THE MILBANK QUARTERLY
A MULTIDISCIPLINARY JOURNAL OF POPULATION HEALTH AND HEALTH POLICY

Original Research

Building High-Performing Primary Care Systems: After a Decade of Policy Change, Is Canada "Walking the Talk?"

MONICA AGGARWAL,[*] BRIAN HUTCHISON,[†] REHAM ABDELHALIM,[‡] and G. ROSS BAKER[*,‡]

[*]*Dalla Lana School of Public HealthUniversity of Toronto;* [†]*Centre for Health Economics and Policy AnalysisMcMaster University;* [‡]*Institute of Health PolicyManagement and EvaluationUniversity of Toronto*

Policy Points:

- Considerable investments have been made to build high-performing primary care systems in Canada. However, little is known about the extent to which change has occurred over the last decade with implementing programs and policies across all 13 provincial and territorial jurisdictions.
- There is significant variation in the degree of implementation of structural features of high-performing primary care systems across Canada. This study provides evidence on the state of primary care reform in Canada and offers insights into the opportunities based on changes that governments elsewhere have made to advance primary care transformation.

Context: Despite significant investments to transform primary care, Canada lags behind its peers in providing timely access to regular doctors or places of care, timely access to care, developing interprofessional teams, and communication across health care settings. This study examines changes over the last decade (2012 to 2021) in policies across 13 provincial and territorial jurisdictions that address the structural features of high-performing primary care systems.

Methods: A multiple comparative case study approach was used to explore changes in primary care delivery across 13 Canadian jurisdictions. Each case consisted of (1) qualitative interviews with academics, provincial health care leaders, and health care professionals and (2) a literature review of policies and innovations. Data for each case were thematically analyzed within and

The Milbank Quarterly, Vol. 101, No. 4, 2023 (pp. 1139-1190)

across cases, using 12 structural features of high-performing primary care systems to describe each case and assess changes over time.

Findings: The most significant changes include adopting electronic medical records, investments in quality improvement training and support, and developing interprofessional teams. Progress was more limited in implementing primary care governance mechanisms, system coordination, patient enrollment, and payment models. The rate of change was slowest for patient engagement, leadership development, performance measurement, research capacity, and systematic evaluation of innovation.

Conclusions: Progress toward building high-performing primary care systems in Canada has been slow and variable, with limited change in the organization and delivery of primary care. Canada's experience can inform innovation internationally by demonstrating how pre-existing policy legacies constrain the possibilities for widespread primary care reform, with progress less pronounced in the attributes that impact physician autonomy. To accelerate primary care transformation in Canada and abroad, a national strategy and performance measurement framework is needed based on meaningful engagement of patients and other stakeholders. This must be accompanied by targeted funding investments and building strong data infrastructure for performance measurement to support rigorous research.

Keywords: physician, primary care, health personnel, integrated health care systems.

An effective and efficient health care system relies on building a foundation of high-performing primary care (PC).[1] Patient access to a patient-centered medical home (i.e., a single centralized source of care and medical record)[2,3] providing first-contact care that is person-focused over time, comprehensive, and coordinated is associated with better individual and population health, lower care costs, and reduced health inequality.[4–7]

High-quality PC is defined as "the provision of whole-person, integrated, accessible, and equitable health care by interprofessional teams that are accountable for addressing the majority of an individual's health and wellness needs across settings and through sustained relationships with patients, families, and communities."[8p4] The World Health Organization (WHO) defines primary health care (PHC) as the integration of PC with public health, premised on community participation that empowers people and communities and includes multisectoral policy and action.[9] PC transformation involves movement from more conventional physician-led PC to the more comprehensive goals, structures, processes, and relationships of PHC.[10,11] Increasingly, the goals of primary care reform (PCR) and emerging initiatives to transform PC within Canada and internationally are moving to population-focused and community-oriented approaches in partnership with other providers to promote and protect health, strengthen health literacy, and address the social determinants of health.[8,12] In this paper, we define PC "broadly to cover the spectrum of first-contact health care models that focus on comprehensive, person-centered care sustained over

time along with PHC initiatives that incorporate health promotion, community development, and addressing the social determinants of health."[12p7] We appreciate that the transition from traditional physician-centric PC to the broader concept of PHC is both necessary and challenging and that all relevant sectors (PC, community, and public and population health) will require resources and supports to navigate that transition together.

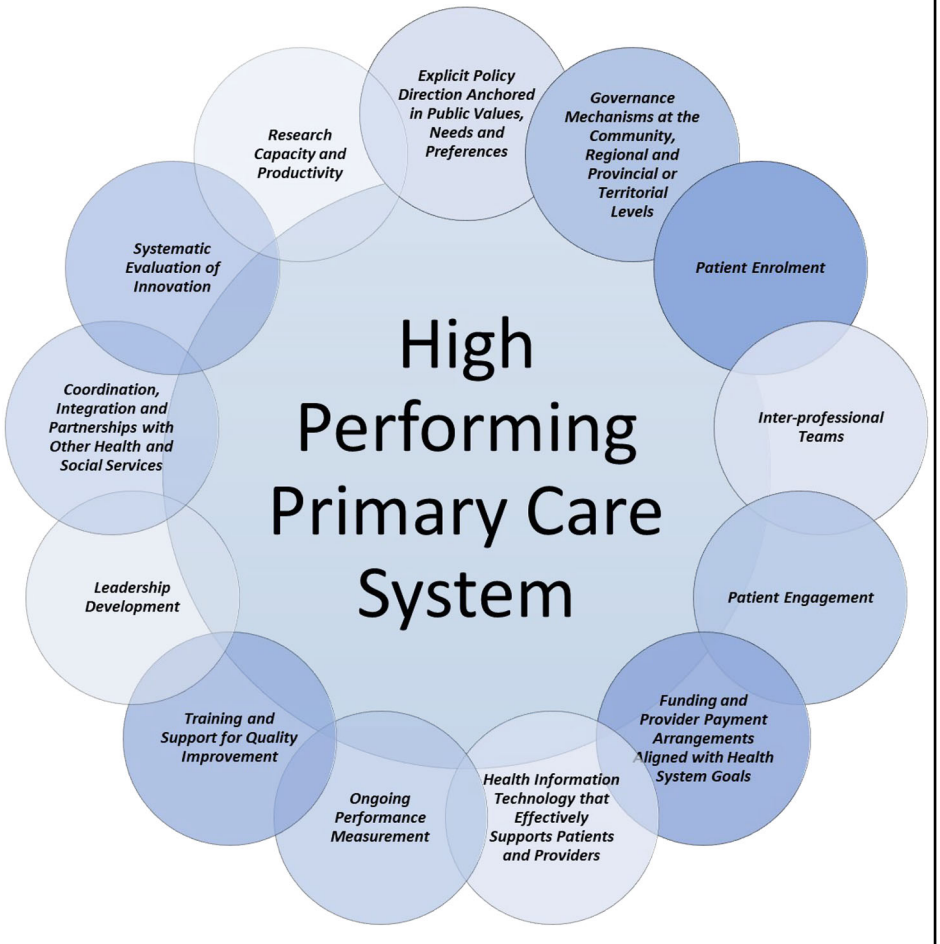
Worldwide, the funding, organization, and delivery of PC vary across jurisdictions. Similar to Canada, some jurisdictions have subnational governments that have a major role in funding and delivering PC, which can result in multilevel governance and diverse policy responses across local governments.[13] Examples include Australia, France, Germany, the Netherlands, New Zealand, Sweden, the United Kingdom, and the United States.[14–16]

Historically, funding, organization, and delivery of PC were not a high priority for federal or provincial/territorial governments in Canada until the early 2000s.[14] PCR gained momentum in the 2000s with recommendations from provincial[17–19] and national[20,21] health care reviews and shared commitments to PC renewal by the Prime Minister and the jurisdictional first ministers in 2000, 2003, and 2004 accords.[14] This resulted in the federal government's $800 million Primary Health Care Transition Fund, which supported provinces and territories to implement PCRs over the last two decades.[22]

Despite these investments, Canada still lags behind most of its peers on many quality indicators tracked by the Organisation for Economic Co-operation and Development and the Commonwealth Fund International Health Policy Surveys. In the most recent evaluations of health system performance in 11 high-income countries (Australia, Canada, France, Germany, the Netherlands, New Zealand, Norway, Sweden, Switzerland, the United Kingdom, and the United States), Canada ranked second lowest in PC performance, ahead of only the United States.[23] Specifically, Canada lags behind in access to regular doctors or places of care, timely access to care, the ability of a patient to communicate electronically with PC providers, the development of interprofessional teams, and communication across health care settings.[24–26] The COVID-19 pandemic has shed light worldwide on the impact of weak PC systems.[27] Nearly half a century after the Alma Ata Conference, the World Bank has noted it is time for countries to not just "talk" about PC but to "walk the talk."[27] Thus, Canada's PC performance calls for a thoughtful and determined approach to system transformation.

