

Rebecca is the Director of Public and Population Health responsible for one small city and a large outlying rural area. When a pandemic broke out, she knew that she would need to mobilize a health workforce for widespread testing and vaccination. Reviewing the most recent demographics of the population, she could see that while most of the surrounding area was French speaking, there was a mining community that was predominantly English speaking. In addition, there was a town that had welcomed large numbers of young, Ukrainian refugee families. She accessed the new pan-Canadian health workforce data dashboard and could see there was limited linguistic diversity in healthcare practitioners in these communities. She was able to identify a neighbouring province that might have the needed healthcare practitioners and reached out to her colleague for support. There were minimal requirements from regulatory bodies with the recent harmonization of standards, registration, and licensure, so together they were able to organize a short-term trade to ensure rapid mobilization. To fill potential gaps at the testing centre, they also reached out to the local veterinary college and associated animal laboratories, who agreed to provide their services for processing tests in the event that the human labs became overwhelmed.

7.2 CHAPTER SUMMARY

The purpose of this chapter was to address questions regarding health workforce planning and development, including supply, shortages, data requirements, surge capacity, and educational models and requirements in the context of Canadian population shifts and data availability. Several leading policies and practices emerged, such as embedding ongoing health workforce planning with diverse partners and developing detailed, standardized health workforce data. This chapter also examined how to better align educational and training pipelines to ensure trainee retention and preparedness to enter the workforce upon graduation. This involves strategies such as planning for adequate enrollment and faculty capacity, promoting collaborative planning across education and health sectors, adequate mentorship and clinical training to healthcare learners and updating training content and models.

CHAPTER 8:
VISION, ACTION & IMPACT

8.0 A TRANSFORMATIONAL VISION FOR CANADA'S HEALTH WORKFORCE

Our world is changing rapidly – demographically, environmentally, biologically. Canada's population continues to change – getting older and more culturally and linguistically diverse – with significance for the health workforce. Increased human connectivity within a globalized context elevates risks of more frequent public health crises from pandemics, endemic diseases, antimicrobial resistance, and climate change. All these factors influence the health of Canadians, and challenge our current approaches to planning, deployment, retention, and even the boundaries of what constitutes the health workforce. While these issues preceded COVID-19, our response to the pandemic has reinforced the importance of ensuring there is adequate capacity within Canada's health workforce, not only for day-to-day health needs but also for rapidly responding to emerging public health concerns.

To address the multitude of current health workforce issues, we identified and described 26 evidence-based, leading policies and practices (listed in Table 2). If implemented collaboratively across the range of key actors over the next two to five years, these leading policies and practices can help to attract, develop and retain a diversity of healthcare practitioners across the country to provide high quality care to all Canadians. Canada would have a sustainable and resilient health workforce with the capacity and flexibility to respond to fluctuations in population needs. The workforce would have the opportunity for fulfilling careers in settings throughout our healthcare system. Policy makers, health leaders, and other key partners in health would have the information and skills they need to monitor progress, ensure fiscal responsibility, and continue to prepare for the future.

Table 2. Leading policies and practices by chapter.

LEADING POLICIES & PRACTICES BY CHAPTER

Chapter 2: Indigenous Peoples & Communities

➡ Creating space and providing support for Indigenous leadership to design, develop, direct, deliver, and evaluate Indigenous health programs and services.

➡ Increasing the population of Indigenous learners and practitioners within healthcare education and clinical settings and supporting successful and fulfilling transitions to healthcare practice.

➡️ Disrupting racism within the health workforce and health systems through Indigenous-led development of anti-racism policies, safe reporting and investigation processes, and mandatory education and training.

➡️ Implementing Indigenous data sovereignty and research principles in relation to workforce data collection, outcome-based research, and evaluation including the development and support of the Indigenous health research workforce.

Chapter 3: Rural & Remote Communities

➡️ Promoting processes for targeted and facilitated admissions, positive rural and remote exposures for healthcare practitioner learners, and distributed practice-based learning.

➡️ Encouraging healthcare practitioners' retention and support through effective incentives, practice-based supports, and community integration.

➡️ Creating more responsive, flexible, and context specific models of care, including interprofessional, team-based care enabling practitioners to adjust their scope and skillset to better meet the needs of their communities.

➡️ Enabling the mobility of healthcare practitioners with unique aptitude and training for rural and remote practice, in order to fill service gaps, and provide valuable locum relief, and offer support when in a crisis.

Chapter 4: Systemically Disadvantaged Populations

➡️ Increasing the diversity and representativeness of those in training and leadership positions through targeted admissions, recruitment, retention, and support.

➡️ Improving the professional integration of internationally educated healthcare practitioners through multi-faceted supports from pre-arrival through to licensure and employment.

➡️ Supporting safe, just, and anti-racist work environments to support the growth of a healthy, robust, and diverse health workforce.

➡️ Enabling healthcare practitioners to provide culturally and linguistically safe care through curricula, training programs, tools, and resources that are reinforced by policy and procedure changes.

➡️ Augmenting data collection and analysis to help evaluate the efficacy of quality improvement approaches for diversity, anti-racism, and cultural safety initiatives.

Chapter 5: Support & Retention

➡️ Developing and enhancing supportive leadership.

➡️ Creating healthy, safe, just, and equitable working environments that have adequate staffing levels and are free from hostility, harassment, bullying, and violence.

➡️ Reducing administrative time for healthcare practitioners through improved implementation of electronic health records, harmonized forms, and shifting of documentation and non-clinical tasks.

➡️ Retaining healthcare practitioners through policies and processes that enhance their autonomy, recognition, and professional growth.

➡️ Providing individual and group supports for healthcare practitioners to enhance their mental health and wellbeing and develop their resiliency to work stressors.

Chapter 6: Deployment & Service Delivery

➡️ Enabling healthcare practitioners to optimize their scopes of practice to meet community health needs efficiently, effectively, and safely.

➡️ Supporting the deployment of more team-based models of care which integrate and support the utilization of a broader range of healthcare practitioners.

➡️ Ensuring accessibility, quality, and interoperability of digital health technologies, including virtually enabled care, by investing in infrastructure and building on user experience data from patients, healthcare practitioners, and other key actors.

➡️ Aligning funding and remuneration models for more efficient deployment of the health workforce and to enhance health outcomes.

Chapter 7: Planning & Development

➡️ Embedding ongoing health workforce planning that addresses backlogs, anticipates future requirements to meet population needs, demand and utilization, and allows for surge capacity.

