ONLINE APPENDICES

The Doctor Dilemma: Improving Primary Care Access in Canada

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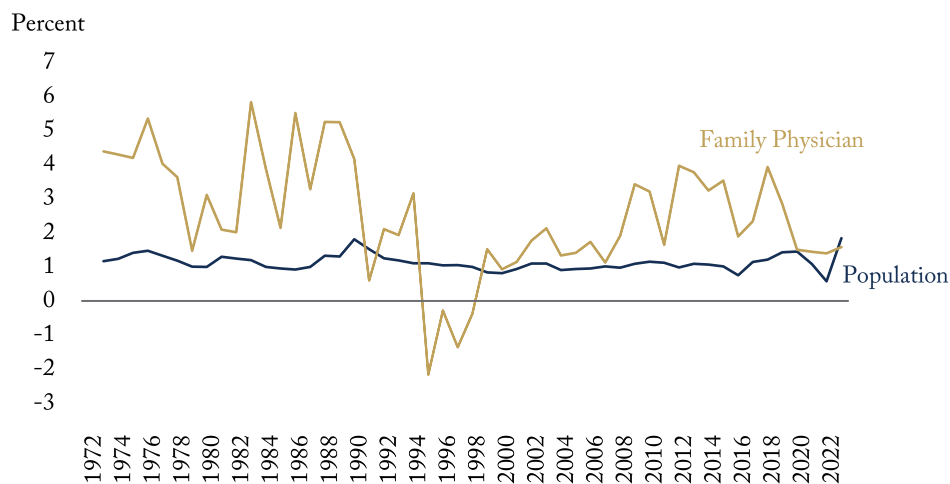
The following appendices expand on, or provide additional context for, content in the main *Commentary*.

The appendices are as follows: Appendix A: Trends in the Supply of Family Physicians; Appendix B: Methodology for Family Physician Shortage Projections; Appendix C: Alternate Payment Models from Abroad; Appendix D: The Prevalence of Team-based Care Models in Canada; Appendix E: Progress in Enhancing Primary Care by Province, Since 2022

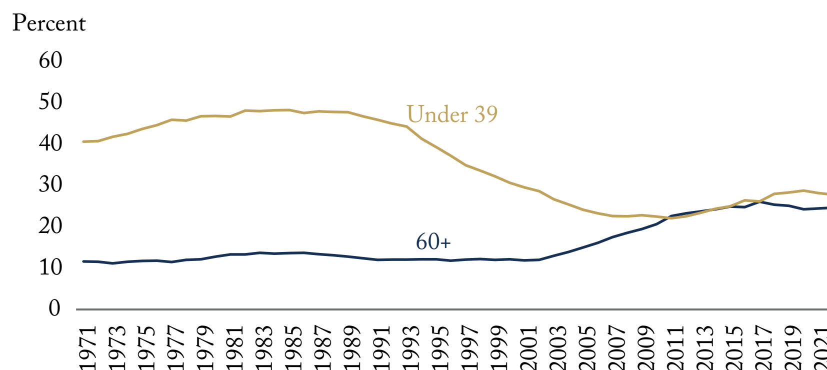
APPENDIX A: TRENDS IN THE SUPPLY OF FAMILY PHYSICIANS

Figure A1: Annual Growth Rate of Family Physicians and Total Population, Since 1972



Source: Statistics Canada, Table 17-10-0005-01 and Supply, Distribution and Migration of Physicians in Canada, 2022., Table 22.1.

Figure A2: Family Physicians in Canada by Age, Percentage of Total, Since 1971



Source: Supply, Distribution and Migration of Physicians in Canada, 2022 – Historical Data.

Appendix B: Methodology for Family Physician Shortage Projections

Family physicians, on average, have an older demographic compared to other occupations, since they often retire at an older age. In 2022, approximately 15 percent of family physicians aged 65 and over remained active in the workforce and continued practicing.

Research by Simkin, Dahrouge and Bourgeault (2019) using 22 years of longitudinal health administrative data revealed that family physicians typically begin reducing their workloads and narrowing scopes of practice between ages 55 and 61. Up to 60 percent of retiring family physicians transition to reduced workloads and provide other services before fully retiring, with an average retirement age of 70.5.