In 2012, two authors (MA and BH) articulated a PC strategy for Canada.[12] Through a review of international and national evidence and experience, the authors identified structural features contributing to high-functioning PC systems (Figure 1) (refer to Supplementary Material 1 for details).[12] These authors also assessed the state of PCR across Canada in relation to these attributes through a literature review and key informant interviews. This study found that interprofessional teams

Figure 1. Structural Features of High-Performing Primary Care Systems.



were being implemented to varying degrees in all jurisdictions, patient enrollment was widely adopted in Ontario and Quebec, and most jurisdictions invested in information technology.[12]

Over the last decade, despite repeated calls for PCR, there is a growing concern that PC is in crisis, highlighting the need to understand the specific areas in which PC performance has improved or deteriorated. This paper provides a comparative case study of 13 Canadian provinces and territories, examining policy changes and initiatives to advance high-performing PC systems in Canada.

Methods and Analysis

Study Setting and Context

Canada is a federal system comprising 13 provincial and territorial jurisdictions.[28] Although the federal government contributes a portion of health care funding, the provincial and territorial governments design and deliver health care services under the provisions of the Canada Health Act (1985).[29] All Canadian residents are entitled to "medically necessary" services provided in hospitals and by physicians.[28] This decentralized system has resulted in significant interjurisdictional variation in health care governance and delivery models.[30] In the PC sector, physicians are largely self-regulating and responsible for delivery.[14] In most of Canada, fee-for-service payment arrangements remain the dominant payment model for PC physicians.[31]

Design

To examine the changes over time in the adoption and spread of the structural features of high-performing PC systems in Canada, we conducted a comparative case study[32,33] of 13 Canadian jurisdictions, assessing the similarities, differences, and patterns across them. This approach enables comparative studies of health care reform to inform strategies internationally.[34] Each case included integrated data from (1) qualitative interviews and (2) a document and literature review of PCR initiatives. A thematic analysis integrated data from both data sources across and within each case to look for points of similarity and differences among the jurisdictions. These methods were modeled on earlier research completed by authors (MA and BH) to enable assessments of changing patterns in PC attributes.[12] Ethical approval was obtained from the University of Toronto Research Ethics Board (#35518).

Key Informant Interviews

Design, Population, and Data Collection. A key informant data collection technique was used to inform each case.[35] Key informants with in-depth knowledge of their jurisdictions' past and current PCR were identified through organizational websites (provincial government, medical and nursing associations, colleges, and universities) and the research team's networks. Snowballing sampling techniques were also used to identify participants.[36] Potential participants (academics, provincial health care leaders, and health care professionals) were contacted via email with a letter or invitation, study information, and consent form. The principal investigator, a PhD-trained researcher (MA), completed 60-minute semistructured in-person or telephone interviews with 46 respondents (30 policymakers, 9 stakeholders, and 7 researchers) across all provinces and territories between October 2018 and June 2019. The interviews explored changes in PC services and initiatives focusing on changes related to the

attributes of high-performing PC systems, assessing the level of implementation for each attribute, as well as identifying innovative practices and evidence of their impact for each of the 13 jurisdictions, including commenting on relevant policy documents (refer to Supplementary Material 2 for interview guide). All interviews were audiotaped and professionally transcribed verbatim for analysis. The principal investigator took field notes during interviews. Data collection and analysis was an iterative process and continued until theoretical saturation was reached.

Analysis. Thematic analysis[37–39] and framework analysis[40] (i.e., of the structural features contributing to high-functioning PC systems) were combined to guide the data analysis (see Supplementary Material 3 for details).[12] N-Vivo 12 software facilitated the qualitative analysis process. A research assistant (RA) experienced in qualitative research coded the transcripts using a combination of open codes that emerged from elements of the structural features outlining high-functioning PC systems,[12] and the principal investigator reviewed the coded data. Analysis of these codes enabled the detailed assessment of the progress across jurisdictions, informing a detailed case summary for each jurisdiction and comparison with earlier 2012 analyses of the jurisdictions.[12] The case summaries were reviewed with 11 policymakers (participants) in 11 jurisdictions to confirm their accuracy.

Document and Literature Review

We conducted an environmental scan[41] and literature review[42] to retrieve documents on jurisdictional PC policies (history, role in financing and delivery, PC strategy, and policies) and innovations (i.e., detailed information on characteristics, processes, adoption rates, evidence of impact) identified by the key informants at the macro (provincial) and meso (regional) levels. The literature review helped to inform an evidence synthesis to expand on the information provided by key informants.[42] We conducted two separate searches in databases for peer-reviewed publications (i.e., MEDLINE, PubMed, and CINAHL) and the Google search engine for gray literature (i.e., key governmental reports) to inform our evidence synthesis for each case.[42] We searched for gray literature through key websites (e.g., ministries of health, health agencies, regional health authorities, and service providers). The first targeted search focused on obtaining documents and information on PC policies for each of the 12 attributes in each jurisdiction. The second search focused on obtaining documents and information on specific PC innovations (refer to Supplementary Material 4 for search strategy). Given the volume of literature on PC, we restricted the gray literature search to the first ten pages of Google. We conducted snowball searches by reviewing reference lists. All searches were updated as of December 2021 to account for emerging literature during the COVID-19 pandemic.[43]

Our inclusion criteria for both searches are as follows: (1) published between January 2013 and December 2021, (2) published in English, (3) described provincial PC

strategies and/or reforms and/or policies, (4) described attributes of high-performing PC systems, (5) described identified innovations, and (6) relevant to each of 13 jurisdictions. Gray literature included strategy documents, government reports, frameworks, business, and implementation plans. We selected titles according to the relevance of the abstracts to PC policies and innovations in each jurisdiction. All the articles were reviewed by an RA and the principal investigator (MA) in duplicate. In the end, we included and analyzed 295 potential literature sources. Content from the literature was extracted by 13 jurisdictions using a template informed by 12 structural features of high-performing PC systems. These data were analyzed using a content analysis,[44] and findings were summarized by each jurisdiction to inform each case. The principal investigator and RA met throughout the analysis to discuss jurisdictions' similarities and differences.

Case Study Analysis: Merging Key Informant Study With Environmental Scan and Literature Review. To assess the pace of change for each of the 13 jurisdictions, the evidence synthesis combined the thematic analysis from the key informant interviews to produce a descriptive and policy-informed case study synthesis summarizing each jurisdiction.[45] The information from these data sources was triangulated[46] by incorporating interview statements with the literature to understand each jurisdiction's policy environment. Each case jurisdictional summary included available information on (1) provincial and territorial funding, organization, and delivery in PC; (2) dates for policy direction or strategy; (3) description of policy direction; (4) date policy innovation announced; (5) date of policy innovation implementation; and (6) description of innovations.

Based on the authors' earlier work (MA and BH),[12] an analytic table was used to identify the state of PC transformation at the end of 2021 for each attribute in each jurisdiction. The principal investigator and RA independently assessed the degree of progress made for each of the high-performing attributes in the 13 jurisdictions based on the final case studies. Policy initiatives were assessed based on the degree of implementation. This included no implementation, limited implementation (early stage of implementation, local initiative, demonstration/pilot project, or implementation as part of a research project), substantial implementation (beyond "limited" and less than systemwide level implementation), and systemwide implementation. Any differences in assessments between the principal investigator and the RA were reconciled through discussion with the research team.

We shared the summaries and analytic table via email with policymakers in each jurisdiction to review accuracy and establish face validity.[47] We also asked policymakers to provide feedback on the accuracy of descriptions, missing information, and new initiatives that may have emerged during the pandemic (e.g., virtual technologies). We received feedback received from 11 of the 13 jurisdictions. Any discrepancies were discussed with jurisdictional contacts and the research team. The validated case study summaries and analytic table were used to compare and contrast findings across cases

(i.e., jurisdictions) to note similarities and differences among the degree of progress in the state of PCR across jurisdictions for each of the 12 attributes of high-performing PC systems. This was done through team discussions in which preliminary and final themes were noted. Throughout the analysis process, analytic rigor was enhanced by involving the perspective of multiple individuals throughout the analysis as facilitated through regular team meetings and reflexive discussions, reducing explicit biases of researchers on final results.[48–50]

Results

Over the last decade, numerous PC initiatives have been implemented across Canada. However, the degree of change varies for the attributes of high-performing PC systems in each jurisdiction (Figure 2).

The cross-case comparison of policies and initiatives in the 13 jurisdictions shows more convergence on some attributes across jurisdictions over time than others. The themes that emerged across and within each jurisdiction are described below. Where applicable, we note differences between the provincial and territorial jurisdictions.

