

A PATH TO IMPROVED HEALTH WORKFORCE PLANNING, POLICY AND MANAGEMENT IN CANADA: THE CRITICAL CO-ORDINATING AND CONVENING ROLES FOR THE FEDERAL GOVERNMENT TO PLAY IN ADDRESSING EIGHT PER CENT OF ITS GDP

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SUMMARY

Health workers are the foundation of health systems. The alignment of health workforce structures and processes to achieve the quadruple aim outcomes is central to any learning health system. This requires robust data and evidence. A key problem is that Canada lags behind comparable OECD countries in terms of health workforce data and digital analytics. As a result, health workforce planning and decision-making tend to be ad hoc, sporadic and siloed by profession or jurisdiction, generating significant costs, inefficiencies and risks for all involved.² Health workers in Canada account for more than 10 per cent of all employed Canadians and over two-thirds of all health-care

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I. L. Bourgeault, C. Chamberland-Rowe, S. Simkin and S. Slade, "A Proposed Vision to Enhance CIHI's Contribution to More Data Driven and Evidence-Informed Health Workforce Planning in Canada," Final Report, March 31, 2020.

spending, which amounted to \$175 billion in 2019, or nearly eight per cent of Canada's total GDP.³ Recognizing these facts and supporting strategic health workforce planning, policy and management ought to be key priorities for federal and provincial/territorial governments and other health-care organizations.

Across all the different stakeholders that make up the complex, adaptive health workforce system in Canada, we lack a centralized and co-ordinated data, analytics and strategic planning infrastructure, a neglect that has been readily acknowledged for over a decade. COVID-19 has exposed the significant gaps in our knowledge about the health workforce, causing critical risks for planners to manage during a health crisis. The time is ripe for the federal government to take on a co-ordinating leadership role to enhance the data infrastructure that provinces, territories, regions and training programs need to better plan for and support the health workforce.

Efforts should centre on three key elements that will improve data infrastructure, bolster knowledge creation and inform decision-making activities:

- A minimum data standard and enhanced health workforce data collection across all stakeholders;
- More timely, accessible, interactive and fit-for-purpose decision-support tools;
- Capacity building in health workforce data analytics, digital tool design, policy analysis and management science.

This vision requires an enhanced federal government role to contribute resources to co-ordinate the collection of accurate, standardized and more complete data to support analysis across occupations, sectors and jurisdictions, with links to relevant patient information, health-care usage and outcome data, for more strategic fit-for-purpose planning at all levels.

This paper presents a vision for enhanced federal support of data-driven and evidence-informed health workforce planning, policy and management. First, two data infrastructure and capacity-building recommendations include:

1. The federal government should create an initiative dedicated to enhancing standardized health workforce data, purpose-built for strategic planning and associated decision-making tools for targeted planning, through a specially earmarked contribution agreement with the Canadian Institute for Health Information (CIHI).
2. In addition to the need to build better data, digital tools and decision-support infrastructure, there is a parallel need to build the human resources capacity for health workforce analytics. Through a special Canadian Institutes of Health Research-administered fund, this could include a strategic training investment in health workforce research and a complementary signature initiative to fund integrated research projects that cut across the existing scientific institutes.

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In 2019, health care constituted 11.5 per cent of GDP. Although the data are not readily available for the full costs of the health workforce, it is generally accepted that approximately 70 per cent of health-care costs are the costs of labour; 70 per cent of 11.5 is 8.05.

Building on these two necessary but insufficient building blocks, a co-ordinating national health workforce organization could include one of the following three options:

1. The federal government could create a dedicated agency with a mandate to enhance existing data infrastructure and decision-support tools for strategic planning, policy and management across Canada.
2. Through a contribution agreement, the federal government could support the creation of an arm's-length, not-for-profit organization — a partnership for health workforce — as a steward of a renewed strategy and to provide health labour market information, training and management of human resources in the health sector, including support for recruitment and retention.
3. The federal government could support the creation of a robust, transparent and accessible secretariat for a council on health workforce to improve data and decision-making infrastructures, and to bolster knowledge creation through dedicated funding to inform policy and decision-making and collaborate on topics of mutual interest across stakeholders.

In addition to building a more robust health system for Canada's post-pandemic recovery, these actions would align with the World Health Organization's *Global Strategy on Human Resources for Health* (2016) which encourages all countries to have institutional mechanisms in place by 2030 to effectively steer and co-ordinate an inter-sectoral health workforce agenda and established mechanisms for health workforce data sharing through national health workforce accounts.

Because of the importance of the health workforce to Canada's economy and pandemic recovery, building the necessary infrastructure requires a sizable and sustained investment over the course of at least 10 years.

VOIE POUR UNE AMÉLIORATION DE LA PLANIFICATION, DES POLITIQUES ET DE LA GESTION DES EFFECTIFS DE LA SANTÉ AU CANADA : LES RÔLES ESSENTIELS DE COORDINATION ET DE CONVOCATION QUE LE GOUVERNEMENT FÉDÉRAL DEVRA JOUER POUR RÉGLER HUIT POUR CENT DE SON PIB

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RÉSUMÉ

Les travailleurs de la santé forment la base des systèmes de santé. L'alignement des structures et des processus de la main-d'œuvre pour atteindre les résultats du quadruple objectif est au cœur de tout système de santé apprenant. Cela demande des données solides. Or, un des problèmes clés est que le Canada accuse un retard par rapport à des pays comparables de l'OCDE pour ce qui est des données sur la main-d'œuvre de la santé et de l'analytique numérique. Par conséquent, la planification et la prise de décisions relatives à la main-d'œuvre de la santé ont tendance à être ponctuelles, sporadiques et cloisonnées selon la profession ou la province, ce qui génère des coûts, des inefficacités et des risques importants pour toutes les personnes concernées². Au Canada, les travailleurs de la santé représentent plus de 10 % de tous les employés au pays et comptent pour plus des deux tiers de toutes les dépenses en soins de santé, lesquelles s'élevaient à 175 milliards de dollars en 2019, soit près de 8 % du PIB total du Canada³. Reconnaître ces faits et soutenir la planification, les politiques et une gestion stratégique de la main-d'œuvre devraient être des priorités pour les gouvernements fédéral, provinciaux et territoriaux ainsi que pour les organismes de soins de santé.

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I. L. Bourgeault, C. Chamberland-Rowe, S. Simkin and S. Slade, "A Proposed Vision to Enhance CIHI's Contribution to More Data Driven and Evidence-Informed Health Workforce Planning in Canada," Rapport final, 31 mars 2020.

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En 2019, les soins de santé représentaient 11,5 % du PIB. Bien que les données ne soient pas facilement disponibles pour les coûts totaux du personnel de la santé, il est généralement admis qu'environ 70 % des coûts des soins de santé sont des coûts de main-d'œuvre; 70 % de 11,5 équivaut à 8,05.

Parmi tous les intervenants qui composent le système complexe et adaptatif de la main-d'œuvre de la santé au Canada, il manque une infrastructure centralisée et coordonnée pour les données, l'analyse et la planification stratégique; et ce manque est reconnu depuis plus d'une décennie. La COVID-19 a révélé des lacunes importantes dans nos connaissances sur le personnel de la santé, ce qui entraîne d'importants risques que les planificateurs doivent gérer au beau milieu d'une crise sanitaire. Le moment est venu pour le gouvernement fédéral d'assumer un rôle de coordonnateur afin d'améliorer l'infrastructure des données dont les provinces, les territoires, les régions et les programmes de formation ont besoin pour mieux planifier et soutenir la main-d'œuvre de la santé.

Les efforts doivent se concentrer sur trois éléments qui amélioreront l'infrastructure des données, renforceront la création de connaissances et éclaireront les activités de prise de décision :

- Une norme minimale concernant les données et une meilleure collecte de données sur le personnel de la santé auprès de toutes les parties prenantes;
- Des outils d'aide à la décision plus opportuns, accessibles, interactifs et adaptés;
- Un renforcement des capacités pour l'analytique des données, la conception d'outils numériques, l'analyse des politiques et la science de la gestion.

Cette vision nécessite un rôle accru du gouvernement fédéral dans la fourniture des ressources afin de coordonner la collecte de données précises, normalisées et plus complètes pour soutenir l'analyse des professions, des secteurs et des compétences, avec des liens vers des informations pertinentes sur les patients, l'utilisation des soins de santé et les données sur les résultats, et ce, afin d'assurer une planification plus stratégique et mieux adaptée aux objectifs à tous les niveaux.