➡️ Developing detailed and standardized health workforce data to support integrated and sector-focused planning across practitioner groups and jurisdictions that is interoperable with other health data.

➡️ Engaging diverse partners, including patients and their caregivers, in the development and implementation of health workforce planning to support decisions that maximize the aims of equity, practitioner wellbeing, improved patient experiences, lower costs, and better health outcomes.

➡️ Aligning health workforce planning and education options to develop career pathways that address supply challenges, including ensuring educational program, faculty, and preceptor capacity.

8.0.1 Envisioning change: Bringing together the elements of this report

Making major reforms to the health workforce will necessitate complex adaptations to multiple aspects of the health systems. In addition to the **leading policies and practices** we have delineated in each chapter, there are other essential change elements required to propel forward this transformational vision of Canada's health workforce. Figure 24 explicates these various elements.

Figure 24. Connecting the various elements of the assessment.
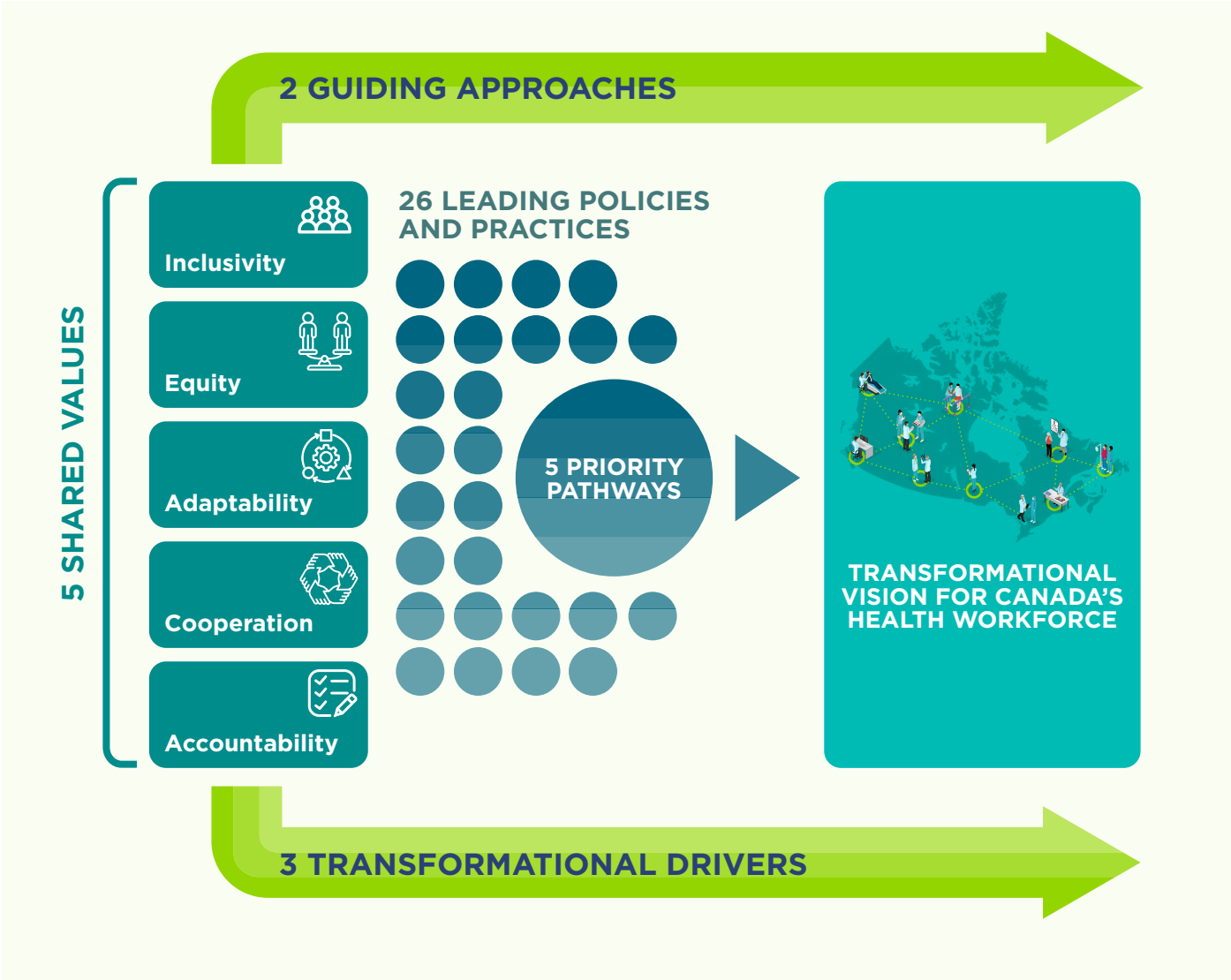
In Chapter 1: Introduction, we described **guiding approaches** that transparently laid out how the Assessment Panel operationalized the scope and breadth of health workforce challenges, both conceptually and in practice. These can be summarized as:

➡️ Approaching Canada's health workforce challenges from an evidence-informed position that draws upon interdisciplinary knowledge, such as health workforce planning, the quintuple aims for health systems optimization, learning health systems, and One Health, and accounts for Canada's unique health systems' context and populations.

➡️ Recognizing the health workforce is a dynamic force of diverse healthcare practitioners who can be deployed to deliver effective and collaborative services, but who also require a supportive workplace culture and structures to be retained and fulfilled.

In this final chapter, we discuss three other elements: shared values, transformational drivers, and priority pathways. The **shared values** and **transformational drivers** provide necessary framing to ensure successful collaboration, implementation, and evaluation. The **priority pathways** (see section 8.1) are offered as an initial entry point for system reform, while recognizing that all 26 leading policies and practices are integral to achieving this vision.

Five shared values surfaced through the assessment which can aid in orienting decision-makers as they operationalize this vision:

- **inclusivity** – involving a diversity of healthcare practitioner groups and roles, settings, regions, genders, ethnicities, and language,
- **equity** – balancing health systems priorities and equity with thoughtful consideration of healthcare practitioner experiences,
- **adaptability** – engaging in multiple iterative cycles of planning and evaluation, and flexibly recognizing when a particular model or approach must be revised,
- **cooperation** – bridging and collaboration within and across jurisdictions, agencies, institutions, and systems, and
- **accountability** – ensuring effective governance and transparency for monitoring progress across all the leading policies and practices.