Explicit Policy Direction Anchored in Public Values, Needs, and Preferences

A clear vision and a coherent set of strategies are required for the PC system and its role in the overall health system, together with a set of strategies for achieving these ambitions.[12] Before the study period, five jurisdictions (British Columbia, Saskatchewan, Manitoba, Quebec, and Nova Scotia) had established a health system–wide policy direction for PC.[53–57] During the study period, Alberta, New Brunswick, Newfoundland and Labrador, and Prince Edward Island also developed policies for PCR.[58–61] The aims and approaches of provincial and territorial PCR initiatives differed across jurisdictions (Table 1). However, improved access or attachment to PC services (i.e., provider continuity), coordination and integration of care (e.g., between PC and subspecialty care), comprehensive services, and meeting the needs of communities were the most common aims for PC transformation.

PC Governance Mechanisms at the Community, Regional, and Provincial/Territorial Levels

Effective governance, administration, and managerial structures at the local/regional level enable systemwide integration and support the adoption of best practices.[12] British Columbia and Quebec had established formal PC governance structures for

Figure 2. Assessment of State of Primary Care Transformation (2012-2021).

Attributes	British Columbia 2012	British Columbia 2021	Alberta 2012	Alberta 2021	Saskatchewan 2012	Saskatchewan 2021	Manitoba 2012	Manitoba 2021	Ontario 2012	Ontario 2021	Quebec 2012	Quebec 2021	New Brunswick 2012	New Brunswick 2021	Prince Edward Island 2012	Prince Edward Island 2021	Nova Scotia 2012	Nova Scotia 2021	Newfoundland/Labrador 2012	Newfoundland/Labrador 2021	Yukon 2012	Yukon 2021	Nunavut 2012	Nunavut 2021	Northwest Territories 2012	Northwest Territories 2021
Policy direction	●	●	○	●	●	●	●	●	○	○	●	●	◔	●	◔	●	●	●	○	●	◔	○	○	○	◔	◔
Governance mechanisms	●	●	◔	●	◔	◔	◔	◑	○	○	●	●	◔	◔	◔	◔	◔	◔	○	●	◔	○	◔	◔	◔	◔
Patient enrollment	◔	◔	○	◑	○	○	◔	◑	◑	◑	◑	◑	◔	◔	◔	◔	○	○	○	◔	○	○	○	○	○	○
Interprofessional teams	◔	◔	◑	◑	◔	◔	◔	◑	◑	◑	◑	◑	◔	◔	◔	◔	◔	◑	◔	◔	◔	◔	◑	◑	◔	◔
Patient engagement	◔	◔	◔	◔	◔	◔	◔	◔	◔	◔	◔	◔	◔	◔	◔	◔	◔	◔	◔	◔	◔	◔	○	○	◔	◔
Funding and provider payment arrangements	◑	◑	◑	◑	◔	◔	◔	◑	◑	◑	◔	◑	○	◔	◔	◔	○	◔	○	◔	◔	◔	●	●	●	●
Health information technology (EMR)†	19%	90% 98%	28%	92% 94%	18%	91% 97%	18%	88% 94%	20%	89% 97%	4%	84% 92%	8%	61% 78%	2%	26% ND	18%	86% ND	13%	61% ND	ND	ND ND	ND	ND ND	ND	ND ND
Performance measurement	◔	◔	◔	◔	◔	◔	◔	◔	◔	◔	◔	◔	◔	◔	○	◔	○	◔	○	◔	◔	◔	○	◔	◔	◔
Training and Support for quality improvement	◑	◑	◑	◑	◑	◑	◔	◔	◑	◑	◔	◔	◔	◔	○	◔	○	◑	○	◑	◔	○	○	○	◔	○
Leadership development	◑	◑	○	◔	◔	◔	◔	◔	◔	◔	○	○	◔	◔	◔	◔	◔	◔	○	◑	◔	◔	◔	◔	◔	◑
Coordination, integration, and partnerships	◔	◔	◔	◔	◔	◔	◔	◔	◔	◔	●	●	◔	◔	○	◔	◔	◔	○	◔	◔	◔	●	●	◔	◔
Systematic evaluation of innovation	◑	◑	◑	◑	◔	◔	◔	◑	◑	◑	◔	◔	○	◑	○	○	◔	◑	○	◔	○	○	○	○	○	○
Research capacity	◔	◔	○	◔	◔	◔	◔	◔	◔	◔	◔	◔	◔	◔	◔	◔	◔	◔	○	◔	○	◔	○	◔	◔	◔

○ **No implementation**

◔ **Limited implementation:** Early stage of implementation, local initiative, demonstration/pilot project or implementation as part of a research project

◑ **Substantial implementation:** Beyond limited implementation and less than systemwide implementation

● **Systemwide implementation:** Systemwide implementation

Abbreviations: EMR, electronic medical record; ND, no data.

† Only one source of data is reported for 2012 and is from the 2010 National Physician Survey.[51] For 2021, the percentage at the top is from the 2019 Commonwealth Survey,[24] and the percentage at the bottom is from the Canada Health Infoway2021 National Survey of Canadian Physicians.[52]

Table 1. Aims of Primary Care Transformation

Goals	Jurisdictions
Access or attachment to primary care services	British Columbia, Manitoba, Saskatchewan, Quebec, Nova Scotia, New Brunswick, Newfoundland and Labrador
Coordination and integration of care	British Columbia, Alberta, Saskatchewan, Manitoba, Nova Scotia, New Brunswick, Newfoundland and Labrador
Comprehensive services	Alberta, British Columbia, Saskatchewan, Manitoba, Nova Scotia, Newfoundland and Labrador
Meeting the needs of communities	British Columbia, Alberta, Saskatchewan, Nova Scotia, Newfoundland and Labrador
Timely access	Nova Scotia, New Brunswick, Saskatchewan, Newfoundland and Labrador
Patient and family-centered care	British Columbia, Saskatchewan, Newfoundland and Labrador
Quality	British Columbia, Nova Scotia, New Brunswick
Continuous	Saskatchewan, Manitoba, Nova Scotia
Accountability	Nova Scotia, New Brunswick, Alberta
Sustainable, cost-effective, and efficient	British Columbia, Saskatchewan
Safe	Nova Scotia
Culturally safe	British Columbia

coordination and integration, which have evolved (Table 2).[62–64,68–71] Over time, three other jurisdictions (Newfoundland and Labrador, Alberta and Manitoba) joined British Columbia and Quebec by implementing PC-led governance models.[65–67,72] (Refer to Table 2 for details.) New initiatives were physician-led nonprofit organizations that were supported by funding from provincial governments. The formal structure allows groups of physicians to work with governmental entities to identify and address local community needs. The new models differed in the degree of spread (province or territorywide versus specific regions), linkage to provincial governance structures, and composition of boards and steering committees.

Patient Enrollment

Patient enrollment refers to patient attachment or registration with a PC organization, team, or provider through mutually signed agreements.[12] Patient enrollment

Table 2. PC Governance Models in Canada*

Jurisdiction	Governance Model	Details
Before 2013		
British Columbia	Divisions of Family Practice	Divisions of Family Practice consist of PC physicians that work together at the community or regional level to improve clinical practice, offer comprehensive services to patients, and participate in decision making in partnership with the Regional Health Authorities and the Ministry of Health through the Collaborative Services Committee. There are 35 Divisions of Family Practice representing more than 230 communities, including a division targeting physicians in the province's remote and rural areas.[62] This model permits PC physicians to work together at the community or regional level to improve clinical practice, offer comprehensive services to patients, and participate in decision making. Divisions of Family Practice are funded by the BC Ministry of Health, the General Practice Services Committee, and the Medical Services Plan.
Quebec	Health and social services agencies/département régional de médecine générale	Health and social services agencies are based on contractual agreements between PC practices and local, regional, and provincial health institutions.[63] Quebec is the only province with regional and local département régional de médecine générale,[64] which are responsible for health services planning at the local level. It defines, proposes, and recommends a regional plan for organizing general medical services. The provincial government allocates funding for health and social services agencies in Quebec.
After 2013		
Newfoundland and Labrador	Family Practice Networks	Family Practice Networks are nonprofit corporations representing all interested family physicians who practice in a region. Family Practice Networks aim to improve PC planning at a regional level and improve patient care. Four Family Practice Networks have over 410 family physicians.[65] Family Practice Networks are funded through provincial government funding.