Given the number of existing trainees, the author finds that the number of outflows is associated with the number of family physicians aged 75 and older. Since 2017, approximately 57 percent of family physicians aged 75 and over retired and left the workforce. This rate is used as a factor to estimate the future outflow of family physicians. For example, it is estimated that 771 family physicians aged 75 and over would retire and leave the workforce in 2023.

Demand: The assumptions for projecting the demand for family physicians from 2023 to 2032 include a 10-year average of annual population growth rate (i.e., 1.15 percent) and an estimated patient volume of 695 per doctor. The demand for family physicians is estimated to increase from 56,658 in 2023 to 62,800 family physicians in 2032.

Supply: The assumptions for projecting the supply of family physicians from 2022 to 2032 include a 3.2 percent annual growth rate (10-year average) for existing trainees to calculate inflow. Outflow is based on a 10-year average annual growth rate of family physicians aged 75+, adjusted by a 57 percent factor reflecting those who leave the workforce. Subtracting the projected outflow from inflow yields the projected increase in supply for the next year. The supply of family physicians is expected to increase from 48,978 in 2023 to 56,341 in 2032.

Other factors may affect the demand for family physicians including an ageing population, disease prevalence, and public expectations. Likewise, other factors may influence the supply of practising family physicians in the workforce, including medical school seats, residency spots, immigration of internationally trained physicians who can start practising without additional training, the number of physicians who leave Canada, mortality, and retirement behavior; all of which are subject to variations based on sex, nationality, and location of the practice. These factors are worth considering when conducting family physician workforce planning. For more information, see https://www.cihi.ca/en/factors-impacting-the-number-of-physicians-practising-in-canada-over-20-years#ref3.

Appendix C: Alternative Payment Models from Abroad

Norway:

General practitioners (GPs) are paid with a mix of capitation fees, fee-for-service payments and co-payments from the patient. GPs receive 35 percent of their income from municipalities, 35 percent on a fee-for-service basis from the central government through Helfo, and 30 percent from out-of-pocket patient payments. The fee-for-service scheme also includes specific, relatively small fees for medication reconciliation, care coordination, and the development of care plans for patients with complex needs. The municipalities sign contracts with GPs, pay them a fee, and provide offices, equipment, and assistance. The contracts require GPs to provide after-hours emergency services on a rotating basis, which improves patients' timely access to care.

The Netherlands:

Funding for GPs encompasses various revenue sources, including capitation, consultation fees (distinguished by duration: <5 minutes, 5–20 minutes, and >20 minutes), hourly rates (e.g., for after-hours care), bundled payments, a combination of payments for innovation initiatives, and performance incentives.

In 2015, the government introduced a new GP funding model comprised of three segments:

- Segment 1 funds core primary care services and consists of a capitation fee per registered patient, consultation fees for GPs (including phone consultations), and consultation fees for ambulatory mental health care at the GP practice.
- Segment 2 funds for programmatic multidisciplinary care for Type 2 diabetes, asthma, COPD, and cardiovascular risk management.
- Segment 3 allows GPs and insurers to negotiate additional contracts that encourage innovation and tie payment to performance.

The first segment comprises 77 percent of payments while the second and third account for 23 percent. Notably, consultation fees for both virtual and in-person appointments are identical.

Sources: Tan et al. (2023) and Commonwealth Fund website.

Appendix D: The Prevalence of Team-based Care Models in Canada

Table D1:

Provinces	Model Type	Description	Coverage
Alberta	Primary Care Networks (PCNs)	There are 39 PCNs in Alberta. Together they represent more than 3,800 doctors and 1,000 healthcare providers and serve close to 3.6 million Albertans. Sixty-four PCNs have funding allocations and are now implementing their service plans.	82.4 percent of population
British Columbia	Primary Care Networks (PCNs)	As of 2021, 53 PCNs have been established across the province.	N/A
Manitoba	My Health Teams (MyHTs)	Currently there are MyHTs formed or in progress in every region of the province. Expanding coverage and evolving MyHTs remains a priority for primary care in Manitoba.	N/A
New Brunswick	Family Health Teams (FHTs)	In November 2012, the first FHT was officially launched in Miramichi. Family Medicine New Brunswick operates 8 groups, with 49 physicians.	32.8 percent
Newfoundland and Labrador	Family Care Teams (FCTs)	As of March 26, 2023, there are nine FCTs in various stages of implementation throughout the province. There are 49,891 residents rostered to Family Care Teams, as of October 2023.	9.3 percent
Nova Scotia	Family Practice Teams (FPTs)	There are nine Collaborative FPTs in the province, as of July 2023.	N/A
Ontario	Family Health Teams (FHTs) Community Health Centres (CHCs) Nurse Practitioner-Led Clinics (NPLCs) Aboriginal Health Access Centres (AHACs)	There are now 297 organizations across Ontario that provide primary healthcare services in interprofessional team-based care (187 FHTs, 75 CHCs, 25 NPLCs, and 10 AHACs).	25 percent
Prince Edward Island	Patient's Medical Home (PMH)	Patient medical homes have formed at 10 Island primary care locations.	N/A
Quebec	Three types of team-based care clinics: Groupe de médecine de famille (GMF), Groupe de médecine de famille universitaire (GMF-U; family medicine teaching unit), and Groupe de médecine de famille – réseau (GMF-R)	As of August 2022, there are 362 GMF, 39 GMF-U, and 51 GMF-R team-based clinics in Quebec.	Over 45 percent

Table D1: Continued

Saskatchewan	Health Networks	Following a recommendation by the Saskatchewan Advisory Panel in 2016, the Government of Saskatchewan decided to develop team-based primary healthcare in Saskatchewan in the form of Health Networks.	N/A

Source: Author's compilation from government websites and news articles.

Appendix E: Progress in Enhancing Primary Care by Province Since 2022

Table E:

	Increasing the supply of family physicians	Reducing administrative tasks	Expanding the scope of practice of other primary care providers	Alternate compensation models	Expanding Team-based care
Alberta		The government is spending $57 million over three years to help family doctors and nurse practitioners with administrative support so they can see more patients, with each provider eligible for up to $10,000 annually. Ensuring doctors get paid if patients can't prove insurance coverage ("good faith" claims), reducing administrative burden.		$40 million to support primary care networks (PCNs) under the latest compensation deal with doctors. Introducing a payment system that will support nurse practitioners to open their own clinics, take on patients and offer services based on their scope of practice, training and expertise. One-time funding of $200 million over two years to stabilize primary health care, with approximately 3,000 family doctors eligible to receive transition funding of $24,000 to $40,000, depending on their patient panel size. Introducing a new physician compensation model to encourage family physicians and rural generalists to take comprehensive primary care, including features such as providing a certain number of service hours, providing most services in-person rather than virtually, and committing to join the Central Patient Attachment Registry.	$27 million to PCNs to provide for an expected increase of patients attached to a primary care provider.

Table E: Continued

	Increasing the supply of family physicians	Reducing administrative tasks	Expanding the scope of practice of other primary care providers	Alternate compensation models	Expanding Team-based care
British Columbia	Adding forty new undergraduate medical education seats and up to 88 new residency seats at the University of British Columbia's faculty of medicine, starting from 2023. The Province is expanding the Practice Ready Assessment program, tripling from 32 seats to 96 seats by March 2024.	A new provincial rostering registry for individual family doctors and nurse practitioners to manage their patient panel information and identify when they can accept new patients. Through the new physician master agreement, the Ministry of Health and Doctors of BC are establishing a working group to reduce administrative burden on family physicians.	Beginning Oct. 14, 2022, pharmacists will adapt and renew prescriptions for a wider range of drugs and conditions, and they will be able to administer, further to a prescription, a wider range of drugs by injection or intranasally. The province is also working toward extending the valid period of prescriptions to two years, which is anticipated to be in effect on the same date. Starting June 1, 2023, pharmacists can prescribe for 21 minor ailments and contraception.	In June 2022, a new-to-practice incentive program for family physician signing the contract (up to $450,000 for the first year). Stabilization funding of $118 million to support family doctors with overhead costs, from Oct. 1, 2022, to Jan. 31, 2023. The new payment model, starting February 1 2023, includes three elements: • the number of patients a physician sees in a day; • the size and complexity of the physician's patient panel; and • the time a physician spends providing direct clinical care, indirect clinical care (such as reviewing lab results or co-ordinating specialist referrals); and on clinical administrative tasks (such as maintaining an accurate and up-to-date list of patients on an electronic medical record).	Opening of several primary care centers throughout the province (including a new family health clinic led by nurse practitioners in Oceanside, a new primary care centre in Chilliwack, a new integrated health-care centre offering team-based services in Sooke, and eight new urgent and primary care centres). There are 32 UPCCs operating in the province.* A new primary-care network will be established in North Okanagan and Shuswap. There are 77 primary-care networks currently underway in the province.