Three **transformational drivers**, in tandem with the guiding approaches, are viewed as critical mechanisms in navigating this change and will be explored further in this chapter:

➡ Inspiring actions by leaders in federal, provincial, and territorial governments and pan-Canadian health organizations to advance and implement a transformational vision for our Canadian health workforce.

➡ Leveraging the unique roles of the federal government and pan-Canadian organizations to convene health workforce partners, scale up leading evidence-informed practices and pockets of innovation across the country, and invest in research and evaluation.

➡ Developing a mechanism for leaders in federal, provincial, and territorial governments to publicly report on the progress to date and barriers to collaborative action.
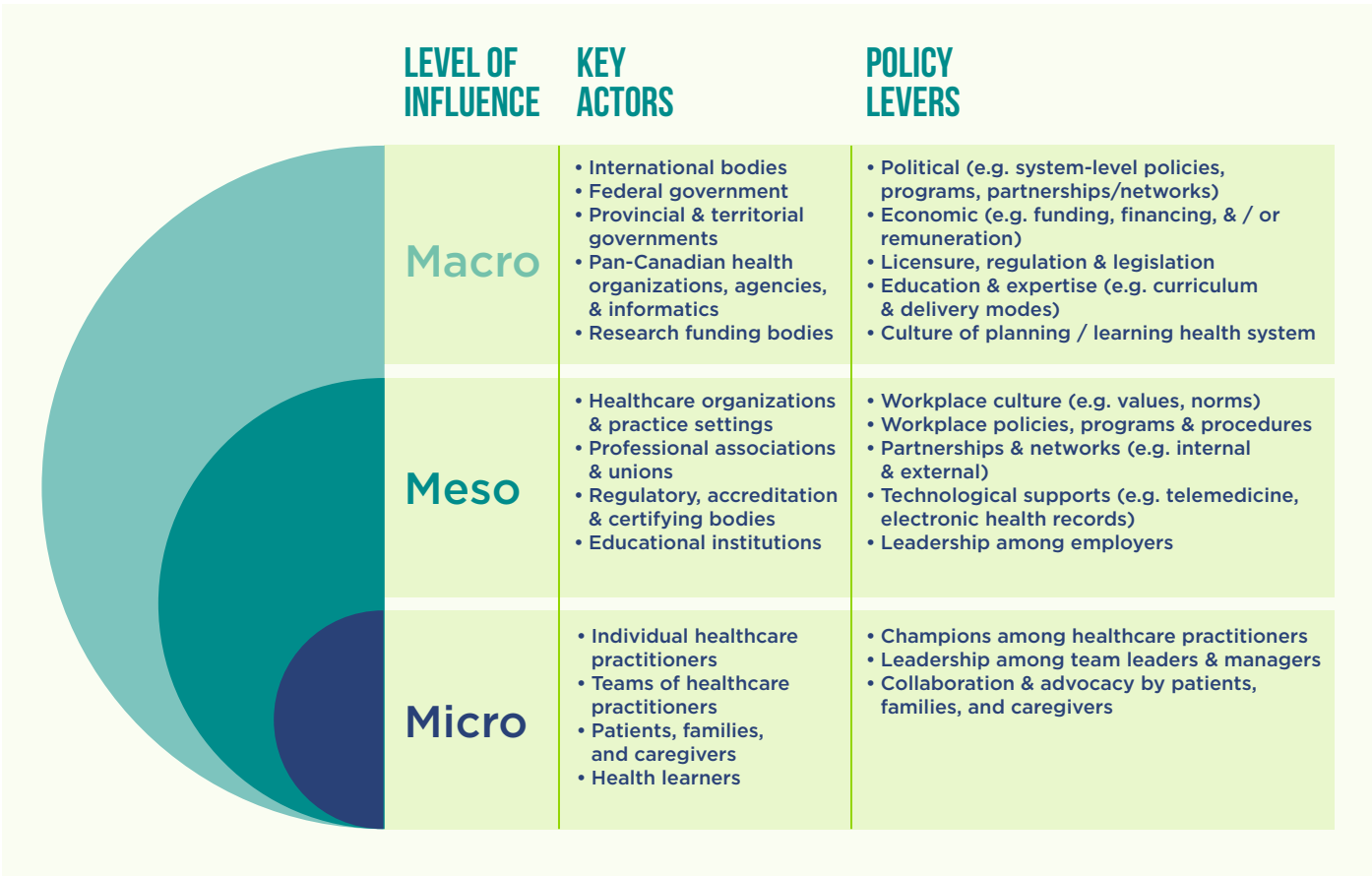
While some elements of this vision for Canada's workforce may not be new, the compelling need to take action has never been stronger. We found consensus across key actors in federal, provincial, and territorial governments and pan-Canadian health organizations that transformation is both desired and warranted.

8.0.2 Key actors and policy levers propelling this vision

This ambitious vision and the extensive array of possibilities can be daunting. Where to start? Who is best positioned to lead? What actions would be most impactful?

While the challenges are many, so are the potential solutions with an important role for every key actor to lead in collaborative implementation of the 26 leading policies and practices. This assessment generated many examples of actions already underway that could be spread and scale through coordination to overcome fragmentation of efforts. Given the complex and adaptive nature of the health system and its workforce, there is no one policy lever to pull that will address all desired outcomes (Begun et al., 2003). There are, instead, multiple, interdependent opportunities for implementing change across each level – macro, meso, and micro – where policy levers can be 'pulled' to enhance the possibility that practices and initiatives are adopted within health systems and policy (Bowen & Zwi, 2005). Figure 25 depicts common health workforce policy levers across these levels, along with the key actors at each level (see also Chapter 1: Introduction).

Figure 25. Key actors and policy levers by level of influence. This figure builds on the Bowen & Zwi (2005), Nasmith et al. (2010), and Nelson et al. (2014) frameworks.