Cet article présente une vision pour un soutien fédéral accru dans la planification, l'élaboration de politiques et la gestion fondées sur les données probantes. En premier lieu, voici deux recommandations concernant l'infrastructure des données et le renforcement des capacités :

1. Le gouvernement fédéral devrait créer une initiative consacrée à l'amélioration des données normalisées sur la main-d'œuvre de la santé, spécialement conçues pour une planification stratégique, et il devrait mettre en place des outils décisionnels connexes pour une planification ciblée, par le biais d'un accord de contribution spécial avec l'Institut canadien d'information sur la santé (ICIS).
2. Outre la nécessité de créer de meilleures données, des outils numériques et une infrastructure d'aide à la décision, il y a un besoin parallèle de renforcer la capacité pour l'analytique de la main-d'œuvre de la santé. Grâce à un fonds spécial administré par les Instituts de recherche en santé du Canada, cela pourrait comprendre un investissement stratégique dans la formation en recherche sur la main-d'œuvre de la santé et une initiative complémentaire pour financer des projets de recherche intégrés qui recoupent les instituts scientifiques existants.

En s'appuyant sur ces deux éléments nécessaires mais insuffisants, une organisation nationale de coordination de la main-d'œuvre de la santé pourrait inclure l'une des trois propositions suivantes :

1. Le gouvernement fédéral pourrait créer une agence spécialisée ayant pour mandat d'améliorer l'infrastructure de données existante et les outils d'aide à la décision pour la planification stratégique, les politiques et la gestion partout au Canada.
2. Par le biais d'un accord de contribution, le gouvernement fédéral pourrait soutenir la création d'un organisme sans lien de dépendance et sans but lucratif – un partenariat pour la main-d'œuvre de la santé—en tant que gestionnaire d'une stratégie renouvelée; et il pourrait fournir de l'information sur le marché du travail, sur la formation et sur la gestion des ressources humaines dans le secteur de la santé, notamment par le soutien au recrutement et à la rétention.
3. Le gouvernement fédéral pourrait soutenir la création d'un secrétariat solide, transparent et accessible visant la mise en place d'un conseil sur les travailleurs de la santé afin d'améliorer l'infrastructure de données et de prise de décision, et afin de renforcer la création de connaissances grâce à un financement visant à éclairer les politiques et la prise de décision, et il pourrait collaborer sur les sujets d'intérêt commun entre les parties prenantes.

En plus de bâtir un système de santé plus robuste pour le rétablissement post-pandémique au Canada, ces mesures s'aligneraient sur la *Stratégie mondiale sur les ressources humaines pour la santé* (2016) de l'Organisation mondiale de la santé, qui encourage tous les pays à mettre en place des mécanismes institutionnels d'ici 2030 pour diriger efficacement et coordonner un programme intersectoriel sur les travailleurs de la santé et établir des mécanismes pour le partage des données par le biais de comptes nationaux sur les travailleurs de la santé.

En raison de l'importance de la main-d'œuvre de la santé pour l'économie du Canada et pour la relance suite à la pandémie, la construction de l'infrastructure nécessaire demandera un investissement important et soutenu pendant au moins 10 ans.

GENERAL INTRODUCTION

In 2017, the federal government took a new approach to that taken in the early 2000s to move forward on health system priorities. The government worked with the provinces and territories (PTs) to identify shared health priorities for federal investments, develop common areas of action within these priorities through an FPT framework, and then negotiated bilateral agreements with each PT. COVID-19 has highlighted the need for resilient health care systems that will continue meet the needs of Canadians today and in the future.

It is in this context that in April 2021, the School of Public Policy convened a group of health policy experts to develop research papers on various aspects of the evolution of health care in consultation with Health Canada. These experts have a diverse range of perspectives on issues related to Canadian health systems. Health Canada was consulted on the list of topics, but the orientation of each paper, the methodology, as well as the substance of the recommendations were left entirely to the discretion of the authors.

We are proud to share the result of this process. Each paper in this series of eight was subject to the intense scrutiny, and discussed extensively following detailed roundtable presentations. Two eminent health policy experts were also asked to conduct a careful double-blind review of the papers, with a special focus on rigor, readability, and relevance. We believe these policy briefs offer a rare combination of original thinking, deep subject expertise, and technical feasibility: a perfect balance between the very practical needs of the end users of the research and the independent and innovative spirit that pervades all the work originating from the School of Public Policy.

THE IMPORTANCE OF THE HEALTH WORKFORCE TO CANADA'S POST-PANDEMIC RECOVERY

Health workers are the foundation of all health systems. Through prevention, treatment and the care they deliver, health workers save, extend and improve the quality of patients' lives. A well-functioning health-care system with sufficient staffing, resources and supports underpins a healthy economy and fuels productivity. Health-care expenditures and labour-force statistics underscore the significance of health workers in Canada's economy and health-care system. Health workers in Canada account for more than 10 per cent of all employed Canadians and over two-thirds of all health-care spending, not including the personal and public cost to their training. That amounted to \$175 billion in 2019, or nearly eight per cent of Canada's total GDP.⁴

The health workforce is critical to the health of Canadians as well as to the social and economic fabric of Canada. Health workers are the conduit through which patients receive health care, enabling them to participate in and contribute to the communities in which they live.⁵ As the WHO (2012, 2) notes, "Without adequate number of well-trained and motivated health workers, deployed equitably, people cannot access the health services they need."

Recognizing these facts, supporting strategic health workforce planning, policy and management ought to be key priorities for federal and provincial/territorial governments and the non-governmental organizations (NGOs) that license, educate, regulate, advocate and negotiate for health workers across Canada. Despite its importance, Canada lags behind comparable OECD countries in terms of health workforce data, data infrastructure and digital analytics.⁶ As a result, health workforce planning across Canada is ad hoc, sporadic and siloed by profession or jurisdiction, generating significant costs, inefficiencies and risks for all involved.⁷ Moreover, health workforce research secures less than three per cent of health services and policy research funds,⁸ and less than one per cent of all national

A well-performing health workforce is the backbone of an effective health system [...]

The effectiveness of health systems and the quality of health services depend significantly on the knowledge, skills and motivation of health workers.

(WHO 2012, 2)

⁴ Source: Estimated from the National Health Expenditure Data, CIHI, 2019.

⁵ This is particularly true in rural areas. The Federation of Canadian Municipalities identifies rural health and social services as being the 4th largest employer in rural areas nationally. <https://fcm.ca/en/resources/rural-challenges-national-opportunity>

⁶ Ivy Bourgeault, Sarah Simkin and Caroline Chamberland-Rowe, "Poor Health Workforce Planning is Costly, Risky and Inequitable," CMAJ, October 21, 2019, 191 (42) E1147-E1148; DOI: <https://doi.org/10.1503/cmaj.191241>.

⁷ I. L. Bourgeault, C. Chamberland-Rowe, S. Simkin and S. Slade, "A Proposed Vision to Enhance CIHI's Contribution to More Data Driven and Evidence-Informed Health Workforce Planning in Canada," Final Report, March 31, 2020.

⁸ [Pan-Canadian vision and strategy for health services and policy research: 2014-2019](#). CIHR IHSPR 2014:1-36.

health research funds.⁹ The COVID-19 pandemic has exposed the significant gaps in our knowledge, causing critical risks for planners to manage during a health crisis.¹⁰

We are already seeing the pandemic impacts on the sustainability of health-care services. According to a Statistics Canada report, the number of vacancies in health care and social services has increased dramatically during the pandemic to 112,000,¹¹ the highest vacancy rate of any sector. Burnout and other mental health concerns, already prevalent among both nurses and doctors prior to the pandemic, have increased due to health and safety concerns and unsustainable workloads.¹² Caring for COVID-19 patients without pause, health workers have faced 16-hour days, cancelled vacations and forced redeployment. While they care for others, they have not received the support and care they need through public policy. Without an indication to all health workers of their value through significant policy action, we can soon expect an exodus from the health workforce in Canada and a dramatic exacerbation of unacceptably long wait times and poor health outcomes as a result.

THE ALIGNMENT OF HEALTH WORKFORCE STRUCTURES, PROCESSES AND HEALTH SYSTEM OUTCOMES

The alignment of health workforce structures and processes to achieve the quadruple aim outcomes is central to any learning health system. Co-ordinated action across health workforce stakeholders, involving an iterative cycle of strategic planning, policy and management, should result in the alignment of health workforce supply, distribution, mix and performance with population health needs and health systems' organizational objectives (Figure 1). Comprehensive data and evidence are essential to ensure this alignment is achieved. Beyond better public accountability for funds spent, robust planning, policy and management based on high-quality data are critical to 1) making optimal use of available resources; and 2) meeting health system goals and population health needs in a cost-effective manner. Absent comprehensive data, our health systems are at significant risk of making suboptimal use of our human resources, creating unnecessary financial and health risks.¹³ This is the present state in Canada.