* Twenty-six Urgent and Primary Care Centres were created to act as a team-based care hub to provide same-day care for urgent but non-life-threatening conditions for those unable to see a family doctor. These Centres are an alternative to emergency departments because they offer extended hours, including evenings and weekends (GPSC 2017).

Table E: Continued

	Increasing the supply of family physicians	Reducing administrative tasks	Expanding the scope of practice of other primary care providers	Alternate compensation models	Expanding Team-based care
Manitoba	Funding for 40 new undergraduate physician training seats, a 10-seat increase in the one-year international medical graduate program and 30 seats in the two-year postgraduate medical education program for internationally educated medical students.	Established a joint task force, focusing on reducing administrative burdens on physicians.		As of Feb 1, 2023, doctors who extend patient hours at family and pediatric clinics are eligible for a 20 percent premium on extended billing hours.	$17.6-million to open two new Minor Injury and Illness Clinics and to establish the first of five primary care clinics that will follow a team-based model of care with expanded hours.
New Brunswick**	$2.3 million to support medical residency training positions.		$6.4 million to expand pharmacist assessment and prescribing services. New Brunswick pharmacists are now able to assess and prescribe for 12 common ailments on October 3rd. A nurse practitioner clinic officially opened on May 25, 2022, in Keswick.	$8.5 million to address the increase in volume of services for fee-for-service physicians.	The new NB Health Link program was launched, connecting people who are on the Patient Connect NB list to a network of family doctors and nurse practitioners through in-person, telephone and online appointments. The program has expanded in January 2023 to connect more people with primary care and expanded to Zone 2 and 6 on September 11th, making the program province-wide (32,107 people have registered and are receiving services). $10.4 million for primary health-care transformation, including increasing the number of doctors that are working in teams. The province is considering using collaborative care practices to address primary care professional shortages. 2 new Vitalité primary-care teams have been created, six teams was prepared, and about 20 more teams are in the works.

** A total funding of $39.2 million will support improved access to primary healthcare in New Brunswick.

Table E: Continued

	Increasing the supply of family physicians	Reducing administrative tasks	Expanding the scope of practice of other primary care providers	Alternate compensation models	Expanding Team-based care
Newfoundland and Labrador	27 permanent physicians recruited between September 2022 and March 2023 and another 25 recruited between April and July 2023. A one-year pilot program to help entice retired family physicians to come back to the workforce. Adding five seats to Memorial University's Undergraduate Medical Education Program for students from the province, and five seats in the Family Medicine Residency Program for International Medical Graduates at the Faculty of Medicine.			The New Family Physician Income Guarantee initiative guarantees a minimum income equivalent to that of a salaried family physician to new family doctors who bill on a fee for service basis and open a family practice clinic – or join an established clinic – for the first two years of their practice. The Family Practice Start-Up Program provides $100,000 to new family practice physicians who open a family practice clinic, or join an existing family practice in the community, and stay in the practice for five years; the funding increased to $150,000 on August 31, 2023. Family physicians are eligible for a $25,000 recognition and retention bonus (pro-rated) for a one-year return-in-service agreement.	Opening of two new Collaborative Team Clinics in the metro area. There are 19 Family Care teams in various stages of implementation throughout the province (with a few already accepting patients). Two mobile clinics will be launched later this year, with additional mobile clinics to be launched in 2024 to increase primary care access. Budget 2024 includes $30 million to hire additional health care providers for existing teams and to create new teams.