LEVEL OF INFLUENCE	KEY ACTORS	POLICY LEVERS
Macro	• International bodies • Federal government • Provincial & territorial governments • Pan-Canadian health organizations, agencies, & informatics • Research funding bodies	• Political (e.g. system-level policies, programs, partnerships/networks) • Economic (e.g. funding, financing, & / or remuneration) • Licensure, regulation & legislation • Education & expertise (e.g. curriculum & delivery modes) • Culture of planning / learning health system
Meso	• Healthcare organizations & practice settings • Professional associations & unions • Regulatory, accreditation & certifying bodies • Educational institutions	• Workplace culture (e.g. values, norms) • Workplace policies, programs & procedures • Partnerships & networks (e.g. internal & external) • Technological supports (e.g. telemedicine, electronic health records) • Leadership among employers
Micro	• Individual healthcare practitioners • Teams of healthcare practitioners • Patients, families, and caregivers • Health learners	• Champions among healthcare practitioners • Leadership among team leaders & managers • Collaboration & advocacy by patients, families, and caregivers

Health leaders we surveyed identified policy levers for which they felt they had a high degree of control to take action. Typically these levers were at the micro and meso-level of influence. When implemented cohesively and appropriately resourced and evaluated, these interventions can simultaneously address multiple challenges regarding support, retention, deployment, service delivery, development, and planning.

At the macro level, facilitating change to policies and practices often requires the input of, and collaboration amongst, additional key actors, specifically the provincial, territorial, and federal governments. Furthermore, scaling up successful leading evidence-informed practices and pockets of health workforce innovation across Canada is a unique role of the federal government and pan-Canadian organizations.

8.1 BUILDING CONSENSUS FOR ACTION ON PRIORITY PATHWAYS

Ultimately, the sustainability of the health workforce resides in the willingness of key actors to commit to an initial set of priority pathways on which to collaborate. To that end, in addition to the broad review of the evidence, we built in a significant engagement and consensus building process across a wide range of key actors (see Chapter 1: Introduction and our *engagement report*). This process identified priority pathways for collective and immediate action (Figure 26). Engagement participants provided input on evidence-based leading policies and practices. The Assessment Panel then synthesized their input and completed prioritization by considering:

- strong alignment to the research evidence and the emerging consensus on a vision for Canada's health workforce,
- opportunities for a pan-Canadian approach, with local implementation and adaptation,
- cross-cutting implications where the potential impact might extend to more than one thematic area of the assessment,
- the quintuple aims of health system optimization[20], and
- timeliness.

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[20] Described in Chapter 1 - see Figure 3.

Figure 26. Assessment process leading to priority pathways.
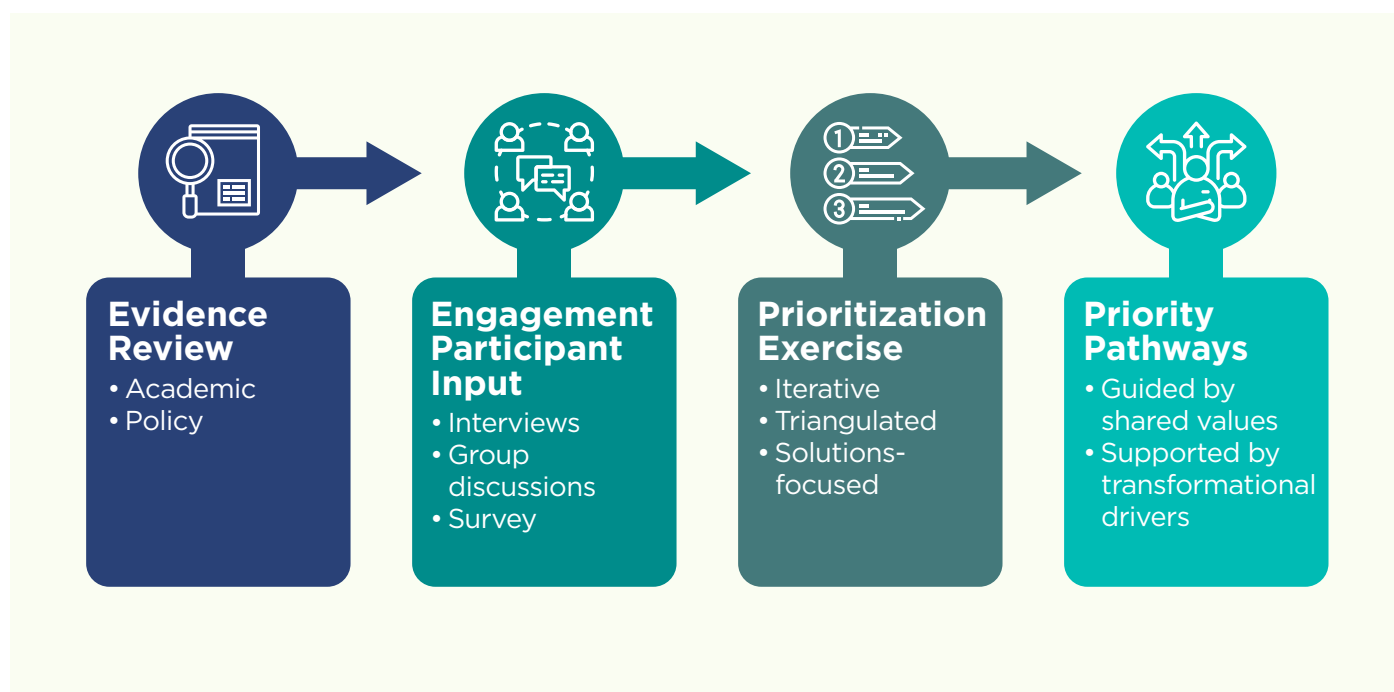
Given the challenging situation currently facing the health workforce, new initiatives continue to emerge across the country. Therefore, the priority pathways described below provide a way forward with options on how to proceed that can also be adapted to the most relevant emerging needs and opportunities.

Five **priority pathways** were distilled as benefitting from urgent action:

➡ 1. Supporting the development of successful and fulfilled Indigenous healthcare learners and practitioners.

➡ 2. Supporting community engagement as a foundation for rural and remote recruitment and retention strategies.

➡ 3. Creating safe, healthy, just, and equitable workplaces that have diverse and representative workforces.

➡ 4. Transforming care through optimized scopes of practice within team-based models, supported by appropriate technology and properly aligned incentives.

➡ 5. Embedding a culture of health workforce planning supported by enhanced data and decision-making tools.