⁹ Given that approximately seven per cent of CIHR funds goes towards health services and policy research and that three per cent of health services and policy research is dedicated to health workforce research, it is fair to say that less than one per cent of CIHR funds goes towards health workforce research. There is no specific calculation of CIHR health workforce research funds.

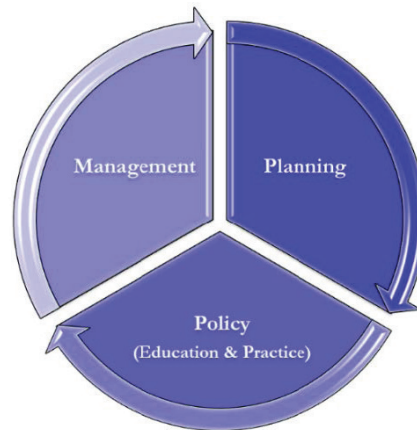
¹⁰ I. Bourgeault, S. Simkin and C. Chamberland-Rowe, "Crisis Underscores that Health Workers are Backbone of Health System," *Hill Times*, April 7, 2020, <https://www.hilltimes.com/2020/04/07/crisis-underscores-that-health-workers-are-backbone-of-health-system/242674>.

¹¹ T. McMahon, "Nursing Job Vacancies are Soaring across Canada: Tens of Thousands of Nursing Jobs Remain Unfilled across the Country as Hospitals Scramble to Find Workers amid a Pandemic," Eastern Workforce Innovation Board, February 9, 2021, http://www.workforcedev.ca/index.php/en/projects_en/news-articles/101-workforce-en/394-nursing-job-vacancies-are-soaring-across-canada.

¹² Healthy Professional Worker Partnership *Preliminary Comparative Findings*, 2021. <https://www.healthyprofwork.com/comparative-findings/#interim-report>

¹³ C. Chamberland-Rowe & I.L. Bourgeault "Health Workforce Impact Assessments Step 1 - A Framework of the Complex, Adaptive Health Workforce System," Paper presented at the Canadian Association of Health Services and Policy Research Conference, Halifax, NS, May 2019.

Figure 1. Iterative Process between Planning, Policy and Management



THE COMPLEX ADAPTIVE HEALTH WORKFORCE SYSTEM IN CANADA

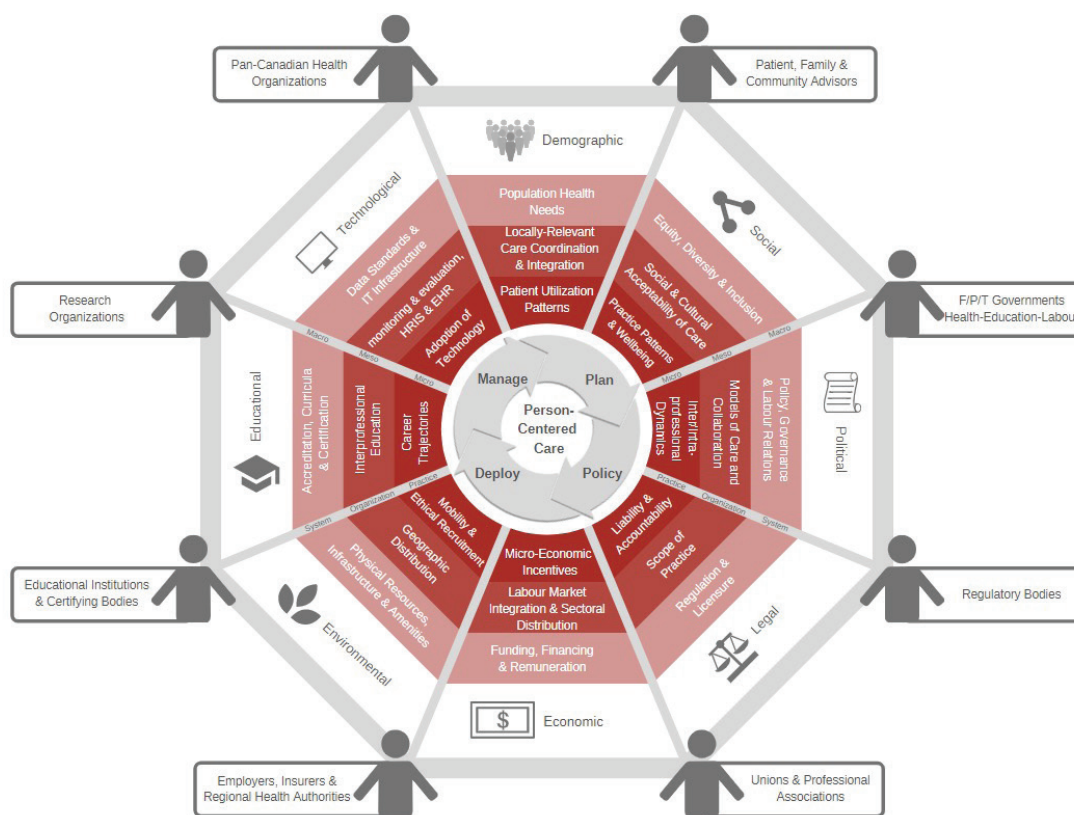
Canada's health workforce system can be conceived of as complex, with multiple, diverse and interconnected elements often accompanied by feedback effects, non-linearity and other conditions that add to its unpredictability.¹⁴ The complex web of stakeholders reflects historical legacies regarding the governance of health care in Canada. Canada's health workforce system involves a range of government and non-governmental actors in domains that address the education, accreditation, funding, regulation, practice and deployment of health workers (see Figure 2). These all exist within a unique social, technological, economic, environmental, political, legal, educational and demographic (STEEPLED) context.

Starting clockwise, provincial/territorial (P/T) government departments of health, education and labour hold key political decision-making authority over most aspects of the health workforce. Decisions within their purview include the education/training and funding of health workers and thus their supply. The Conference of Deputy Ministers of Health established the Federal/Provincial/Territorial Advisory Committee on the Health Workforce in 2002, which includes senior representatives from P/T health workforce departments and representatives from Health Canada to provide a forum to share information and discuss cross-cutting issues. Health Canada has no specific health workforce department even though the health workforce underpins several national health priorities.¹⁵

¹⁴ J. W. Begun, B. Zimmerman and K. J. Dooley, "Health Care Organizations as Complex Adaptive Systems," *Advances in Health Care Organization Theory*, S. S. Mick and M. E. Wyttenbach, eds. (1st edition, pp. 253-288), (San Francisco, CA: Jossey-Bass, 2003).

¹⁵ This includes ensuring greater access to primary care, supporting mental health care and home and palliative care, applying gender-based analysis and strengthening the relationship with Indigenous peoples in Canada.

Figure 2. Framework of the Complex, Adaptive Canadian Health Workforce System



Source: Chamberland-Rowe and Bourgeault 2019

P/T governments delegate regulatory responsibilities to colleges or, in French, ordres which govern health workers in the public's interest (Epps 2011). Regulatory authorities capture data on members of the profession qualified to practise through a registry. In Ontario, the provincial government requires regulatory authorities to contribute standardized data to a health professions database. Although many P/T regulatory authorities collaborate nationally on common regulatory and practice-related issues,¹⁶ most registry data are not aligned across jurisdiction or profession.

Unions and professional associations are non-profit, member-based organizations that exist at the provincial and territorial levels with the mandate to promote the interests of their profession; they function independently of regulatory authorities.¹⁷ Many have membership lists, but these are incomplete in that not all registered workers are members, and they lack many data elements necessary for planning. Voluntary professional associations also exist at the national level, but they do not directly

¹⁶ The Canadian Alliance of Physiotherapy Regulators has moved toward a national evidence-based entry-to-practice standard as a proxy to a pan-Canadian licence. The Federation of Medical Regulatory Authorities of Canada has also been working towards a pan-Canadian licence for locum physicians, for the provision of virtual care and a regional licence for the Maritimes.

¹⁷ In some provinces/territories, a single organization serves the role of both regulatory authority and professional association, but this is becoming less frequent.

negotiate the terms and conditions of remuneration and working conditions for their members; they also lack the data necessary for workforce planning.

Employers in health-care organizations and regional health authorities also collect typical human resources data where health professionals are paid by salary or through billings (collected provincially, primarily for physicians).