Table E: Continued

	Increasing the supply of family physicians	Reducing administrative tasks	Expanding the scope of practice of other primary care providers	Alternate compensation models	Expanding Team-based care
Nova Scotia	Creating a new designated pathway to residency for 10 international medical graduates with ties to Nova Scotia who want to practise there. $1.7 million to add 10 physician assistants to collaborative primary care sites across the province. $900,000 more to continue supporting the 16 additional medical school seats at Dalhousie University, for a total of 80.	The *Patient Access to Care Act* includes measures to reduce paperwork, allowing healthcare professionals to focus more on patient care and support healthcare recruitment and retention efforts in Nova Scotia. Reducing physician red tape by 10% roughly 50,000 hours by 2024.	The Community Pharmacy Primary Care Clinics program will be piloted in 12 pharmacies across Nova Scotia, starting February 1, 2023. The pharmacies under this pilot will receive additional funding for providing added care, including assessing and prescribing for 31 minor ailments such as minor joint and muscle pains, eczema, cold sores and heartburn. To date, there are 25 Community Pharmacy Primary Care Clinics across the province and six Pharmacist Walk-in Clinics+ at Lawtons Drug Stores	A $6.3-million investment to help new graduates and new doctors to the province establish practices, starting at Dalhousie family medicine clinics. Offers doctors a $10,000 incentive to accept at least 50 new "higher needs" patients from the provincial registry of people seeking a primary care provider. The new physician funding agreements provide a new payment model option for family physicians that will increase their compensation based on the hours worked, the services they provide and the number of patients in their practices. Family physicians compensated through fee for service will be eligible for a grant and will receive an annual payment based on their number of patients. Family physicians and specialists who want to establish full-time practices in the Central Zone can earn up to $75,000 in incentives – $25,000 when they sign the agreement and $10,000 per year for the next five years.	A new mobile primary healthcare clinic was launched; it travels to communities across the province, providing care to an average of 75-100 people per weekend. A range of initiatives to help improve people's access to primary care: • expanded team-based care at new locations and strengthen existing locations • provide more support to inter-professional primary care teams to optimize scope of practice and reduce administrative burden and time away from patients • increased access to same-day/next-day primary care appointments • expand other access options, including mobile primary care, community pharmacy locations, pharmacist walk-in clinics and virtual care Invest $17 million in 60 new and strengthened clinics, including collaborative family practice teams, primary care clinics, after-hours clinics, urgent care centres and urgent treatment centres. Eight new collaborative family practice teams will be added.

Table E: Continued

	Increasing the supply of family physicians	Reducing administrative tasks	Expanding the scope of practice of other primary care providers	Alternate compensation models	Expanding Team-based care
Ontario	Investing $33 million over three years to add 100 undergraduate seats beginning in 2023, as well as 154 postgraduate medical training seats to prioritize Ontario residents trained at home and abroad beginning in 2024 and going forward. $4.3 million to help at least 50 internationally trained physicians get licensed in Ontario. The Practice Ready Ontario program reopened and will add more than 50 new physicians to the province's workforce by 2024. $90 million to add over 400 new primary care providers as part of 78 new and expanded interprofessional primary care teams. Establishing the first medical school in Canada that is primarily focused on training family doctors at York University.	Expanding an innovative program to more than 150 primary care providers that safely uses artificial intelligence to automatically summarise or transcribe conversations with patients who consent into electronic medical notes. Working with the Ontario Medical Association to streamline and simplify 12 key government medical forms to minimize any duplication, and identify opportunities for digital solutions.	As of January 1, 2023, pharmacists are able to prescribe medications for 13 common ailments to people across Ontario at no extra cost. Starting October 1, 2023, pharmacists are able to treat and prescribe medications for an additional six common ailments.	The new Physician Services Agreement plans to bring in a complexity modifier to capitation payment based on CIHI's Population Grouping Methodology, providing a primary care physician with payment based on anticipated care needs. Provide $20 million to all existing interprofessional primary care teams to help them meet increased operational costs for their facilities and supplies.	Created a new Ontario Health Team in Windsor-Essex; three new Ontario Health Teams were approved in Northern Ontario. Investment of $30 million to expand the existing family health organizations by 18, adding up to 1,200 physicians in this model over the next two years. A new Urgent Care Clinic, staffed by nurse practitioners, was Open in Minden Hills. Investing $110 million to connect more than 300,000 people to primary care teams, with $90 million helping add 400 new providers to 78 new and expanded primary care teams across the province.