8.1.1 Successful and fulfilled Indigenous healthcare learners and practitioners

Evidence supports targeted, yet flexible recruitment and retention efforts for Indigenous learners and practitioners. Successful approaches take into consideration the social

determinants of health, social justice, health equity, and sustain support at every stage from academic through to career development. Specific retention strategies include:

- integrating culturally safe and anti-racist elements into healthcare practitioner education and training and work environments,
- targeting young students as healthcare learners and offering them (and others) opportunities to remain and train within their communities (at least part of the time),
- intentional inclusion of Indigenous ways of knowing and care into curricula,
- sustaining mentorship from training through career pathways,
- providing career development opportunities,
- offering equitable remuneration, and
- supporting the development of more self-determined pathways to health workforce planning and service delivery for Indigenous Peoples and communities.

Given the unique relationship amongst the federal government and Indigenous communities, there is an opportunity to champion evidence-based policies and practices. The federal government could support the spread and scale of Indigenous-led initiatives, building in evaluations to inform adaptations as needed at provincial, territorial, and regional levels. This may include public health forums to bring Indigenous and non-Indigenous communities together in a respectful way to share views on solutions (e.g. blended models integrating traditional and western knowledge). Fair compensation for participating Indigenous leaders, Elders and traditional healers is central to recognizing the emotional burden of driving change and creating goodwill within these integral relationships.

This targeted and participatory approach is further described in Chapter 2: Indigenous Peoples & Communities and may also have relevance for other groups as described in Chapter 4: Systemically Disadvantaged Populations.

8.1.2 Expanding rural and remote recruitment and retention strategies

Retention in rural and remote communities is about more than just financial incentives. There is strong evidence that healthcare practitioners who experience community engagement, sense of belonging, and work-life balance, including family supports, are more likely to stay in rural and remote communities. Accordingly, multifaceted programs, such as those tested in Australia, which holistically consider rural and remote health workforce planning, staffing, infrastructure, remuneration, workplace organization and environment, and social, family, and community supports may promote better retention. Furthermore, there is growing evidence that non-mandatory service agreements that provide unique learning opportunities, mentorship, and vibrant professional networks, along with appropriate financial remuneration, may be more successful for long-term retention.

Specific strategies that can promote the job satisfaction and wellbeing of healthcare practitioners who choose to work in rural and remote areas include:

- developing more flexible care models that offer term or shared positions, and take into account the often 24/7, 'on call' nature of remote community-based health services,
- looking for creative ways to optimize the scopes of practice of existing healthcare practitioners, including expanding paraprofessional and assistant roles and further developing their skills, while ensuring appropriate workloads and supervisory oversight,
- maximally leveraging virtually enabled and online platforms for professional development, mentorship, networking, and care coordination,
- creating dedicated retention and recruitment staffing positions to facilitate integration into new communities and amongst healthcare practitioners, and
- developing and sustaining new and existing networks of care amongst urban universities, colleges and hospitals, and rural and remote communities or health authorities to act as knowledge hubs for, and support channels to, underserved areas.

The health leaders we surveyed viewed many of the possible actions as sitting within their level of influence, particularly as it related to ensuring safe working conditions, enabling healthcare practitioners to work to the top of their scope, and ensuring their employees have access to vacation and education leave, mentorship, supports for spouses and families, and career advancement. However, engagement participants felt constrained by staffing shortages and saw value in greater collaboration across provinces and territories. Federal, provincial, and territorial government representatives expressed interest in explicit support and coordination to scale up successful initiatives within and across provinces and territories. Key partnerships for successful implementation included educational programs and regulatory bodies. More information about the evidence behind this key action can be found in Chapter 3: Rural & Remote Communities.

8.1.3 Creating safe, healthy, just, and equitable workplaces

Safe, healthy, just and equitable workplaces have adequate staffing levels with a diverse and representative workforce whose wellbeing is supported through organizational infrastructure. Such workplaces attract and retain healthcare practitioners. There are strategies to help manage workloads and work hours without increasing dependency on overtime and agency nursing staff. And yet, shortages were a primary concern of every provincial and territorial representative, in part because potential changes to improve workplace wellbeing are hindered by inadequate staffing (e.g. offering greater flexibility in work scheduling). At the same time, there is unrealized workforce potential within systemically disadvantaged populations. Specific strategies to improve wellbeing, reduce burnout, and mitigate workplace hostility, harassment, bullying, and violence, include:

- developing supportive and diverse leadership that is empowered at a supervisory-level to retain healthcare practitioners,
- reducing unnecessary time spent on documentation, including on electronic health records (e.g. redistribution of non-clinical workload and tasks; user-friendly and interoperable systems that balance clinical and health service research aims),
- professionally integrating internationally educated healthcare practitioners already residing in Canada,
- mandating staffing levels (i.e. nurse-to-patient ratios), building in extra capacity (e.g. creating float pools), and adequately and transparently enforcing decisions,
- requiring anti-racism and gender-based discrimination training that emphasizes cultural humility that also recognizes different forms of intersecting identities,
- establishing and monitoring policies and protective measures to address workplace hostility, harassment, bullying, and violence from patients, families, co-workers and supervisors, and
- creating health promoting physical spaces and adequate infrastructure that prevent overcrowding.

Health leaders identified that this was an important area of action where they could facilitate some change, though funding was needed to expand capacity and provide supports. They saw key roles for both the federal and provincial or territorial governments. For example, most respondents suggested that the federal government could provide additional targeted funding, and that the provincial and territorial governments could apply this targeted funding in collaborative and evidence-informed ways to engage with healthcare practitioners, and unions and associations, and other meso-level key actors, such as hospitals and health authorities, to develop further capacity and scale-up successful support strategies. More information about the evidence behind this key action can be found in Chapter 5: Support & Retention.

8.1.4 Optimizing scopes of practice within team-based models

Care can be transformed through optimized scopes of practice within team-based models, supported by appropriate technology and properly aligned incentives. Optimizing scopes of practice of healthcare practitioners can involve both working to top of scope as well as considering areas for expanded scope, and new emerging roles. Professional and jurisdictional territoriality was viewed by many as a major deterrent to optimizing scopes of practice in Canada. Optimizing scopes of practice across health sectors can be encouraged by:

- establishing practicums and residencies that foster team-based models with interprofessional and digital health competencies,
- offering post-licensure professional development for continued competency development over the course of a career,
- capitalizing on the transformative power of digital health, by further incorporating health

informatics professionals into the health workforce and keeping in mind the (unintended) consequences of technology on the health workforce,

- assessing and adapting workforce skills, remuneration, models of care, and coordination in light of digitalization,
- leveraging buy-in at individual, team, and organizational levels by providing alternative funding schemes (e.g. bundled or mixed payment) to include all healthcare practitioners and to be aligned with desired outcomes,
- integrating referral and documentation pathways and considering task sharing and shifting opportunities to improve efficiencies of care and decrease administrative burden,
- educating professionals and courts on changes to legislation that recognize the principles of shared care models, and expanding adoption of more flexible legislative frameworks that can be interpreted at the local setting, and
- producing research and data on the outcomes of optimized scopes of practice to inform practice.