Continued

Table 2. (Continued)

Jurisdiction	Governance Model	Details
Alberta	Primary Care Networks	A Primary Care Network is a nonprofit corporation comprising a joint venture partnership between a group of family physicians in a specific local area and Alberta Health Services.[66] Funding is allocated through the provincial government's budget. The governance structure was established as a three-tier structure at the local, zonal, and provincial levels. At the local level, clinics with PC physicians form a Primary Care Network. The Primary Care Network elects a physician colleague to the Board of Directors or as President. The director at that Primary Care Network often sits on the zone committee. At the zonal level, a Primary Care Network physician lead, an Alberta Health Services (a government agency) Senior Zone Lead, a community/patient representative, and partners from other organizations defined by the zone constitute a Primary Care Network zone committee. The zone committees report, inform, and advise the provincial committee. The provincial Primary Care Network governance structure includes Primary Care Network physician leads, Alberta Health Services senior zone leads, Alberta Health Services Provincial PHC representatives, and Alberta Government representatives. Roles and responsibilities include strategic directions, governance/leadership, policy framework, organizational structure, measurement and evaluation, and funding policy.
Manitoba	My HealthTeams	My HealthTeams are team-based models consisting of a steering committee of Regional Health Authorities, clinics, and other partners that collaboratively plan, implement, and provide coordinated services to a community within a geographic area.[67] As of 2021, 98 out of 275 PC practices in the existing My HealthTeams catchment areas participated in the initiative. My HealthTeams receive funding from the provincial government.

Continued

Table 2. (Continued)

Jurisdiction	Governance Model	Details
British Columbia	Divisions of Family Practice and Primary Care Networks	The Divisions of Family Practice are establishing Primary Care Networks with Regional Health Authorities, the First Nations Health Authority, and community partners through a Primary Care Network Steering Committee.[68] The local governance model is expected to involve joint planning, decision making, and accountability to regional and provincial governance structures for reporting and monitoring.[69] The provincial government provides core funding to support the operations and initiatives of Divisions of Family Practice and Primary Care Networks.
Quebec	Integrated Health and Social Services Centres and Integrated University Health and Social Services Centres	In 2015, 13 Integrated Health and Social Services Centres and 9 Integrated University Health and Social Services Centres were implemented.[70] These centers enter into service agreements with partners in their local services network to provide services to the residents of their region.[71] Contractual agreements for PC services in the local networks are delivered mainly through physician-run practices and some Local Community Services Centres. The provincial government is responsible for allocating a significant portion of Quebec's funding for health and social services agencies.

*Abbreviations: PC, primary care; PHC, primary health care.

facilitates accountability by defining the population for which the PC organization or provider is responsible and facilitates a longitudinal relationship between the patient and provider.[12]

Initiatives to formally attach patients (through enrollment registries) to providers have been slow in Canada. Quebec and Ontario had already implemented widespread enrollment of patients with providers through formal agreements between the patient and provider in one or more PC models.[12,14] As of December 2021, four other jurisdictions (British Columbia, Alberta, Manitoba, and New Brunswick) implemented various initiatives to attach patients to PC providers or practices.[73–76] These initiatives varied based on the process of patient–provider affiliation (formalized between parties [e.g., enrollment forms] or informal [e.g., assignment of a patient to a provider])

and whether the affiliation is a requirement of the service delivery model or financial incentives.

Patient Engagement

Patients must be supported in practice to participate actively in their health care and the design and planning of health services.[12] This study found that patient engagement in their care and service delivery at the practice level remains an area that requires significant improvement. Historically, British Columbia has been an early adopter of patient engagement initiatives at the system, regional, local, and practice levels.[77] During the study period, Ontario and British Columbia introduced patient experience surveys that providers could use voluntarily.[78,79] In Newfoundland and Labrador, Community Advisory Committees are involved in co-designing and delivering local PC services to better meet the lived experiences of patients.[80]

Interprofessional Teams

An interprofessional team consists of various (multidisciplinary) health care providers that work together to facilitate comprehensive, continuous, and person-centered care; mobilization of health care resources; and patient navigation of the health care system.[12] Since 2013, there has been convergence in the implementation of interprofessional team models across Canada. Before the study period, Ontario, Quebec, and Alberta had implemented and rolled out team-based networks or models with interprofessional PC providers (e.g., nurses, physicians, pharmacists; refer to Table 3 for details).[10,12,66,81–86] In Nunavut, many communities receive health services through community health centers and regional health centers.[87] Prince Edward Island and Northwest Territories had informal networks.[88,89]

By the end of December 2021, several provinces launched or expanded efforts to develop group or interprofessional teams, although the degree of spread and the approaches varied. Provinces in eastern Canada had shifted to implementing group or team-based group models, similar to Ontario and Quebec. New Brunswick, Nova Scotia, Prince Edward Island, Newfoundland and Labrador, and British Columbia introduced group models or organizations with at least two providers delivering PC services to patients.[90–97,102–105] British Columbia, Saskatchewan, and Manitoba introduced network models, groups of organizations providing PC to patients (Table 3).[67,98–101] Models varied in physician payment, the types of providers, group size, governance models, requirements for patient enrollment, the scope of services provided, and the nature of the population served.

Table 3. Interprofessional Team Models in Canada

Jurisdiction	Team Model	Details
Before 2013		
Ontario	Community Health Centres	Community Health Centres are incorporated nonprofit agencies governed by a volunteer Board of Directors. Teams typically include physicians, nurse practitioners, nurses, social workers, health promoters, community health workers, chiropodists, dietitians, and physiotherapists. Community Health Centres also work closely with other agencies such as housing, seniors' agencies, environmental organizations, or cultural-specific agencies to meet community and client needs.[10] There are approximately 75 Community Health Centres.[10,82]
	Nurse Practitioner–Led Clinics	Nurse Practitioner–Led Clinics are nonprofit organizations that are led by nurse practitioners. The team can also include collaborating physicians, other professionals, registered nurses, registered practical nurses, registered dietitians, registered social workers, health promoters, mental health workers, pharmacists, occupational therapists, and physiotherapists. There are 25 nurse practitioner–led clinics.[83]
	Family Health Teams	Family Health Teams serve a roster of patients to provide comprehensive, coordinated care and after-hours access. The size and composition of teams vary but may include a combination of physicians, nurse practitioners, nurses, pharmacists, dietitians, chiropodists/podiatrists, social workers, mental health workers, health educators, and occupational therapists. Physicians sign a funding agreement (blended funding model including a base capitation payment, fee for service, bonuses for achieving prevention targets, and special targeted payments in prenatal and intrapartum care, inpatient care, home visits, and palliative care).[10] There are 184 Family Health Teams.[84]
	Aboriginal Health Access Centres	Aboriginal Health Access Centres are community-led organizations that combine PC, traditional healing, cultural programs, health promotion programs, community development initiatives, and social support services to First Nations, Métis, and Inuit communities.[10] The ten Aboriginal Health Access Centres in Ontario provide both on and off-reserve services in urban, rural, and northern locations.[85]

Continued

Table 3. (Continued)

Jurisdiction	Team Model	Details
Quebec	Family Medicine Groups/Groupe de Médecine de Famille	A group of family physicians collaborate with other health and social services professionals (e.g., nurses and social workers) based on community needs. On average, one Groupe de Médecine de Famille serves around 15,000 people and has approximately ten physicians, two nurses, two administrative support staff, and other health care providers such as pharmacists and social workers.[86] Patients can also see a nurse, social worker, or another health professional.
Alberta	Primary Care Networks	Primary Care Networks are groups of family physicians that work with interprofessional health care providers (nurses, nurse practitioners, dietitians, pharmacists, social workers, and mental health professionals) to address population health care needs. Forty-two Primary Care Networks are operating across Alberta. About 84% of physicians were involved, and 3.8 million Albertans (over 85% of the population) are in a Primary Care Network.[66]
Nunavut	Community Health Centres/Nursing Stations[87]	Community Health Centres/Nursing Stations deliver PC through "virtual networks" and include nurses/home nurses, physicians, dietitians, and occupational therapists.
Prince Edward Island	Primary Care Network	Primary Care Networks are an approach that brings together PC providers and health care professionals to deliver a range of services in a geographical location. In some cases, private practices refer to programs and support services (registered nurses, licensed practical nurses, nurse practitioners, dieticians, and social workers). In other cases, a group of physicians share support staff and interprofessional teams.[88,89]
Northwest Territories	Informal networks	PC is provided by informal teams consisting of nurses, mental health workers, and community social workers, supported by teams in regional centers.[89]
After 2013		
New Brunswick	Family Medicine New Brunswick[90]	Family Medicine New Brunswick refers to a group of physicians who work together to provide services during evenings and weekends.[91,92] There are eight groups with 53 physicians.[93]
Nova Scotia	Collaborative Practice Team	Collaborative Practice Teams are a team-based model that consists of physicians, nurse practitioners, family practice nurses, an assistant manager and one to two professionals based on the characteristics and needs of the community.[94] As of March 31, 2020, there were 86 Collaborative Practice Teams, with approximately 377 family physicians working in teams.[95]

Continued

Table 3. (Continued)