Table E: Continued

	Increasing the supply of family physicians	Reducing administrative tasks	Expanding the scope of practice of other primary care providers	Alternate compensation models	Expanding Team-based care
Prince Edward Island	Associate Physicians (APs) and Physician Assistants (PAs) are allowed to be licensed and practice in Prince Edward Island, providing more support to physicians and helping to improve access to care for Islanders. In 2024, $7.1 million to add two additional family residency seats on PEI, as well as add new physicians and the necessary supports required to help them provide care to Islanders.		On October 18th, 2022, the Government of Prince Edward Island launched the Pharmacy Plus PEI program in 48 locations across the province, providing Islanders the ability to visit their community pharmacies for 32 common ailments and prescription renewals, free of charge. On April 12, 2024, Pharmacy Plus PEI is available at 49 pharmacies in 16 communities across the Island.		Opening of two clinics for patients who don't have a primary care provider and cannot see a health care provider through virtual care because they require an in-person appointment; On April 1, 2022, patient medical homes have been formed at five Island primary care locations, beginning the shift in primary health care from solo family practices to collaborative health care and better access to care for Islanders. By April 24, 2023, 10 Patient Medical Homes are in various stages of development. Through the federal funding, PEI has a 3-year action plan to improve its health system, including building 16v new Patient Medical Homes and establishing a network of team-based health providers and services across the province through Patient Medical Neighbourhoods.
Quebec			$395 million over five years to open 23 new front-line-access clinics and add specialized nurse practitioners and other front-line professionals. The opening of six specialized nurse practitioner clinics, allowing for the effective management of common, acute or chronic health problems.		Primary Care Access Point was launched, an online and phone service aiming to go further than the traditional 811 phone service by allowing people to speak with a nurse, get their symptoms assessed and, if necessary, book an appointment with a general practitioner.

Table E: Continued

	Increasing the supply of family physicians	Reducing administrative tasks	Expanding the scope of practice of other primary care providers	Alternate compensation models	Expanding Team-based care
Saskatchewan	Over $5.8 million will be directed to the College of Medicine for new academic and research positions, new specialty residency seats and new family medicine seats, among other key HHR investments; $4.3 million for the Saskatchewan International Physician Practice Assessment program, and $1.8 million for the Rural Physician Incentive Program to support primary health care teams and hospitals. Introduced on March 30, 2023, the *Medical Profession Amendment Act*, will allow Physician Assistants to be licensed to practice in the province; $1.3 million in the 2023-24 Budget will be used to create 12 Physician Assistant positions across the healthcare system.		The Government of Saskatchewan is expanding the scope of practice for pharmacists and nurse practitioners. Pharmacists: • Independently prescribe; • Order lab tests and conduct point of care testing, such as drawing a small blood sample, to advise patients on medication to better manage diabetes or cholesterol. Nurse Practitioners: • Extended privileges for admission and discharge of patients in some hospital areas. • Conduct initial examinations of new long-term care (LTC) residents, be responsible for ongoing medical care and treatment for residents, emergency care and sign death certificates for residents in LTC. A Primary Health Center (staffed by 3 NPs) was open in Warman. Pharmacy Care Pilot Project Launches in Swift Current. Under the agreement, patients of two family physicians and a psychiatrist will be able to seek care from this pharmacy. Pharmacists across the province can provide medication management services, prescription renewals, vaccinations, travel health consultations, and assessments for more than 20 minor ailments. Working to pilot a new model for independently operated, publicly funded Nurse Practitioner clinics. To improve access to primary health care in rural, regional, and northern communities, 25 new Nurse Practitioner positions will be created over the next year under the SHA, including in SHA clinics and as part of primary health care teams.	The government agreed to increase compensation for family doctors offering after-hours care, at a rate of 8 to $12 per visit for fee-for-service family physicians. Under the new four-year contract with physicians, a new investment of more than $50 million in annual funding is expected to introduce a new primary care payment model for family physicians that unifies existing volume-based pay with a new capitation payment (based on patient contacts and panel size), allowing more time to deal with complex patient issues and an increased focus on preventive care.	Under the new four-year contract with physicians, introduced an innovation fund of up to $10 million annually over the duration of the agreement, that will increase the amount of team-based care in primary health care settings, resulting in health care providers working to the top of their scope and improving access to primary care in the province.

Note: The table focuses on initiatives specific to primary care and recent actions taken after 2022. Information was collected from the provincial government websites and local news, as of April 25, 2024.