Health leaders and healthcare practitioners identified multiple key actors as having a role in optimizing scopes of practice, including health leaders, professional associations, regulatory bodies, and all levels of government. To that end, coordination mechanisms, such as governance models that embed collaboration and accountability, may enable further optimization. Coordination could occur through legislated or mandated inter-ministerial or jurisdictional agreements and governance such as those discussed in Chapter 7: Planning & Development. More information about the evidence behind this key action can be found in Chapter 6: Deployment & Service Delivery.

8.1.5 Embedding a culture of health workforce planning

Enhanced data, decision-making tools, and analytic capacity can fuel a culture of health workforce planning. Planning is critical to address future health workforce requirements to meet population health and service needs. And yet, current health workforce planning is hindered by the lack of specificity and consistency of data and the limited collaboration across and within jurisdictions. Implementation of planning models requires skilled analysts with ready access to high-quality data to support health workforce decision-makers.

Accordingly, key actions include:

- expanding the availability of actionable, consistent data, including equity factors, and reflecting all Canadian healthcare practitioners,
- shifting to needs-based planning techniques that consider health equity and healthcare practitioner needs in addition to patient, health system, and cost outcomes,
- aligning planning outcomes to encompass all the quintuple aims,
- implementing and updating plans on an ongoing basis to take into consideration new developments and arising health trends for truly learning health systems,

- establishing effective data infrastructure and information technology required to enable pan-Canadian data collection and research,
- promoting good data governance, including Indigenous data sovereignty,
- monitoring and ensuring data quality and security,
- facilitating data integration and interoperability, and
- establishing clear strategies for data access, storage, and sharing.

All key actors have a role in embedding a culture of health workforce planning. The federal government can coordinate the development of pan-Canadian decision-making tools with enhanced and standardized data, thus facilitating local, regional, and provincial and territorial modelling and forecasting that takes into account workforce mobility. This can only be achieved in collaboration with provincial and territorial governments, regulatory bodies, educational programs, and professional associations. These actions were seen as integral to building capacity and modelling gaps across the healthcare continuum in an easily accessible format for decision-makers. More information about the evidence behind this key action can be found in Chapter 7: Planning & Development.

8.2 BUILDING THE INFRASTRUCTURE FOR MAXIMAL IMPACT

Drawing upon the dual knowledge bases of learning health systems and One Health can aid in maximizing the potential impacts of change to the health workforce. Both these approaches explicate the foundational infrastructure required for health systems transformation, such as research, collaboration, leadership, technical infrastructure, evaluation, and governance. Learning health systems are innovative and pragmatic approaches to ensuring a bi-directional flow of research-to-practice and practice-to-research, while promoting collaboration and data sharing amongst institutions and sectors (Guise et al., 2018; Safaeinili et al., 2020). One Health considers complex health issues from an 'integrative' interdisciplinary and intersectoral perspective to explore and initiate long-term strategies for change (de Jongh et al., 2022; Zinsstag et al., 2011). This section draws upon literature from these complementary fields of study to illuminate the strategic building blocks that require development to propel forward the vision for the health workforce.

8.2.1 Research, implementation, and evaluation

A rapid learning health systems framework is a useful, evidence-based approach for informing systems change in relation to health workforce policy, decision-making, and redesign. The goal of learning health systems is continual improvement and innovation towards an optimal and sustainable balance of the quintuple aims (Menear et al., 2019). Data and information about the health workforce and service delivery are transformed into learning and, in turn, this new knowledge transforms service delivery and health systems in ongoing cycles (Feldman et al., 2022).

Health workforce research is foundational to a learning health system. As identified in several areas of this report, there is a startling paucity of Canadian research about the health workforce. For example, less than 3% of the literature from the structured review was conducted in the Canadian context, and less than 1% of health research funded by the Canadian Institute of Health Research addresses health workforce research topics.

Professional associations, think tanks, and unions have conducted research, yet there may be real or perceived conflict of interest in the outcomes. Furthermore, they may not have the capacity to conduct research with the expected level of scientific rigour. Meanwhile, some health services research currently underway in Canada may overburden frontline healthcare practitioners to collect data and indicators that may not always be coherently or rapidly translated back into systems improvements. Such incongruity between research priorities and outcomes can lead to an antipathy about research by some healthcare practitioners (Foley & Vale, 2022). Embedding research and evaluation within a learning health systems paradigm shifts the focus of 'research for the sake of research' to where it can rapidly add value in practice. A clear implementation strategy that takes into account the needs of frontline healthcare practitioners is required to overcome barriers to successful implementation of a value-added learning health system (Hardie et al., 2022; Menear et al., 2019).

Health workforce research can play an integral role in the development, implementation, evaluation, and the spread and scale of many of the leading policies and practices that are described in this report. Indeed, the Canadian Institute of Health Research has recently recognized the health workforce as one of seven priorities for health services and policy research (McMahon et al., 2020). Moving forward, health workforce research could be used to develop and test novel solutions or implement and scale-up of promising or proven evidence-informed health workforce solutions while also considering the system-level contextual factors (e.g. governance and accountability, funding models, equity and structural barriers) that enhance or hinder the feasibility and impact.

Such research can be undertaken through an interdisciplinary lens across practice arrangements and clinical settings and through diverse research approaches – pooling and sharing data where possible (Rotenstein et al., 2019). As discussed earlier in this chapter, the federal government and pan-Canadian organizations have an opportunity to leverage their unique roles to scale up leading evidence-informed practices and pockets of health workforce innovation across Canada. A critical aspect of this is research and evaluation that measures progress and outcomes within learning health systems.

Fostering equitable knowledge mobilization, bridging, and research uptake within healthcare settings and by healthcare practitioners can also occur through partnership processes, such as the development of more centres of excellence, communities of practice, 'co-laboratories'

among healthcare practitioners and researchers and universities, clinician-scientist roles developed across healthcare practitioner groups, or interdisciplinary workforce exchanges (Feldman et al., 2022; Iyamu et al., 2022; Greene & Holmes, 2022). Such activities not only act to promote spread and scale, but also support the training and production of the next generation of health researchers ready to tackle challenges related to the health workforce.