Jurisdiction	Team Model	Details
Prince Edward Island	Patient medical homes	Five patient medical homes will consist of multiple professionals working collaboratively, and to their full scope of care.[96]
Newfoundland and Labrador	Collaborative Team–Based Care Clinic	A Collaborative Team–Based Care Clinic consists of an interdisciplinary team that will provide a comprehensive range of patient services to meet the needs of individuals and communities. Clinics may include health care professionals such as physicians, nurse practitioners, registered nurses, licensed practical nurses, and other allied health professionals such as social workers, pharmacists, and dietitians.[97] Five Collaborative Team–Based Care Clinics have been implemented.
Saskatchewan	Health Networks	Health Networks include collaborative teams of health providers, including physicians and community partners, working together to provide fully integrated services to meet the health needs of individuals and communities.[98]
Manitoba	My Health Teams	My Health Teams are teams of care providers (whether located in the same offices or virtually connected online). The team member composition varies and may include physicians, nurses, nurse practitioners, community developers, exercise specialists, physiotherapists, pharmacists, social workers, and occupational therapists who work together in a broad virtual network.[67]
British Columbia	Primary Care Networks	Primary Care Networks consist of providers and support staff from various family practices, regional health authorities–delivered or contracted primary and community care, public health services, and community-based organizations that work together in a geographic area to provide comprehensive PC services to the local population. Team members may work in different locations, travel to multiple network locations, and/or work virtually.[99,100] As of December 2021, 53 Primary Care Networks are in various stages of implementation. At full implementation, there are expected to be over 85 Primary Care Networks, covering 218 community health service areas.[101]

Continued

Table 3. (Continued)

Jurisdiction	Team Model	Details
	Urgent and Primary Care Centres	Urgent and Primary Care Centres provide expanded hours to improve access to same-day nonemergency health care, increase existing PC capacity, and reduce pressures on emergency departments. Urgent and Primary Care Centres provide a mix of urgent and longitudinal appointments, emphasizing enabling new patient attachment and prioritizing attachment for local populations considered underserved or vulnerable.[102] These centers are linked to the broader network of PC providers and interdisciplinary teams through Primary Care Networks. As of December 2021, the Ministry has publicly announced 24 Urgent and Primary Care Centres; 25 are operational, with another 5 in active planning. Urgent and Primary Care Centres have provided over 955,415 patient visits.
	Community Health Centres	Community Health Centres prioritize care for and attachment of hard-to-reach, vulnerable, and underserved populations and are a key resource in helping to address social determinants of health through linkages to other community agencies. Community Health Centres are community governed and/or community informed, with services tailored to meet the community's health needs.[103]
	First Nations Primary Care Centres	First Nations Primary Care Centres aim to improve access to PHC services and the health and wellness of First Nations people in a culturally safe way and closer to home. As of December 2021, there was one operational First Nations Primary Care Centre with six more in the planning stages.[101]
	Nurse Practitioner–Led Clinics	Nurse Practitioner–Led Clinics are a service model developed by nurse practitioners who work within a collaborative, team-based environment within the practice and as part of the local Primary Care Networks. There are three Nurse Practitioner–Led Clinics in areas with high numbers of unattached patients: Nanaimo, Surrey, and Victoria. As of December 2021, 30.9 FTE resources have been approved across 3 Nurse Practitioner–Led Clinics. The clinics have attached over 6,600 patients collectively. As of December 2021, 254 nurse practitioners have been approved and 150 nurse practitioners have been hired.[104]

*Abbreviations: FTE, full time equivalent; PC, primary care; PHC, primary health care.

Funding and Provider Payment Arrangements Aligned with Health System Goals

Funding and payment models aligned with health system goals are crucial for implementing team-based PC models.[12] In Canada, there is considerable variation in payment and funding arrangements. Before 2013, five provinces implemented funding and provider payment arrangements to promote alignment with system goals.[12] Payment arrangements include salary or contracts in the Northwest Territories and Nunavut. In Ontario, there was a shift from fee for service to blended funding arrangements (capitation/fee for service).[10] These payment models have increased physician income and enabled a population-based, proactive approach to PC by defining an enrolled patient population for which the provider is responsible. In Alberta, fee-for-service payment models included capitation payments.[66,106] Ontario, British Columbia, and Quebec implemented enhanced fee-for-service models with incentive payments for targeted activities (Table 4).[86,107–110]

By December 2021, three provinces introduced the voluntary option to participate in non–fee-for-service payment arrangements (New Brunswick, British Columbia, and Saskatchewan) (i.e., blended capitation, salary, and complement based),[91,92,115,119] two provinces (Alberta and Nova Scotia) were pilot testing models[113,114], and one province (Newfoundland and Labrador) was designing a new model blended capitation payment model.[116] Three provinces (British Columbia, Manitoba, and Newfoundland and Labrador) continued or introduced enhanced fee-for-service payments (e.g., special bonuses).[111,112,117,118,120] Payment arrangements are described in Table 4.

Health Information Technology That Effectively Supports Patients and Providers

Sophisticated information and digital technologies help to support virtual clinical practice and promote high-quality, efficient PC.[12] Electronic medical records and electronic health records collect longitudinal health information for direct patient care.[121] In Canada, significant progress has been made in implementing and adopting electronic medical records by PC physicians. Over 80% of physicians reported using electronic medical records in seven jurisdictions (i.e., British Columbia, Alberta, Saskatchewan, Manitoba, Ontario, Quebec, and Newfoundland and Labrador).[24]

However, all jurisdictions lag on digital platforms that permit better communication with patients, sharing their records, and communication with health care providers across sectors. Most jurisdictions are implementing interoperable electronic health records, but there remains considerable variability in the sophistication and spread of these technologies. Northwest Territories and Newfoundland and Labrador are the most advanced in implementing an integrated electronic health record in

Table 4. Funding and Payment Arrangements in Canada*

Jurisdiction	Funding and Provider Payment Arrangements
Before 2013	
Northwest Territories	Salary or contracts
Nunavut	Salary or contracts[87]
Ontario	Blended capitation or blended salary (Family Health Networks, Family Health Organizations), specialized models (general practitioner–focused practice, Toronto Palliative Care Associates, Homeless shelter agreements, specialized models in Northern Ontario, Rural Northern Physician Group Agreement, Group Health Center, First Nations Agreements)[108] Enhanced fee-for-service models (comprehensive care management and family health groups) provide physicians with specific bonuses related to prevention and chronic disease management in exchange for patient enrollment and providing after-hours care.[107,108]
Alberta	Primary Care Networks include fee-for-service and capitation payments ($62 per paneled patient per year), covering administrative costs or a range of services from team members.[66,106]
British Columbia	The Full Service Family Practice Incentive Program provides fee-for-service incentive payments to family physicians providing care to patients with chronic conditions; low-volume obstetrics; delivering babies; training for maternity care skills; developing clinical action plans and discharge plans for frail elderly, palliative care patients, or patients with mental illness or comorbidities; developing plans for high-risk patients with two or more chronic illnesses; health risk assessments of patients in targeted populations; providing ongoing management services to mental health patients; and promotion of shared care with interprofessional health care providers and specialists.[109]
Quebec	Fee-for-service payment is supplemented with per capita and incentive payments for registering vulnerable patients.[110] Additional funding covers operating costs (rental costs for space for more staff, salaries of administrative staff, etc.), enrollment of patients, administrative activities by the clinical lead, 24/7 phone access, the inclusion of nurses and administrative support, and computer resources.[86]

Continued

Table 4. (Continued)

Jurisdiction	Funding and Provider Payment Arrangements
After 2013	
New Brunswick	The blended capitation model is a combination of capitation payments for enrolled patients based on the age and sex of each rostered patient, fee for service, billing for email and phone inquiries and services provided by nurses, and annual overhead support payment.[90,91] Incentive billing codes are for guideline-based care to patients with selected qualifying chronic diseases.
British Columbia	British Columbia was planning to introduce salaried contracts for physicians and NPs.[99] Billing codes are available for chronic disease management, complex care planning, management conferencing, telephone management, inpatient care, long-term care, maternity care, mental health, palliative care, and prevention.[109,111] The Community Longitudinal Family Physician payment began for community-based family physicians who care for a panel of patients by providing long-term, relationship-based care (total annual payment of $4,000 to $12,000).[112]
Alberta	Alberta piloted a blended capitation model.[113]
Nova Scotia	Nova Scotia piloted a blended capitation model.[114]
Saskatchewan	Family physician comprehensive care provides base earnings to a physician (maximum earnings are $400,000 annually). The program has two tiers of payment based on the number of service groups and the location of the practice.[115]
Newfoundland and Labrador	The province is designing a new pilot blended capitation model.[116] Fee-for-service payments for available for activities such as collaborative conferencing with other professionals (in person or telephone), providing care to a patient by telephone, and chronic disease management (currently via a fee code for enhanced care of patients with chronic obstructive pulmonary disease).[117]

Continued

Table 4. (Continued)

Jurisdiction	Funding and Provider Payment Arrangements
Manitoba	Physicians registered in a Home Clinic receive a comprehensive care tariff, an annual payment for the management of enrolled patients in specific age categories and with certain types or numbers of chronic conditions (e.g., diabetes, chronic obstructive pulmonary disease, hypertension, and coronary artery disease).[118] The incentive is to physicians who provide continuous and coordinated care.[118]

*Abbreviation: PC, primary care.

their jurisdictions. Across jurisdictions, there are considerable differences in the information (i.e., laboratory results, medical imaging exams, reports from home care providers, specialists, interprofessional health care providers, hospitals, emergency departments, and prescription medications from pharmacies) available to health care providers.