Many provincially based educational institutions, many of which are accredited nationally, also collect data on the participants in their programs. Pathways to integration for health workers trained internationally are supported by bridge training programs through the combined efforts of provincial educational institutions and regulatory authorities, often with involvement from national organizations.¹⁸ Due to data limitations, it is not always possible to track health workers from training through into practice.

Next, are research organizations, an example of which is the Canadian Health Workforce Network (CHWN). It was founded in 2011 as a knowledge-exchange network through a contribution agreement of \$200,000 from Health Canada and a \$600,000 network catalyst grant from the Canadian Institutes of Health Research (CIHR). It has continued since 2015 as a volunteer-based organization that provides a forum for national experts, researchers and policy-makers involved or interested in health workforce research, policy and planning.

Finally, the Canadian Institute for Health Information (CIHI) is one of the key organizations with explicit health workforce data expertise. Funded through voluntary bilateral agreements with F/P/T ministries of health, two teams at CIHI – the Physician Information (PI) and the Health Workforce Information (HWI) teams – work with stakeholder organizations to create and maintain a broad range of health databases, measurements and standards (Textbox 1).

The PI team reports on physician data from Scott's Medical Database (SMDB) and the National Physician Database (NPDB). The SMDB is a privately owned directory containing information on the supply, distribution, demographics, education and migration of physicians to produce the Canadian Medical Directory and mailing lists for commercial purposes.¹⁹ CIHI purchases a copy of data from Scott's Directories. The NPDB is based on payments to physicians and services provided going back to 1989. The PI team provides significant input to standardize data across the P/T submissions to the NPDB. Neither of these databases is designed explicitly for planning purposes.

¹⁸ E. Neiterman, I. L. Bourgeault, Julie Peters, Victoria Esses, Elaine Dever, Rae Gropper, Christine Nielsen, Jenna Kelland and Peggy Sattler, "Best Practices in Bridging Education: Multiple Case Study Evaluation of Postsecondary Bridging Programs for Internationally Educated Health Professionals in Canada," *Journal of Allied Health*, 47(1), 2018: 23-28.

¹⁹ <https://www.mdselect.ca>

Textbox 1: Overview of CIHI Health Workforce Data and Reports

Health-care provider groups with profession-specific record-level data:		
<ul style="list-style-type: none"> • Physicians 	<ul style="list-style-type: none"> • Registered nurses • Licensed practical nurses • Nurse practitioners • Registered psychiatric nurses 	<ul style="list-style-type: none"> • Pharmacists • Physiotherapists • Occupational therapists
Health-care provider groups with aggregate data (<i>head count, binary gender, age, province</i>):		
<ul style="list-style-type: none"> • Audiologists • Chiropractors • Dental assistants • Dental hygienists • Dentists • Dietitians • Environmental public health professionals 	<ul style="list-style-type: none"> • Genetic counsellors • Health information management professionals • Medical laboratory technologists • Medical physicists • Medical radiation technologists • Midwives 	<ul style="list-style-type: none"> • Opticians • Optometrists • Paramedics • Pharmacy technicians • Physician assistants • Psychologists • Respiratory therapists • Social workers • Speech-language pathologists

By contrast, the HWI team works with regulators across the country to secure voluntary reporting through data-sharing agreements for record-level data on seven other professions and aggregate-level data on another 22 professions. CIHI has no legislative authority to collect health workforce data and must do so in collaboration with data-holders and other stakeholders. Most of CIHI's health professional databases lack standardization across professions and jurisdictions, which is a key barrier to tool development and integrated health workforce planning. Whereas CIHI's other health information databases have expanded over the organization's 25-year history, comparatively less has been done to expand CIHI's health workforce databases, including linking these with other CIHI data holdings.

Overall, health workforce data at the federal, provincial/territorial, regional/health authority, hospital/clinic and local educational institution levels are gathered by a complex web of health workforce stakeholders. At every level, data are collected that reflect and respond to the mandates, inputs, activities and outputs of these organizations. That these data are not always aligned (in definition, timing of collection, and format), causes inefficiencies in both their submission and use to inform critical system decisions along the training to practice path.

More to the point, Canada lacks a centralized and co-ordinated health workforce data, analytics and strategic planning infrastructure that could be a resource to these various

stakeholders, a neglect that has been readily acknowledged for over a decade (Textbox 2). The time is ripe for the federal government to take on a co-ordinating leadership role, supporting pre-existing committees, networks and organizations to improve the data infrastructure that provinces, territories, regions and training programs need to better plan for and support the health workforce. Representatives from over 60 stakeholder organizations are aligned in support of this direction and have signed onto a call to action to this effect.²⁰

Textbox 2: Over a Decade of Recommendations for Co-ordinated Health Workforce Planning

Over a decade, three key Canadian reports recommended the establishment of a co-ordinating body or national health workforce observatory:

- The 2015 Naylor report on health innovations makes it clear that there is a need to create effective, collaborative linkages among health workforce stakeholders. It called for “the development of a pan-Canadian mechanism to assess the value of healthcare services in terms of cost, provider role, and patient outcomes.”
- One of the key recommendations from the 2010 Parliamentary Standing Committee on Health, addressing innovation in the health workforce, called for the establishment of an agency to support the dissemination and uptake of knowledge and evidence.
- Previously, the predecessor to the FPT Advisory Committee on the Health Workforce made a case in 2005 that a more collaborative approach to health workforce planning and research would have immediate benefits.

INTERNATIONAL LEADING PRACTICES FOR CO-ORDINATING HEALTH WORKFORCE ORGANIZATIONS

Most countries have created health workforce observatories or agencies to improve the performance of their health systems. The trend started in Latin America in 2000 and continued in Africa in 2005 and the eastern Mediterranean regions in 2006. These observatories, according to a 2011 review by the WHO,²¹ “collect, analyze and disseminate data and information on the health workforce and the labor market, conduct applied research and produce knowledge, contribute to policy development, contribute to building capacity and understanding of [health workforce] issues and advocate/facilitate the dialogue between stakeholders.” To accomplish their objectives, observatories “use a range of strategies and tools, such as dedicated websites, HRH databases, technical publications, discussion fora, technical meetings and policy dialogues” (p. 3) (Textbox 3).

²⁰ <https://www.hhr-rhs.ca/en/petition.html>

²¹ World Health Organization, “Human Resources for Health Observatories: An Overview,” Global Meeting of HRH Observatories, “Evidence-informed HRH policies: The Contribution of HRH Observatories,” Lisbon, July 4-7, 2011.

Textbox 3: Health Workforce Observatories/Agencies

Summary of the core functions:

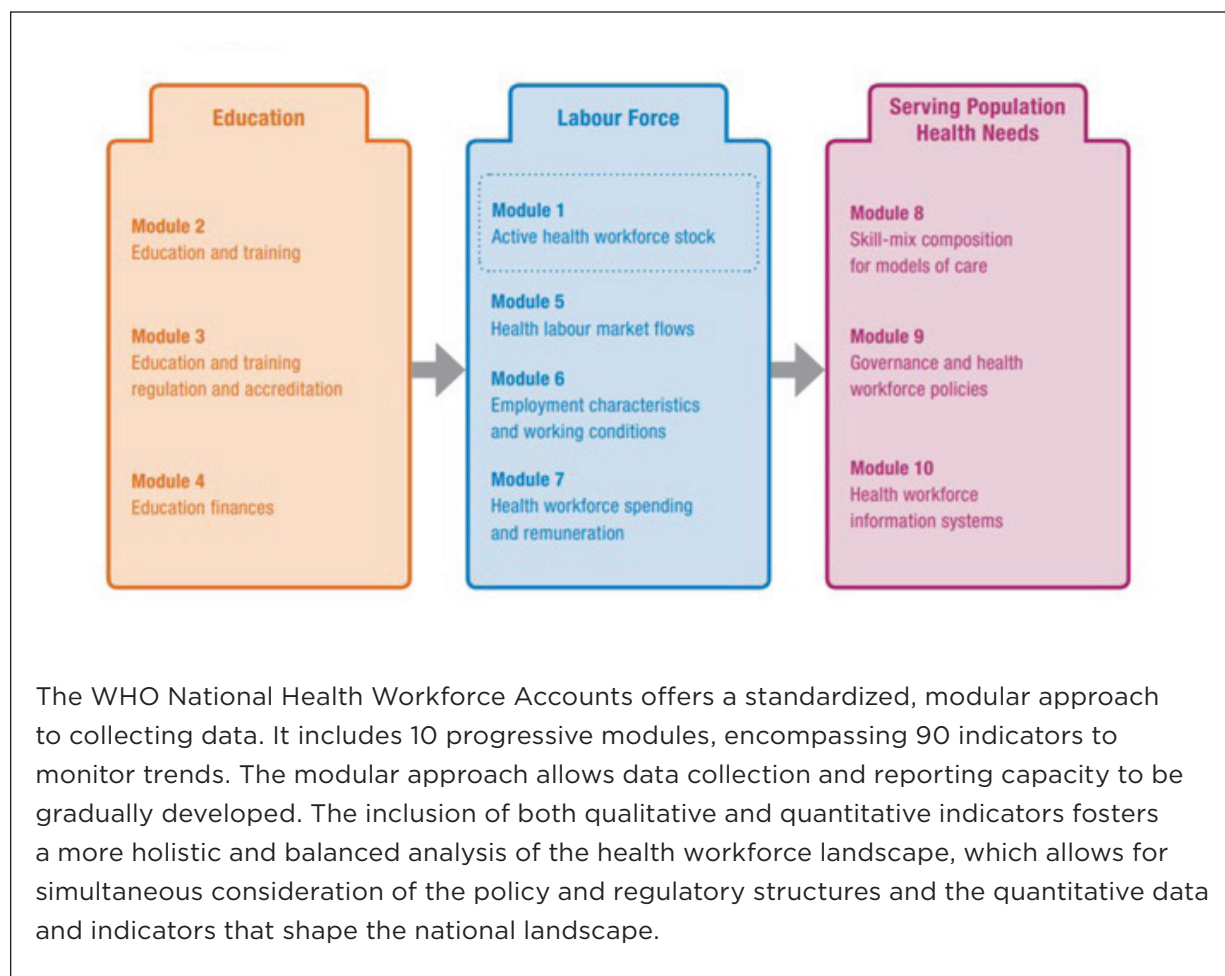
- **Data and information gathering, analysis and dissemination.** The aim is to collate and synthesize data on the health workforce and health-care labour market in the country or region. This can involve: validating available data on education pipelines and health comparisons; analyzing trends across time periods; developing information systems; identifying trends (aging, feminization, specialization, mobility within countries and internationally) and problems (geographical and skills mix imbalances, policy gaps, future unmet needs, attrition, unemployment, dual practice, quality maintenance); scanning the environment; and informing stakeholders and the general public.
- **Monitoring the health workforce and labour market.** The aim is to track and assess the dynamics of the workforce and the labour market, identifying changes and trends relevant to policymaking and planning. This can include monitoring the health labour market; the mobility of personnel; labour relations; productivity; working conditions and compensation; management practices; the impact of policies (including those originating from other sectors, such as education, finance and public administration, which affect the health sector); regulatory measures; and expenditures on the health workforce.
- **Research and knowledge production.** The aim is to improve the evidence base by conducting new research, policy mapping and analysis, evaluating interventions, carrying out forecasting exercises to identify future needs, studying the satisfaction and expectations of health workers, costing policy options and carrying out comparative studies (between occupations subnationally and internationally).
- **Policy development.** The aim is to support, inform and perhaps direct policy and planning by identifying policy options; assessing the feasibility of interventions; planning scenarios; disseminating international good practices; and preparing policy briefs.
- **Capacity development.** The aim is to improve and strengthen the capacity and understanding of senior policymakers and planners, technical staff and managers of health workforce issues. This is achieved through technical training and leadership development activities; tools development (guidelines, handbooks, research protocols and instruments, planning strategies and models); the provision of support to communities of practice; and networking among health workforce planners and analysts.
- **Advocacy and the facilitation of policy dialogue between stakeholders.** The aim is to engage more directly in the process of policy and planning. Some observatories undertake interventions in the media, organize policy dialogues, participate in relevant events and promote joint work between stakeholders.

The absence of a central institution responsible for the co-ordination of integrated health workforce data gathering and planning activities, combined with the diffuse governance responsibilities inherent in a federated system, leaves us with blurred lines

of responsibility and poorly coordinated efforts.²² This is not aligned with the *Global Strategy on Human Resources for Health (2016)*,²³ of which Canada is a signatory, which states in part that:

- 3.1. All countries: by 2030, 80% of all countries have institutional mechanisms in place to effectively steer and coordinate an intersectoral health workforce agenda.
- 4.1. All countries: by 2030, 90% of countries have established mechanisms for HRH data sharing through national health workforce accounts (Textbox 4), and report on a yearly basis, core HRH indicators to WHO Secretariat and publish them.

Textbox 4: National Health Workforce Accounts: International Exemplar for Health Workforce Data



²² I. L. Bourgeault, C. Chamberland-Rowe, S. Simkin and S. Slade, “A Proposed Vision to Enhance CIHI’s Contribution to More Data Driven and Evidence-Informed Health Workforce Planning in Canada,” Final Report, March 31, 2020.

²³ Ibid., “Global Strategy on Human Resources for Health, (Geneva: WHO Press, World Health Organization, 2015), <http://apps.who.int/iris/bitstream/handle/10665/250368/9789241511131-eng.pdf;jsessionid=0FD553AED801F267E3B8C1A04796B8FB?sequence=1>.

HEALTH WORKFORCE DATA DEFICIENCIES IN CANADA²⁴

Critical health workforce data challenges severely limit evidence-based decision-making in this sector. These limitations have become even more salient during the COVID-19 pandemic, when both system responsiveness and surge capacity were inhibited by inadequate data.

First, the lack of standardization limits planners' and researchers' capacity to conduct interprofessional and interjurisdictional analyses; most analyses are uni-professional, uni-jurisdictional and uni-sectoral, primarily focused on publicly financed professionals and ignoring large numbers of workers who are financed by the private sector (through out-of-pocket and employment-based benefits). This siloed approach fails to capture: (1) how current training is highly interdependent across jurisdictions, (2) the mobility of the health workforce within Canada and internationally; and (3) the provision of care in interprofessional teams. This lack of standardization also fosters disproportionate evidence production pertaining to professions for which more comprehensive data are available, i.e., the medical profession. Harmonized and standardized datasets would enable integrated planning, allowing for more optimized allocation of service requirements across the full range of available workers. This is particularly critical for sectors most impacted by the pandemic — long-term care and mental health care — for which we have the least robust data, or in some cases no data at all.

Second, the lack of granularity of comprehensive data beyond simple headcounts to reflect measures of activity and participation, and any attention to diversity indicators, are egregiously absent (contravening federal employment equity legislation). Few data frameworks include the necessary scope of work, workload, practice characteristics and diversity data required to support research and decision-making that would ensure the composition and capacity of the health workforce align with population needs.

Third, the lack of interoperability of available datasets relevant to planning represents a significant limiting factor in the current system.

Fourth, administrative, temporal and financial barriers to access data limit the feasibility of planning exercises. As Gaul and Fraher (2015)²⁵ describe: "Access to basic health workforce data is essential to plan for educational programs, shape regulatory policies, identify shortage areas, forecast employment needs, and justify funding requests. Data can also be used to evaluate the impact that policy decisions have on workforce." Failure to use data to support decision-making devalues the investment of public funding in data collection, storage and stewardship. The underutilization of data and tools — because of barriers to access — risks undermining any investment made in this infrastructure. Our health workers are a publicly available resource; so too should their de-identified data be for planning purposes.

²⁴ I. L. Bourgeault, C. Chamberland-Rowe, S. Simkin and S. Slade, "A Proposed Vision to Enhance CIHI's Contribution to More Data Driven and Evidence-Informed Health Workforce Planning in Canada," Final Report, March 31, 2020.

²⁵ K. Gaul and E. Fraher, "State-Level Health Workforce Data Collection, Analysis, and Dissemination: An Introduction," Health Workforce Technical Assistance Centre, 2015, https://www.healthworkforceta.org/wp-content/uploads/2015/03/TA_to_States_Resource_Brief.pdf.

THESE DATA DEFICIENCIES LIMIT HEALTH WORKFORCE PLANNING²⁶

Currently, the ability of health system leaders to make evidence-informed decisions is limited due to structural, methodological and foundational data challenges. The risks of failing to address these issues were articulated by the Federal/Provincial/Territorial Committee on Health Workforce in 2007: “The status quo approach to planning has the potential to create both financial and political risks, to limit each jurisdiction’s ability to develop effective sustainable health delivery systems and the health human resources to support those systems.” This concern remains relevant today.