Foley and Vale (2022) suggest that a learning health system "is the evolution of an existing health system into one capable of learning from every patient," (p. 1). An effective learning health system can also have the capacity to learn from each healthcare practitioner. Such learning could not only improve workforce outcomes, such as wellbeing, retention, turnover, and productivity, but also could have indirect benefits for patient care through proactive planning, development, and deployment (Rotenstein et al., 2019).

Evolving into learning health systems requires strategic consideration of the workforce, organizational structures, workplace culture, behaviour change, co-design, the existing research knowledge base, and evaluation (Hardie et al., 2022). Healthcare practitioners may resist or abandon a new system that threatens their role or professional identity or makes unreasonable demands (i.e. time, load, duplication of effort) on them (Foley & Vale, 2022). As such, successful learning health systems implementation strategies should involve (Brommeyer et al., 2023; Foley & Vale, 2022):

- empowering healthcare practitioners and their leaders to embrace change,
- orientation to healthcare practitioners' needs and benefits (along with other actors such as patients and researchers),
- minimizing risks and unintended consequences on healthcare practitioners (and other actors) of adopting technological infrastructure underlying new systems, and
- adaptation over time, building on strategic approaches to spread and scale such as rapid prototyping, microstrategies, safe-to-fail experimentation, and actor-oriented learning networks.

The workforce will also require the knowledge and skills to effectively utilize new and expanding technical infrastructure. This transition will involve upskilling through training and professional development, as well as revisiting learning health systems and digital health competencies within healthcare practitioner educational programs and job descriptions (Aalami et al., 2021; Bernstein et al., 2015; Feldman et al., 2022; Thistlethwaite et al., 2019; Tudor Car et al., 2018).

To that end, in developing or expanding learning health systems, participatory design approaches that involve healthcare practitioners and patients can minimize disruptions and make systems more user-friendly and responsive to the needs of all users (Menear et al., 2019).

They offer a means to implement, test, and iteratively adapt and refine new pathways and models of care, working with the very patients and staff to which the changes apply (Hardie et al., 2022).

The complexity of a learning health system revolves around the interplay of the context, the technology, and its users (Foley & Vale, 2022). In the workforce context, laws and regulations regarding scope of practice, confidentiality, and privacy, politics regarding practitioner roles and numbers, market conditions and the balance of public and private funding and service delivery, and other events, such as public health emergencies, can impact the implementation of learning health systems. Moving forward, to be most effective, learning health systems require a strategic context with clear governing rules and regulations, supported by coordinated investment in workforce, socioeconomic, and regulatory impact assessments, as well as ongoing research (Brommeyer et al., 2023). Strong technical and collaborative leadership is also crucial to facilitating and navigating the transformational change (e.g. of further integrating digital technologies) into such complex, multifaceted, and multi-actor health systems (Iyamu et al., 2022). These strategic directions framed by a learning health systems approach can allow for incremental and manageable policy changes that enhance both the efficiency and quality of services and optimize outcomes based on tightly-focused evaluations (Menear et al., 2019). An additional level of transparency would be public reporting on the progress and barriers to collaborative action.

8.2.2 Intersectoral collaboration for a prepared tomorrow

In our changing world, One Health may be an increasingly useful framework from which to consider equitable and effective planning, deployment, and retention of the health workforce, particularly in the public health sector. Formulating health workforce decisions through a proactive, interdisciplinary, and collaborative One Health lens can prompt earlier detection of risks and threats, and aid in more effective responses (Hueffer et al., 2019; Ruckert et al., 2020; Zinsstag et al., 2011). For example, reinforcing One Health capacity of the health (and animal and environmental) workforce at a pan-Canadian level, can generate new knowledge and bring innovation for public health surveillance and response, as well as in health training and learning (Food and Agriculture Organizations of the United Nations et al., 2022).

Similar to learning health systems, enablers of One Health include interprofessional and disciplinary education and bridging, intersectoral collaboration and partnerships, shared data infrastructure, integrated leadership and governance, and transdisciplinary research (Berger et al., 2019; Bordier et al., 2020; Courtenay et al., 2014; Rock et al., 2017). For example, intersectoral relationships and infrastructure for sharing data can help to make all relevant information available to health decision-makers when they most need it. Without this information, human and animal health officials and healthcare practitioners may be left to diagnose emerging outbreaks using suboptimal approaches, driving inefficient response efforts

(Bordier et al., 2020). This level of coordination typically requires effective governance rooted in transdisciplinary and multisectoral principles and support from appropriate legislation (Food and Agriculture Organizations of the United Nations et al., 2022).

8.3 THE HEALTH WORKFORCE OF TODAY, TOMORROW, AND FUTURE GENERATIONS

In the past, lowering costs and increased efficiency drove decision-making with little consideration of the impacts of such decisions on healthcare practitioners. When the required and prolonged surge capacity during this pandemic was layered on top of these efficiencies aimed at increasing staff to patient ratios and promoting maximum workload, the frontline health workforce became overextended, and these prolonged demands were no longer tenable. Historically, the aims of healthcare from the perspectives of patients, healthcare practitioners, professional associations, unions and regulatory agencies, public health experts, economists, and governments were often seen in opposition to one another (Nundy et al., 2022).

Today, healthcare practitioner wellbeing is now acknowledged as a major outcome of interest in health systems optimization. It is also accepted that the quintuple aims of health equity, healthcare practitioner wellbeing, improved patient experiences, lower costs, and better health outcomes can reinforce each other, and that multi-pronged, coordinated approaches considering multiple outcomes at multiple levels are key to health workforce optimization (Chapter 1: Introduction; Coleman et al., 2016).

The current assessment, as a synthesis of academic evidence, policy, and engagement with key actors, has identified possible solutions, opportunities, and priority pathways, particularly within the next two to five years. Many healthcare practitioners who engaged in this assessment process described their healthcare role as not only a job, but a calling. The current context – of long hours, overcrowding, decreased time at the bedside, and increasing hostility from patients and co-workers – has taken its toll on the foundation of our healthcare system, the workforce. Respect for all healthcare practitioners and the role they play in driving our health systems involves providing a safe and healthy environment free from hostility, harassment, bullying, and violence, with adequate workplace supports and manageable workloads. It also involves all key actors considering the independent, relational aspects of a system built to care, not only for patients, but also for those who provide services.