Virtual care is the exchange of health information between services and locations,[122] which includes remote interactions between patients and providers and between professionals and providers.[123] Virtual care technologies can be synchronous (e.g., videoconferencing) or asynchronous (e.g., email).[123,124] Although all provinces and territories have rapidly introduced fee codes for virtual care services in response to the COVID-19 pandemic, variations exist in the degree of virtual care technology implementation, payment policies for virtual visits, and the availability and integration of information across jurisdictions. Virtual technologies have been introduced to varying degrees to connect PC physicians with specialists, interprofessional health care providers (e.g., pharmacists), and laboratories.

Ongoing Performance Measurement

Systematic, ongoing performance measurement is required at multiple levels (i.e., practice, organization, community, regional, provincial, territorial, and national) to inform and assess the impact of health services planning, management, and continuous improvement activities and as a basis for accountability processes.[12] Ongoing performance measurement has been limited across Canada, and no jurisdiction monitors performance at the local, regional, and provincial levels.[12]

Since 2013, there has been some progress in developing performance measurement frameworks for PC in British Columbia, Ontario, Northwest Territories, and

Yukon.[125,126] The Northwest Territories framework is one of Canada's first to incorporate health and social services into a comprehensive framework.[127] Performance monitoring occurs for specific models in three jurisdictions (Alberta, Saskatchewan, and Ontario).[128–130] Some jurisdictions have implemented voluntary initiatives (i.e., Ontario, Alberta, Manitoba, and British Columbia) in which physicians can receive reports with performance data.[131–133] These reports vary in the type of information provided, the level (practice, regional, and provincial levels), and access to financial incentives. In British Columbia, practices can share aggregated data with their local divisions.

Training and Support for Quality Improvement

Quality improvement initiatives linked to ongoing performance measurement enable PC transformation and improve the quality of care, health outcomes, and efficiency.[12] Before 2013, there was substantial implementation of training and support for quality improvement for PC providers in British Columbia, Alberta, Saskatchewan, and Ontario.[134–137]

As of December 2021, British Columbia, Alberta, Saskatchewan, Manitoba, Ontario, Quebec, Nova Scotia, Prince Edward Island, and Newfoundland and Labrador invested in quality improvement supports and/or programs for PC physicians (refer to Table 5 for details).[138–143,144,145] Initiatives vary based on the nature of support, eligibility, professionals involved, range of services, and location of resources (practice or government).

Leadership Development

High-performing PC requires effective leadership at all levels (government, executive, and clinical).[12] Before and after the study period, limited investment has been made in leadership development for PC leaders in Canada.[12] However, physicians can access funds for leadership development through the national medical association,[146] provincial medical associations (New Brunswick and Prince Edward Island),[147,148] government programs (Manitoba, Northwest Territories, Newfoundland and Labrador, Nunavut, and Prince Edward Island),[149] or jointly (British Columbia and Alberta).

Coordination, Integration, and Partnerships With Other Health and Social Services

PC physicians should assume responsibility for facilitating their patients' trajectory through the health care system and appropriately using health and social services.[12]

Table 5. Training and Support for Quality Improvement Initiatives in Canada

Jurisdiction	Training and Support for Quality Improvement Initiative	Details
Before 2013		
British Columbia	Practice Support Program	The Practice Support Program by the General Practices Services Committee offers a seven-part learning series supported by in-practice facilitation. The program helps develop key competencies for building successful team-based care in practice. Practice teams are encouraged to participate in the 2.5-hour interactive sessions together. Once doctors and their teams complete the program, in-practice coaching and support are provided to help them implement what they have learned.[134]
Alberta	Alberta Access Improvement Measure	This practice aimed to assist family physicians, specialty care physicians, Alberta Health Services programs, and their teams with reducing wait times and improving office efficiency and patient care by applying quality improvement methods and using evidence-informed principles.[136] This program has been disbanded.
Saskatchewan	Chronic Disease Management Collaboratives	Chronic Disease Management Collaboratives provide clinical tools to health care providers to help them follow best practices when they provide care. It also collects data that give health care providers a clear and complete picture of a patient's condition and care history.[135]

Continued

Table 5. (Continued)

Jurisdiction	Training and Support for Quality Improvement Initiative	Details
Ontario	Quality Improvement and Innovation Partnership	This partnership aimed to measure PC practices' performance by collecting medical data. Support was provided to specific models with focus on quality improvement in diabetes care, colorectal cancer screening, and office practice redesign (access and efficiency).[137]
After 2013		
British Columbia	Physician Quality Improvement Initiative	The Physician Quality Improvement Initiative provides physicians with training support in quality improvement through trainers in Health Authorities.[142] Physicians are funded for their time away from clinical practice and quality improvement projects.
Alberta	Alberta Health Services Provincial Simulation Program/Improvement Facilitators	The Alberta Health Services Provincial Simulation Program helps learners practice and master individual and team skills to improve patient safety and enhance the quality of care. The program supports training for physicians and staff involved in delivering PC to patients in simulation practice readiness centers, training facilities that recreate virtual care environments, or mobile simulation (specialized vehicles and portable equipment used to support educators who do not have access to a practice readiness center).[138] Physicians also received training and support from facilitators and physician champions.

Continued

Table 5. (Continued)

Jurisdiction	Training and Support for Quality Improvement Initiative	Details
Saskatchewan	Clinical Quality Improvement Program	The Health Quality Council, with partners from the Saskatchewan Ministry of Health and the Saskatchewan Medical Association, introduced the Clinical Quality Improvement Program, which offers intensive educational training in quality improvement and designs a quality improvement project as part of its application process.[139]
Manitoba	Home Clinic Support	The dedicated staff at the regional level aid practices in adopting the Home Clinic. Support includes Home Clinic registration, adopting and implementing enhanced digital health services, training for improving data quality, and optimizing electronic medical records.[143]
Ontario	Quality Improvement and Information Management specialists	Quality Improvement and Information Management specialists work collaboratively with specific interdisciplinary teams to support quality improvement capacity building.[140]
Quebec	Practice facilitators	Practice facilitators work with academic Groupe de Médecine de Famille to help implement a quality improvement culture, ultimately enhancing the efficiency, effectiveness, access, continuity of care, security, responsiveness, and equity.[141]

Continued

Table 5. (Continued)

Jurisdiction	Training and Support for Quality Improvement Initiative	Details
Nova Scotia	Primary Health Care/Chronic Disease Management Quality Improvement & Safety Council	The Primary Health Care/Chronic Disease Management Quality Improvement & Safety Council provides the required governance and quality oversight for PHC/chronic disease management at the Nova Scotia Health Authority.[144] There is also a practice support program offering a range of practice support tools, resources, and initiatives aimed at supporting providers and teams in their practice, fostering a culture of shared learning, quality and safety, and enabling quality of care for patients and families.[144]
Prince Edward Island	Quality Improvement Teams	Quality Improvement Teams (physicians, secretaries, licensed practical nurses, registered nurses, nurse practitioners, and managers) support physicians in identifying quality improvement initiatives pertinent to their practices to enhance quality and standard of care. In 2021, Prince Edward Island had 21 Quality Improvement Teams.
Newfoundland and Labrador	MyQ Initiative	A training program that supports family physicians and their clinic staff through online learning and physician-to-physician collaboration. MyQ aims to improve clinic processes, optimize patient care, and increase physician engagement and satisfaction. In this program, physicians can engage in their practice improvement journey and participate in shared learning and collaboration within their practice with peers and practice facilitators.[145]

Abbreviations: PC, primary care; PHC, primary health care.

Coordination and integration strategies include informal relationships, formal agreements and partnerships, and integrated governance.[12] In Canada, there has been significant variation across jurisdictions regarding initiatives for coordination and integration between PC and other health and social services over the past decade.[12,14]

Before the study period, two provinces had systemwide structures to enable system coordination. Nunavut is the only jurisdiction directly responsible for systemwide management and delivery of health care services that facilitate coordination and integration in Canada. In Quebec, Centre de Santé et de Services Sociaux entered into service agreements with their local services network partners. PC services were delivered mainly through physician-run practices and some Local Community Services Centres.[12]

Since 2013, Saskatchewan has developed 38 Health Networks with interprofessional providers that deliver PC services and coordinate across sectors.[150] In Ontario, Ontario Health Teams are an integrated model connecting a range of providers who design and deliver coordinated care for targeted populations.[151] As noted earlier, some provinces implemented PC governance structures to facilitate coordination and partnerships with other health and social services.