A lack of co-ordinated action among stakeholders, sectors and jurisdictions is a persistent challenge. Health workforce planning activities remain ad hoc and siloed, both by profession and by jurisdiction, generating significant inefficiencies for all involved. Opportunities for synergistic collaboration and knowledge sharing are further limited by lack of public reporting, transparency and accountability by the various actors engaging in planning. Most planning models and their resulting projections are not reported publicly and not openly shared between jurisdictions. The few that are available to the public are those released by professional associations largely for advocacy purposes.

A key methodological challenge is the continued use of the overly simplistic and misleading worker-to-population ratios and profession- or jurisdiction-specific supply-based approaches to health workforce planning. These approaches are weak and misaligned with the values of universal health care and leading practices in planning.²⁷ More granularity is required to produce estimates that accurately approximate health system need and capacity. While some jurisdictions have moved towards usage or needs-based planning, the failure to adopt this approach risks perpetuating existing misalignments between workforce capacity and population health needs, and exacerbating current inequities in access to comprehensive, high-quality care.²⁸

These deficiencies are directly related to several data limitations.²⁹ In some cases, we are swimming in data that are inaccessible and unaligned across organizations and jurisdictions, and in other cases, we have remarkable data gaps about health workforces that are nearly invisible. At best, some organizations make decisions based on the data they have, but these are not aligned with other organizations.

²⁶ I. L. Bourgeault, C. Chamberland-Rowe, S. Simkin and S. Slade, “A Proposed Vision to Enhance CIHI’s Contribution to More Data Driven and Evidence-Informed Health Workforce Planning in Canada,” Final Report, March 31, 2020.

²⁷ T. Ono, G. Lafortune and M. Schoenstein, “Health Workforce Planning in OECD Countries: A Review of 26 Projection Models from 18 Countries,” OECD iLibrary, 2013, https://www.oecd-ilibrary.org/social-issues-migration-health/health-workforce-planning-in-oecd-countries_5k44t787zcwb-en.

²⁸ I. L. Bourgeault, C. Chamberland-Rowe, S. Simkin and S. Slade, “A Proposed Vision to Enhance CIHI’s Contribution to More Data Driven and Evidence-Informed Health Workforce Planning in Canada,” Final Report, March 31, 2020.

²⁹ Bourgeault, Simkin and Chamberland-Rowe, “Poor Health Workforce Planning is Costly...”

LEADING PRACTICES IN STRATEGIC HEALTH WORKFORCE PLANNING REQUIRE ROBUST DATA

Health workforce planning, in brief, is “the process of estimating the number of persons and the kind of knowledge, skills, and attitudes they need to achieve predetermined health targets and ultimately health status objectives. Such planning also involves specifying who is going to do what, when, where, how, and with what resources for what population groups or individuals so that the knowledge and skills necessary for the adequate performance can be made available according to predetermined policies and time schedules. This planning must be a continuing and not a sporadic process, and it requires continuous monitoring and evaluation” (Hall and Mejia 1978, 18).³⁰

Leading practices in strategic health workforce planning:

- Are evidence-informed, using high-quality standardized data collected for planning purposes to inform assessments of requirements, capacity and alignment, recognizing the broader social, political and economic contexts;
- Are integrated and multi-professional, rather than revolving around single professions in isolation, reflecting the reality that high-quality health care is delivered in teams;
- Adopt a life course approach of professional careers, spanning from education and entry into the workforce, through to active practice, and then to retirement and exit from the workforce;
- Include detailed standardized data on the activities of a variety of health workers – including the services provided, the health-care setting and location – and are linkable to patient outcomes;
- Acknowledge the dynamics of the health labour market, covering changes in the behaviours of workers and of employers in the public, private and self-employed sectors;
- Are interactive exercises that leverage both quantitative workforce data and qualitative workforce intelligence from key stakeholders to develop locally relevant plans; and
- Are iterative, embedding cycles of workforce planning and evidence generation into a learning health system’s decision-making process, enabling regular revisions of projections and course correction.³¹

These leading practices, while adopted by many OECD counterparts (Textbox 5) have not been applied in the Canadian context.

³⁰ T. L. Hall, A. Mejia and World Health Organization, “Health Manpower Planning: Principles, Methods, Issues,” World Health Organization, 1978: 18.

³¹ Bourgeault, Chamberland-Rowe and Simkin, “Co-developing an Integrated Primary Care Workforce Plan at the Regional Level: An Introductory Overview and Commentary,” *Human Resources for Health*, 2021, <https://doi.org/10.1186/s12960-021-00578-z>;
Ellen Kuhlmann, Ronald Batenburg, Matthias Wismar, Gilles Dussault, Claudia B. Maier, Irene A. Glinos, Natasha Azzopardi-Muscat et al., “A Call for Action to Establish a Research Agenda for Building a Future Health Workforce in Europe,” *Health Research Policy and Systems* 16, no. 1, 2018: 1-8.

Textbox 5: Exemplars of Decision-Making Tools Enabled through Standardized Health Workforce Data in the United States, Australia and New Zealand

United States – National Center for Health Workforce Analysis

Operating out of the U.S. Dept. of Health and Human Services, Health Resources and Services Administration (HRSA) Health Workforce Division, the National Center for Health Workforce Analysis has built a body of knowledge tools and resources to estimate the supply and demand for health workers in the U.S. and develop informed decision-making on health care workforce investments. It recently released [an interactive dashboard for health workforce projections](#) of supply and demand across allied health, behavioural health, long-term care, oral health, primary care and women's health that captures data from over 30 health professions.

HRSA also provides funds to workforce research centres at six universities, with both regional and sector-specific expertise:

- [University of California at San Francisco](#): focusing on long-term care.
- [George Washington University, Washington, DC](#): focusing on emerging health workforce issues and equity in education and training.
- [University of North Carolina at Chapel Hill](#): focusing on developing the health workforce.
- [State University of New York at Albany](#): focusing on technical assistance and oral health.
- [University of Washington](#): focusing on allied health and health equity.
- [University of Michigan](#): focusing on promoting a skilled behavioural health-care workforce.

Australia – Ahpra and Australian Government Department of Health

Instigated by a Productivity Commission report on the health workforce in 2006, which proposed several solutions to ensure the continued delivery of quality health care, Australia moved to a national system of registration with the creation of the Australian Health Practitioner Regulation Agency in 2010 (now rebranded Ahpra). Ahpra is the single separate body that administers regulatory governance for 16 national boards.

Standardized information related to demographics, employment characteristics, work location and work activity is collected online for Aboriginal and Torres Strait Islander health practitioners, Chinese medicine, chiropractic, dentistry, medicine, medical radiation practice, midwifery, nursing, occupational therapy, optometry, osteopathy, paramedicine, pharmacy, physiotherapy, podiatry and psychology at registration (covering 99.2 per cent of all registrants and trainees) and stored in the National Health Workforce Data Set (NHWDS). Ahpra has collected this information since 2010, and the result is a powerful longitudinal dataset used for multi-professional workforce planning, assessment of access to health services and allocation of resources and evaluation of health system interventions. The health workforce team in the Commonwealth Department of Health in turn has created the Health Demand and Supply Utilisation Patterns Planning Tool ([HeaDS UPP](#)), which provides evidence for workforce planners to help inform decisions on where health services and workers are needed. The NHWDS enabled Ahpra to establish a [pandemic response sub-register](#) which

fast-tracked the return of experienced and qualified health workers to the workforce, as well as to create a national immunization workforce to roll out vaccine distribution.

New Zealand – Health Workforce New Zealand

Health Workforce New Zealand was set up in 2009 to provide national leadership on the development of the country’s health and disability workforce. It is a business unit of the National Health Board and its work is overseen by an independent board with members from business and across the health sector. It collaborates with educational bodies and employers to ensure that workforce planning and postgraduate training align with current and future service delivery needs.

It developed an approach to healthcare and workforce planning that better accommodates uncertainty. Its approach starts with the premise that health-care planning is most reliable when it is based on service aggregates, such as aged care, diabetes and mental health, rather than on singular professions. This workforce service forecasting approach encourages stakeholders to identify innovative ways health care can be provided across worker roles in the future. It also found that the “credibility of the scenarios is enhanced if clinical subject matter experts and opinion leaders generate them.” The result is a suite of possible models of care and service configurations which are then tested by asking to what extent current plans could accommodate the various scenarios.