The shared challenges facing healthcare practitioners, while highly concerning, also present a unique opportunity for innovation through coordinated action. By shifting from cost-efficiencies to cost-effectiveness, jurisdictional conflicts to jurisdictional partnerships, and professional territoriality to transdisciplinary collaboration, the known solutions can be implemented in ways that were not deemed feasible pre-pandemic.

APPENDICES

APPENDIX A: ASSESSMENT QUESTIONS

Health Canada, in consultation with the Canadian Academy of Health Sciences and the Assessment Panel Co-Chairs, identified a series of questions for examination by the panel. These questions were sorted into four themes for the purpose of organizing the work of the panel, while recognizing that the Indigenous Health Workforce Committee would take a cross-cutting view of all questions:

- Support and retention,
- Deployment and service delivery,
- Planning and development, and
- Vision, action, and impact.

Support & retention

1. What is the **current state of mental health and wellness** of the health workforce and the impacts of the current state of the healthcare system on this workforce?

    1.1.   How do healthcare settings impact the **mental health/resiliency** of those who work within them?

    1.2.   What tools and resources are required (training, education, support systems) to address the mental health of healthcare practitioners?

    1.3.   What policies, regulations will need to be considered/reviewed to mitigate impacts long-term to support mental health and wellbeing in the workplace going forward?

    1.4.   What tools/resources/guidance will be required to address systemic issues that impact mental health and wellbeing of the health workforce (e.g. workplace violence, racism)?

2. What are the **major trends, challenges, and opportunities** over the next two to five years to address retention of healthcare staff? For example,

    2.1.   What are current best practices / models at international / local and / or regional levels to **support sustainable and safe health workforce staffing**?

Deployment & service delivery

3. What are the gaps in supporting provision of **culturally safe and unbiased care** to all Canadians and residents?

4. What is the impact of **private delivery of care** having on the challenges and opportunities for the health workforce? What implications might it have?

5. What impact do different **fee models and wage structures** have on the participation trends within and between different professions?

6. How are changes in healthcare delivery, such as transitions to **virtual care** or **integrated team-based models**, impacting the health workforce?

   6.1. Are there opportunities for ongoing work on health human resource (HHR) systems to help support the evolution toward an **integrated, team-based model of care delivery** or **appropriate healthcare delivery through virtual care?**

7. How might health human resources be used and deployed more efficiently across the country and care settings (e.g. **scopes of practice, levels of participation within and between professions; licensure and regulation)?**

8. Based on available evidence and stakeholder consultations, what pathways are available to address the key challenges facing HHR in Canada's healthcare systems, including: **workforce mobility across provinces and territories?**

Planning & development

9. What is the **current state of the health workforce supply** in Canada's healthcare systems?

10. What **HHR data are required** for effective **workforce planning**?

    10.1. What are the current key data gaps and challenges?

    10.2. What data and tools do we need to proactively design a health workforce that:

       10.2.1. Reflects the racial, cultural, and gender diversity of the people healthcare practitioners serve?

       10.2.2. Serves the needs of historically underserved priority populations (e.g. Indigenous communities, Black and other racialized individuals, and newcomers whose first language is neither French nor English)?

       10.2.3. Serves the healthcare needs of official language minorities communities?

11. *Shortages:* Where (by profession / geographic / care setting) are the most critical shortages and what are key factors underlying those shortages?

    11.1. Which **professions are anticipated to experience chronic shortages** in the next 2-5 years and what are the most likely contributing factors?

12. What are the **major trends, challenges, and opportunities** over the next two to five years to improve surge capacity, address supply, and improve healthcare data?

13. Based on available evidence and stakeholder consultations, what pathways are available to address the key challenges facing HHR in Canada's healthcare systems, including: **workforce planning**

14. Based on available evidence and stakeholder consultations, what pathways are available to address the key challenges facing HHR in Canada's healthcare systems, including:

   14.1. **Education and training pipelines** (including integration of new practitioners into the workforce, continuing education, and career progression through bridging across professions)

   14.2. **Timely pathways to licensure** for internationally educated healthcare practitioners (IEHPs) seeking to work in Canada

   14.3. **Integration of internationally educated healthcare practitioners (IEHPs) into Canadian healthcare settings** as quickly as possible.

Vision, action, & impact

15. What is the **impact of HHR challenges on the healthcare system** (e.g. patient perspective, quality of care, efficiency of the health system)?

16. Is there an emerging pan-Canadian consensus on **a vision for HHR in Canada** that could be pursued over the next 2-5 years? What immediate actions are required to make progress on this vision? What are the highest priorities for action, even if not immediate?

17. Recognizing that there are a range of actors across the health system working in this space, including federal, provincial, and territorial governments, regulators, and educational institutions, what can be done to encourage all actors to create synergies and better support and utilize the health workforce?

APPENDIX B: PROVINCIAL AND TERRITORIAL HEALTH WORKFORCE STRATEGIES

Sampling of provincial and territorial strategies or policy reports of relevance to all of a subsection of the health workforce.

STRATEGY OR POLICY REPORT*		YEAR OF PUBLICATION
Alberta	*Alberta Health System Sustainability and Resiliency Action Plan*	**2022**
	Rural Health Professions Action Plan: Strategic Plan 2020-2024	**2020**
British Columbia	*B.C.'s Health Human Resources Strategy: Putting People First*	**2022**
Manitoba	*Manitoba Health, Seniors and Active Living Transformation Program Charter*	**2022**
New Brunswick	*Nursing Resource Strategy for New Brunswick*	**2019**
Newfoundland and Labrador	*Newfoundland and Labrador Strategic Health Workforce Plan 2015 – 2018*	**2015****
Northwest Territories	*Northwest Territories Health and Social Services System Human Resources Plan 2021-2024*	**2021**
Nova Scotia	*Action for Health: A Strategic Plan 2022-2026*	**2022**
Nunavut	*Roadmap to Strengthen the Nunavut Nursing Workforce*	**2022**
Québec	*Rapport annuel de gestion 2019-2020*	**2019**
Yukon	*People Plan: A Plan for the Government of Yukon's Public Service 2019-2023*	**2019**

*This is a sample of readily available strategies. Some provinces, such as Ontario, Prince Edward Island, and Saskatchewan may have relevant elements integrated into broader policy documents.
**Currently being updated

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