Systematic Evaluation of Innovation

Effective PC system planning and management require focused evaluations of policy innovations to identify and address shortcomings and permit the spread of innovations.[12] Significant investments in evaluating innovations have been limited over time. Before the study period, British Columbia, Alberta, and Ontario had invested in evaluating various initiatives.[12] Since 2013, Alberta, British Columbia, Manitoba, Ontario, New Brunswick, and Nova Scotia have commissioned an evaluation of key initiatives, including Primary Care Networks, Divisions of Family Practice, My Health Teams, Ontario Health Teams, Nurse Practice Clinics, and Collaborative Family Practice Teams, respectively. Quebec was piloting an evaluation plan for Groupe de Médecine de Familles. New Brunswick, Saskatchewan, and Newfoundland and Labrador were planning the evaluation of the Family Medicine New Brunswick, Health Networks, and Family Practice Renewal Program, respectively.

Research Capacity and Productivity

A constant flow of research evidence to inform PC policy and practice is essential to a high-performing and continually evolving PC system.[12] In Canada, research capacity development in PC began in 2012 with the Canadian Institutes of Health Research's Community-based Primary Health Care Signature Initiative,[152] followed in 2014 by the Pan-Canadian Strategy for Patient-Oriented Research Network in

Primary and Integrated Health Care Innovations.[153] The latter supported PC researchers working in networks within and across jurisdictions (British Columbia, Alberta, Saskatchewan, Manitoba, Ontario, Quebec, New Brunswick, Nova Scotia, Prince Edward Island, Newfoundland and Labrador, and Northwest Territories).[153] These networks comprise patients, researchers, providers, policymakers, academic health centers, and health charities undertaking research identified by patients as high priorities. The Canadian Primary Care Sentinel Surveillance Network is a pan-Canadian repository of PC electronic medical record data used for surveillance and research,[154,155] which involves collaboration with 13 regional PC practice–based research networks across Canada. British Columbia, New Brunswick, and Nova Scotia established research organizations/foundations that support health research.[156–158]

Over time, research investments were made in Alberta, Ontario, Quebec, Saskatchewan, and British Columbia, but the change was limited. Alberta launched the Primary Health Care Integration Network as part of the Strategic Clinical Network, which connects academic research, clinical evidence, and innovation with frontline providers by working with partners to find solutions for common challenges in the system.[159] In Ontario, the Institute for Clinical Evaluative Sciences Primary Care and Health Systems Research Program[160] and Innovations Strengthening Primary Healthcare through Research financially support PC research.[161] Quebec has two research institutes, and Saskatchewan has a foundation that funds research.[162] In British Columbia, regional entities support local research by funding RAs.

Discussion

Despite federal and provincial investments in PC, including the substantial investment of $800 million in the Primary Health Care Transition Fund, our case study of the 13 provincial and territorial jurisdictions in Canada demonstrates that changes to the overall organization, funding, and delivery of the PC system remained piecemeal and incremental. There are substantial variations in the development of the elements of high-performing PC across the country, and currently, no province or territory has implemented all elements required to achieve the full value of a robust PC system. This is due to decentralized health systems, inadequate investments in PC innovations, resistance to change among health care providers, limited evidence on the impetus of change, and insufficient performance measurement and accountability.

Although the pace of change has been slow, PC transformation continues to move in a positive direction in Canada, with British Columbia, Alberta, Ontario, and Quebec having made the most significant progress in implementing the features of high-performing PC systems. Overall, the most significant changes in the spread of innovations across jurisdictions included adopting electronic medical records and investing in programs for quality improvement training and support for PC providers. Some

progress was made in developing or implementing interprofessional teams, patient enrollment, payment and funding models, PC governance mechanisms, and system coordination. However, progress was limited in patient engagement, leadership development, performance measurement, research capacity, and systematic evaluation of innovation.

Several factors may explain the slow pace of change in PC. First, advances in health care delivery in Canada proceed independently in 13 separate, decentralized health care systems.[28] There is no national PC strategy, but rather 13 health care systems with 13 different visions, goals, and approaches for change. Other countries, including Australia, France, Germany, the Netherlands, New Zealand, Sweden, the United Kingdom, and the United States[14–16] have also devolved much of the responsibility for the health system to local or state governments.[163] In the Commonwealth state and territory governments, Australia's Primary Health Care 10-Year Plan 2022–2032[164] outlined the need to bring jurisdictions together to plan and commit to the improvement and sustainability of PC. The WHO European Region also developed a regionwide strategy for PC in 2022, which was endorsed by all 53 countries in the European Region in 2021.[165]

Second, the roles and responsibilities of provincial and territorial governments as payors and PC practices as private enterprises require policy changes to be negotiated between payors and organized medicine.[166] Historical payment patterns and relationships limit the pace of change, and reforms that substantially change delivery remain difficult to achieve.[10,166–168] In particular, provincial medical associations have resisted changes to capitation-based remuneration models and other perceived threats to physicians' financial and clinical autonomy.[11,169] Similar findings are found internationally, with some PC providers preferring fee-for-service compensation models.[170,171] Interprofessional teams can reduce physician incomes if nonphysician providers assume tasks traditionally completed by physicians.[169] However, the primary goal of interprofessional teams is not to reduce physician income but rather to enhance health care delivery by optimizing the roles of various health care providers. By delegating specific tasks to nonphysician providers, physicians can concentrate on more complex medical issues, alleviate administrative burdens, and improve overall care efficiency and effectiveness.[172,173] Furthermore, historical actions of governments that have changed and reversed policy directions or instigated top-down reform initiatives have created distrust of decision makers by physicians.[11,174] A similar dynamic has occurred in Norway, where PC providers' distrust is rooted in the concern that the government's economic motivations may overshadow clinical considerations to provide best-practice care.[175] Recommendations from England suggest that to balance physician autonomy with trust, national governments and local and regional governance bodies must engage physicians in their efforts.[176] A review of best-practice efforts across Canada, the United States, and the United Kingdom suggests that governing bodies and organizations employ

two-way communication and information-sharing approaches to enable physician engagement in decision making by unifying a shared understanding of health care reform visions and issues.[177] The best practice of ensuring open communication, in turn, fosters trust and respect between those in positions of power and physicians.[177]

Third, the limited and mixed evidence of the impact of interprofessional team models[178–191] in Canada also poses serious dilemmas for policymakers who need rigorous evidence to inform decision making. Literature from Australia and the United Kingdom have demonstrated that rigorous evidence can facilitate bipartisan agreement in implementing PC initiatives.[192–194] In Canada, there have been limited investments in research and evaluation, with total investment funding in PC research representing only 3% of total Canadian Institutes of Health Research's research funding in 2016 to 2017 and 2017 to 2018 (R. Snell, written communication, February 2019). The absence of a regulatory framework for electronic medical record data sharing and vendors' creation of financial and other barriers to data access have hindered the use of electronic medical record data for research and quality improvement purposes. These barriers are only beginning to be addressed.[195] The United Kingdom's national health research strategy aims to "re-engineer the environment in which research is conducted" through the United Kingdom Clinical Research Network.[196,197] This experience demonstrates the importance of national investments in data collection and research.

The slow development of PC governance models, patient enrollment, performance measurement, and accountability for service delivery or outcomes at the local, regional, and system levels can be explained by the difficulties of changing care delivery and the dominance of fee-for-service payment arrangements, which involve limited accountability. Despite expert commissions over 30 years[20,198,199] and Provincial Auditor General reports[200–202] in Canada, provincial and territorial governments have not implemented compulsory requirements for PC physicians, which would reduce their autonomy. Asian jurisdictions have also faced similar challenges with the lack of compulsory requirements for PC physicians.[203] Australia developed the Primary Health Networks' performance and quality national framework for PC physicians to measure performance against several valid and feasible quality and/or outcomes measures.[204] This has been accompanied by including specialist researchers to assist with reporting.[204] To enable performance measurement, Australia has implemented a national research practice data infrastructure with data registries linked across organizations, biobanks, and data that can be used in the context of PC.[205] Similarly, Canadian scholars have also argued for developing a national data infrastructure.[206] WHO introduced the Primary Health Care Measurement Framework to provide guidance on PC indicators that can be used at the practice and system levels for domains such as access, first-contact accessibility, continuity, comprehensiveness, coordination, people centeredness, effectiveness, efficiency, safety, use of services, and equity.[207] In the United States, the Baseline Scorecard Tracking Support for High-Quality Primary

Care Dashboard, cofunded by the Milbank Memorial Fund and the Physicians Foundation and developed by the Robert Graham Center and HealthLandscape, measures system-level PC indicators to help to track progress on the aims of PC transformation across states.[208]

To foster performance measurement, some countries (the United States,[209] Croatia, the Czech Republic, Estonia, France, Germany, Italy, Latvia, Lithuania, Poland, the Republic of Moldova, Portugal, Sweden, and the United Kingdom) provide financial incentives for physicians to meet targets for the provision of certain services, compliance with guidelines, improved coordination, and achievement of certain health outcomes.[210] However, it has been noted that this requires better alignment between clinical practice and the expectations of physicians,[211] and this arrangement should not compromise patient care.[212,213] In addition, the roles and responsibilities of stakeholders must be clearly articulated and be transparent to support ongoing performance measurement and continuous policy implementation.[214]

Minimal changes in patient and community engagement and leadership development may be explained by the lack of investments in these areas. The United Kingdom implemented a new principle, "No decision about me without me," with individual budgets to empower chronically ill patients to participate in decision making and make patient-centered care plans mandatory for PC physicians.[215] Similarly, France's "médecins traitant" provides financial incentives for patients to engage in care treatment plans and register with a PC physician.[215] Further research is needed to understand the reasons for the lack of investments in patient engagement and leadership development in Canada.