A PROPOSED VISION FOR ENHANCED FEDERAL SUPPORT OF DATA-DRIVEN AND EVIDENCE-INFORMED HEALTH WORKFORCE PLANNING, POLICY AND MANAGEMENT IN CANADA

Canada requires co-ordinated action to create data-driven, evidence-informed health workforce planning, policy and management. Efforts should centre on three key elements that will improve data infrastructures, bolster knowledge creation and inform decision-making activities:

1) A Minimum Data Standard and Enhanced Health Workforce Data Collection:

- A new standard is needed to ensure that health workforce data aligns locally with population needs, supporting socially accountable decision-making and aligning with international leading practices (i.e., the National Health Workforce Accounts).
- Guided by the updated standard, future data collection should be more inclusive of all health workers, interprofessional, cross-jurisdictional and fit-for-purpose.
- The data standard should reflect who provides services (stock/supply), who they are (characteristics), what they do (scope of practice), how much they do (activity), where they practice (distribution) and how this has changed over time (trends).
- The new data standard and data collection processes should be co-developed and adoptable across a range of health workforce data stewards.

- Data collection should either be co-ordinated at a pan-Canadian level or supported across existing stakeholders through state-of-the-art digital tools to enable stewards to collect standardized data. This would enable the recovery of significant costs associated with data standardization post-collection.

2) Timely, Accessible and Fit-for-Purpose Decision Support Tools:

- Enhanced health workforce data should be publicly accessible, respecting privacy, in pan-Canadian registries with accompanying interactive analytic tools, such as health workforce dashboards. These kinds of interactive information outputs would support more timely, targeted and data-driven decisions.
- Dashboards and other analytical outputs could synthesize data from multiple sources, visualizing it in different ways across worker groups, sectors and geographic regions in support of a range of scenarios relevant to decision-makers in provinces, territories, regions and training programs.
- Interactive tools and knowledge products could be leveraged to help stakeholders understand how inputs and outputs change under different scenarios, such as changing population demographics and health needs, and changing availability and scope of different health worker groups.
- Evidence-informed scenario analyses could help stakeholders better navigate uncertainty in health workforce planning and support decision-making with the best available data helping to ‘future-proof’ the health system.

3) Capacity Building:

- Achieving this vision requires increased capacity. Focused and sustained effort is required to build capacity in health workforce data analytics, digital tool design, policy analysis and management science. The capacity-building effort must be concrete, highly visible, accountable to a new or existing entity and quantifiable to gauge progress.

This vision requires an enhanced federal government commitment to contribute resources to co-ordinate the collection of accurate, standardized and more complete data and analysis across workers, sectors and jurisdictions, with links to relevant patient information, health-care usage and outcome data, for more fit-for-purpose planning at all levels. The federal government could undertake an enhanced role in one of several different ways, building on the existing infrastructure and drawing upon leading practices internationally as well as within Canada.

First, two necessary data infrastructure and capacity-building recommendations include:

CREATE A CANADIAN HEALTH WORKFORCE INITIATIVE WITHIN CIHI

The federal government should create an initiative dedicated to the necessary enhancement of standardized data, purpose-built for planning along with associated decision-making tools for localized planning through a specially earmarked contribution agreement to CIHI, akin to the Canadian Population Health Initiative (Textbox 6). This could expand upon CIHI’s existing coverage to include overlooked health workers and workforce sectors like mental health and older adult care.

In addition to enhancing coverage and the team needed to strategically include workforces in key sectors (similar to the leading approach from Health Workforce New Zealand), it would be necessary to support strategic data enhancements to avoid the costly and time-consuming post-collection standardization of data that must presently be undertaken. This will involve developing and implementing data standards that are applied at the earliest point of data collection, when students are enrolled in health training programs, when health professionals are registered with licensing authorities and when membership forms are filled in for professional associations. The work of data aggregation will thus be more efficient, and yield data of higher quality. These combined efforts will support enhanced decision-support tools and information.

Textbox 6: The Canadian Population Health Initiative of CIHI

The Canadian Population Health Initiative (CPHI), a part of CIHI, was created in 1999. CPHI's mission is twofold: 1) To foster a better understanding of factors that affect the health of individuals and communities; and 2) To contribute to the development of policies which reduce inequities and improve the health and well-being of Canadians. As a key actor in the population health sector, CPHI:

- Provides analysis of Canadian and international population health evidence to inform policies that improve Canadians' health;
- Commissions research and builds partnerships to enhance understanding of research findings and to promote analysis of strategies that improve population health;
- Synthesizes evidence about policy experiences, analyzes evidence on the effectiveness of policy initiatives and develops policy options;
- Works to improve public knowledge and understanding of the determinants that affect individual and community health and well-being; and
- Works within CIHI to contribute to improvements in Canada's health system and the health of Canadians.

BUILD CAPACITY THROUGH A STRATEGIC TRAINING INVESTMENT IN HEALTH WORKFORCE RESEARCH

In addition to the need to build the data infrastructure, there is a parallel need to build the human resources infrastructure for health workforce analytics. This would mirror the strategic investments made in the United States through its Health Workforce Research Centers. Through a special CIHR-administered fund, this should include a strategic training investment in research and a complementary signature initiative to fund integrated research projects that cut across the existing scientific institutes. It is notable that less than three per cent of health policy and services research funds is dedicated to health workforce issues,² and by extension less than one per cent of CIHR funds. This is highly disproportionate to the amount of health spending that goes into the health workforce. Although the CIHR Institute for Health Services and Policy Research has emphasized health workforce topics as key priorities in its recent

strategic plan,³² these investments are insufficient to yield impactful outputs if there are no consequent investments in data infrastructure and capacity building.

Building on these two necessary but insufficient building blocks, a coordinating pan-Canadian health workforce organization could include one of the following three options:

1) A HEALTH WORKFORCE AGENCY OF CANADA

The federal government could create a dedicated agency akin to the Public Health Agency of Canada (PHAC), with an explicit mandate to enhance existing data infrastructure and decision-support tools for planning, policy and management. This would be a notable legacy of the COVID-19 pandemic in support of the health workforce, in the same way that PHAC was a legacy of the SARS pandemic. An agency could draw together existing capacity and build on it in a strategic and stepwise fashion to help co-ordinate and standardize the collection and analysis of workforce data across workers, jurisdictions and key sectors such as home, community, long-term care, mental health and primary care in alignment with the federal minister of health's mandate. An agency could also enable the federal government to lead by example through integrated health workforce planning in its own services, including Indigenous Services, the Canadian Armed Forces, Correctional Services of Canada and the RCMP.

2) A CANADIAN PARTNERSHIP FOR THE HEALTH WORKFORCE

Through a contribution agreement, the federal government could support the creation of an arm's-length, not-for-profit organization to provide health labour market information, and training and management of human resources in the health sector, including support for recruitment and retention. The Canadian Partnership Against Cancer (CPAC) is an example of an independent, not-for-profit organization funded by the Canadian government. With its motto "Doing together what cannot be done alone," CPAC works with the provincial, territorial and pan-Canadian partners as the steward of the Canadian Strategy for Cancer Control, a 10-year roadmap aimed at delivering world-class cancer care equably across Canada. A partnership for the health workforce could similarly convene the range of stakeholders both to refresh the Canadian health workforce strategy, not updated since 2007, and most importantly, to oversee implementation.

Another Canadian example to draw upon is BuildForce Canada, which for the last 20+ years has provided labour market support for the construction sector, including industry partners (Textbox 7). BuildForce offers an analytical tool to industry participants, using data-intensive scenario-based forecasting to assess future construction labour requirements. Notably, the construction sector constitutes seven per cent of Canada's GDP, less than the eight per cent noted above for the health workforce.

³²

Megan McMahon, Jessica Nadigel, Erin Thompson and Richard Glazier, "Informing Canada's Health System Response to COVID-19: Priorities for Health Services and Policy Research," *Healthcare Policy*, 2020, doi:10.12927/hcpol.2020.26249.

Textbox 7: Exemplar: BuildForce Canada

BuildForce Canada³¹ is a national industry-led organization that works with the construction industry to provide information and resources to assist with its management of workforce requirements. It offers an analytical tool to industry participants with the goal of building a sustainable labour force. Its funding model brings together three revenue streams: government funding, industry contributions and revenue from online courses and custom labour market information (LMI) impact analyses. BuildForce uses a scenario-based forecasting system to assess future construction labour requirements in several markets (heavy industrial, residential and non-residential). The system tracks 34 trades and occupations. BuildForce consults with industry stakeholders, including owners, contractors and labour groups, to validate the scenario assumptions and construction project lists. It also seeks input from government on related analyses. The information is then distilled into labour market condition rankings to help industry employers with human resources management. In addition to providing sector-specific insights, provincial insights and examination of mobility and retirement patterns, BuildForce also conducts analyses of labour force trends through a gender and diversity lens. BuildForce's approach is consistent with best practices in planning: the process is iterative, integrating contextual factors, applying adjustments and validating estimates by consultation with stakeholders.