Canada has made significant strides in electronic medical record adoption and spreading quality improvement training and support opportunities. These areas have moved more quickly because of investments and because they pose less intrusion on clinical autonomy and practice design. A literature review from Canada, the United States, Denmark, Sweden, Australia, New Zealand, and the United Kingdom found jurisdictional or organizational funding enabled electronic medical record adoption by physicians.[216] To enable electronic health record adoption, Canada and other countries can learn from the United Kingdom, United States, Denmark, and Finland by including strategies for greater physician engagement in discussions about organizational and clinical processes with vendors, development of a national office that can spearhead the uptake of the electronic health record at the national level, and use of national surveys to assess the use of information technology.[217–219]

Along with the slow pace of implementation of the structural features of high-performing PC systems, other factors may explain Canada's poor performance in relation to comparable countries. This includes uniform and long-standing aversion to social spending increases, deficit spending, and increased taxation, resulting in low investments in the widespread implementation of PC innovations by provincial governments. Furthermore, the evidence suggests that PC innovations are not

being implemented effectively and are often physician centric. For example, although Ontario has made progress with the implementation of interprofessional teams, only about a quarter of Ontarians are served by these models.[10] This leaves the other three quarters of Ontarians without access to an interprofessional team, impeding access to a PC provider, timely access to care, longitudinal and relational continuity, and care coordination. Furthermore, Ontario's blended capitation models created inequities by servicing more advantaged populations and having a higher number of emergency department visits than expected.[187] This outcome is attributed to implementation issues because capitation payments are based on age and gender and are not risk adjusted.[187,220] In Quebec and Alberta, Groupe de Médecine de Famille and Primary Care Networks have been widely implemented. However, the evidence of impact is mixed.[181–185,190,191,221,222] This may be because the model is based on fee-for-service physician payments, which are not conducive to interprofessional collaboration.[223,224] In addition, interprofessional providers are not always formally part of the team and are accessible through referrals to programs or organizations.[225–227] Although sizable enhanced fee-for-service incentives have been implemented in British Columbia to manage patients with chronic disease and communicate with other care providers, evidence suggests patient access, continuity, and care coordination has declined over time.[228] The phenomenon of buying change is not a sustainable long-term strategy. As noted by Aggarwal and Williams (2019), when "change occurs as a response to payment mechanisms, it is not necessarily in desired directions.."[10p12]

The Path Forward for Canada and Comparable Nations

Despite the slow pace of change in Canada, each jurisdiction still has distinct opportunities to advance PC to the level of best-performing countries. The COVID-19 pandemic and the current PC crisis[229,230] have further highlighted the systemic deficiencies and the need to make significant investments to achieve high-performing PC systems. International literature has suggested that periods of shock, such as the pandemic, can help build resilience in the PC system.[231–233]

The findings of this study have implications for countries with decentralized health systems in which the national government is responsible for funding and subregional governments are responsible for care delivery. A key lesson from the Canadian experience is the need for all levels of government to develop an attainable and consensus-driven vision, strategy, and implementation plan for strengthening and advancing PC transformation. Canada can learn from the pan-European strategy[165] by developing a policy roadmap that articulates and defines the aims, principles, features, expected outcomes, and specific improvement goals for the PC system and its role in the overall health system, together with a menu of strategies for achieving these goals. This plan should include meaningful engagement of citizens, physicians, and interprofessional providers to permit open and respectful dialogue. Furthermore, the strategy should

inform the development of a comprehensive performance measurement framework and a strong national data infrastructure. Canada should employ strategies suggested by the Third Global Forum on Human Resources for Health that urges for national, regional, and global monitoring mechanisms in the context of workforce planning and deployment[234] and adoption of information technology.[235] Building this foundation will allow for ongoing performance measurement that supports decision making, quality improvement, and accountability at the practice, organization, community, regional, and national levels.

To alleviate the current PC crisis, targeted investments are needed to ignite change in the structural attributes of high-performing PC systems. Workforce shortages call for building more capacity in PC. Norway and the Netherlands are high-performing countries, according to Commonwealth Fund data.[23] Notably, 99.3% of Norwegians had a regular doctor[236] and over 95% of Dutch citizens had a general practitioner,[237] whereas 85.5% of Canadians aged 12 and older had a regular care provider around 2017 to 2019.[238] The elements common to Norway and the Netherlands suggest the need to focus on implementing PC teams with expanded roles for interprofessional providers, blended payment and funding models, patient enrollment with a provider, and requirements for after-hours care.[239,240] These models must be supported with integrated electronic health records and virtual and digital technologies that enhance timely access, equity, and continuity, improve communication, collaboration, and care coordination, and enable patient-centered care and accountability. Finally, investments in research and evaluation are crucial to accelerating the creation, dissemination, and application of rigorous evaluation and research, which fosters learning health systems and helps inform decision makers on transformation at the practice and system levels.

Before making these investments, key lessons from Canada's previous experience with PC transformation suggests the approach of buying change in the absence of accountability and rigorous evaluation is not a sustainable long-term strategy.[10] Thus, national investments in PCR should be tied to mutually agreed business plans with requirements for performance measurement, quality improvement, and accountability for policy innovations and rigorous evaluations in which results are publicly reported.

Limitations

A strength of this study is that it includes an analysis of policies from December 2012 to December 2021 from all 13 jurisdictions in Canada. In addition, the research was done in collaboration with policymakers across the country, which adds credibility to the research. It also provides a framework for the structural features contributing to high-functioning PC systems that can be used to assess performance within jurisdictions and/or conduct comparisons across jurisdictions and countries.

However, there are several limitations to the study. First, our study could only capture information on publicly available PC policies. Because of resource constraints and the research team's proficiency in English, only articles published in English were considered for analysis. Two jurisdictions did not participate in the review of results. Moreover, interviews were conducted before the COVID-19 pandemic; as such, any impacts of the pandemic on PCR in Canada may not be represented in the results. Another limitation of our data collection is interviews were conducted at a single point in time, so we may not have fully captured the dynamic nature of the PCR. The sampling methodology could have restricted segments of stakeholders from participation and overlooked groups of stakeholders (e.g., those not identified through the sampling means), and therefore, certain perceptions of PCR may have been omitted. In addition, the research is only transferable to comparable health care systems (e.g., for which there are parallels among subnational governments). Furthermore, we did not examine how PCR varies by urban, suburban, and rural contexts.

Conclusion

The COVID-19 pandemic has awakened policymakers worldwide to the essential role of high-performing PC systems. Canada's performance relative to its peers demonstrates that more work is needed to improve PC. However, the lessons from the Canadian experience indicate that articulating lofty goals with limited accountability for the outcomes of investments does not work. Thus, investments made by national governments of comparable health care systems should be based on a national PC strategy, performance measurement framework, and data infrastructure, which is based on a consensus-driven vision, goals, and implementation strategies. Meaningful change requires significant investments in PC. These investments must be sufficient, sustainable, carefully targeted, and coordinated based on high-performing PC systems' attributes and rigorous evidence of impact. Finally, these investments should be made with subregional governments in exchange for the mutually agreed-on commitment to ongoing performance measurement, quality improvement, and accountability. Canada and the world have waited long enough for high-performing PC. It is time for national and international leaders to "walk the talk."[27]

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Conflicts of interest: The authors have no conflicts of interest to declare.

Acknowledgments: We would like to acknowledge Dr. Rick Glazier for his support and critical input to the project. We would also like to acknowledge individuals across Canada who contributed to the data collection and review of jurisdictional summaries and interpretations.

Address correspondence to: Monica Aggarwal, Dalla Lana School of Public Health, University of Toronto, Toronto, Canada (email: monica.aggarwal@utoronto.ca).