3) A COUNCIL ON HEALTH WORKFORCE, CANADA

Building on the leading practice represented by the Council on Ministries of Education, Canada (CMEC) (Textbox 8), the federal government could support the creation of a more robust, transparent and accessible secretariat for a council on health workforce, building on the existing FPT Committee on Health Workforce. Like the CMEC, a council could work to improve data and decision-making infrastructures, bolster knowledge creation through dedicated funding and policy to inform decision-making and collaborate on topics of mutual interest. It could also represent Canada internationally, in fora such as the International Health Workforce Collaborative and the Global Health Workforce Network of the WHO.

³³

BuildForce Canada, <https://www.buildforce.ca/en>.

Textbox 8: Exemplar: Council of Ministers of Education, Canada (CMEC)

The Council of Ministers of Education, Canada (CMEC) is an intergovernmental body founded in 1967 by ministers of education to serve as:

- A forum to discuss policy issues;
- A mechanism to undertake activities, projects and initiatives in areas of mutual interest;
- A means by which to consult and co-operate with national education organizations and the federal government; and
- An instrument to represent the interests of the provinces and territories internationally.

CMEC is governed by an agreed memorandum approved by all members. Ministers of education work through CMEC on a wide variety of activities, projects and initiatives. For example, CMEC

- Sponsors research in education-related statistics;
- Develops and reports on education indicators;
- Provides a national clearing house and referral service to support the recognition and portability of educational and occupational qualifications;
- Consults and acts on a variety of issues in early childhood learning and development; elementary/secondary education; post-secondary education; and adult learning and skills development; and
- Contributes to the fulfilment of Canada's international treaty obligations.

The CMEC secretariat was created to support the intergovernmental body's work. It provides services to the ministers, including:

- Co-ordination of meetings of ministers, deputy ministers and provincial/territorial officials;
- Co-ordination and administration of all aspects of CMEC activities, projects and initiatives;
- Policy research and support, as directed by ministers;
- Hosting of provincial/territorial electronic discussion forums;
- Hosting and maintenance of CMEC websites;
- Liaison with various stakeholders, including education-related NGOs and the general public; and
- Media and public relations.

Because of the importance of the health workforce to Canada's economy and pandemic recovery, a sizable and sustained investment over the course of at least 10 years is needed to build the necessary infrastructure for better decision-making.

Although this may sound expensive, it is important to recognize the remarkably expensive, unsustainable and inequitable nature of the status quo. It is unimaginable that any sector that similarly constitutes eight per cent of Canada's GDP would exhibit a comparable lack of evidence-informed decision-making and evaluation based on high-quality standardized data.

JURISDICTIONAL AND GOVERNANCE CONSIDERATIONS

There are important jurisdictional considerations to keep in mind in choosing between these options, as well as logistical challenges related to the collection, quality assurance, storage, stewardship and access of health workforce data being proposed. Ongoing co-operation through the FPT Committee on Health Workforce exemplifies how governments and stakeholders can work together productively. The proposed options build on these foundational activities. Moreover, the options presented here have pre-existing models or precedents where FPT co-operation already exists.

In Australia, Ahpra was created by overcoming similar jurisdictional challenges. The argument that won the day in that country was their Productivity Commission's recommendation on the Australia Health Workforce: that a single national approach to data collection and planning would help to increase that workforce's flexibility, mobility and sustainability. Similarly, a key lever in Canada would be a move towards national co-ordination of health professional registration (Textbox 9).

Textbox 9: Moving to Pan-Canadian Registration Would Enable More Standardized Data Collection

In October 2019, the Canadian Health Workforce Network, in collaboration with the B.C. and Yukon members of the Federal/Provincial/Territorial Committee on Health Workforce, co-organized a CIHR Best Brains Exchange (BBE) policy dialogue on the topic of advancing a dialogue towards pan-Canadian licensure and registration of health professionals. The goals were to explore leading practices from other federated jurisdictions that have implemented co-ordinated approaches, examine the unique Canadian context that may facilitate or hinder the implementation of these promising practices and identify the steps required to advance the dialogue around pan-Canadian registration (CIHR 2019). Participants included representatives from provincial/territorial regulators and governments, pan-Canadian regulatory consortiums, health professionals, researchers, pan-Canadian health organizations and other key stakeholders. The dialogue generated support for the development of a single, pan-Canadian registry of health workers which would provide consistent, easily accessible information about health professionals to share among regulators, researchers, various decision-makers and the public. Potential benefits include increasing patient safety, supporting integrated health workforce planning, facilitating health workforce mobility, improving access to telehealth or virtual care and achieving cost savings through improved regulatory efficiency.³²

³⁴

K. Leslie, C. Demers, R. Steinicke & I.L. Bourgeault « Pan-Canadian Registration and Licensure of Health Professionals” *Healthcare Policy, under review, 2021.*

Broad, multi-sectoral representation is characteristic of — and critical to — the success of health workforce agencies internationally. A standardized approach to data and subsequent collective and co-ordinated planning, policymaking, management, monitoring and evaluation will need to involve key stakeholders across sectors and jurisdictions to identify challenges and priorities for action that can be taken to achieve a more sustainable health workforce. The agencies in New Zealand and Australia were established with consensus support from stakeholders in government, academia, regulatory bodies and health profession associations. Each agency adopted a standardized approach to the data they collected for their own organizational purposes, strengthened by the possibility for benchmarking and linking to other datasets for greater decision-making latitude. It is clear from the call to action signed by over 60 health professional organizations that many stakeholder groups share a mutual frustration over the lack of data, data alignment and co-ordinated planning. A health workforce agency should also draw on patients' voices, the public more broadly, all health worker groups, researchers and other equity-seeking stakeholder groups that have not been adequately represented in past efforts.

An appropriate governance model will be the cornerstone of any such organization and all partners will need to agree on it as part of initial discussions. Ongoing challenges may emerge in the development and implementation of these standardized data and digital decision-making tools, none of which is insurmountable. Articulating new data and digital infrastructures with existing tools, services and resources will require attention to interoperability as well as intellectual property. Different types of privacy legislation governing data stewards' work will need to be addressed. This challenge could be supported by a commissioned legal review and set of suggested amendments to legislation, regulation and organizational bylaws, paralleling existing reviews regarding patient data. It is also critical that the agenda drive the tools (rather than the opposite) and that appropriate attention be given to stakeholder engagement to ensure the development of flexible systems that allow tailoring to local and occupational needs as well as changes over time.

CONCLUSION

Until barriers to effective health workforce planning are addressed across Canada, including a standardized set of data, we can expect inadequate planning for population needs of the future, inefficient deployment of resources, persistent maldistribution of services and perpetuation of current inequities. Poor data and intelligence lead to inadequate planning, which prevents decision-makers from deploying health workers when, where and how they are most needed.³⁵ The consequences of poor data range from unmet population health needs to preventable deaths, to inadequate access to services to long wait times, not to mention the huge economic consequences of

³⁵ K. Waddell and M. G. Wilson, "Rapid Synthesis: Exploring Models for Health Workforce Planning," Hamilton: McMaster Health Forum, July 16, 2019, <https://www.mcmasterforum.org/docs/default-source/product-documents/rapid-responses/exploring-models-for-health-workforce-planning.pdf?sfvrsn=2>.

poorly informed policy decisions.³⁶ Furthermore, the health system will be insufficiently prepared to respond to episodic threats, including but not limited to pandemics and natural disasters. Decision-makers will be unable to evaluate the effectiveness of interventions and transformations (including cost-effectiveness). And ultimately, patients will not receive the care to which they are entitled.

This opportunity to propose a vision for an enhanced federal government role could not come at a more strategic time. There is a clear need to support the health workforce to optimize health system performance, sustainability and resiliency. The time is now for the federal government to take the lead in supporting provinces, territories, regions and training programs with enhanced and inclusive data and decision-making tools. These tools are needed to make informed staffing decisions, to optimize contributions of the available workforce and to enable safer workplaces for post-pandemic recovery. Until we have more effective planning based on better data, we will continue to make decisions in the dark, with incomplete, misleading and non-standardized information. Canada can expect inadequate planning for population needs now and into the future, inefficient deployment of health workers, persistent maldistribution of services and perpetuation of current inequities.

We can and should do better.

³⁶ Andre Picard, "To Improve Health Care, We Need to Plan our Workforce of the Future," *Globe and Mail*, October 25, 2019, <https://www.theglobeandmail.com/opinion/article-to-improve-health-care-we-need-to-plan-our-workforce-of-the-future/>.

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