Our role in making the Canadian health care system one of the world's best

How family medicine and primary care can transform—and bring the rest of the system with us

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Before considering the problems and potential solutions facing Canadian primary care and the Canadian health care system, it is important to consider our values and the health system we aspire to have. The Quintuple Aim[1,2] and the Patient's Medical Home[3] are relevant frameworks, identifying key goals and functions of health care systems and primary care. Of note in the Quintuple Aim, *care team well-being* and *advancing health equity* are the more recent additions to the Institute for Healthcare Improvement's original Triple Aim,[4] and they are among the most important issues facing health care today, with record levels of provider stress and burnout and pervasive racism and colonialism in health care requiring urgent attention. The foundations of the Patient's Medical Home include appropriate infrastructure, connected care, and administration and funding, all of which are weak and underdeveloped in much of Canadian primary care. If primary care is the foundation of the health care system, and the foundation of the foundation is shaky, then we can expect ongoing challenges that permeate the system and leave it vulnerable.

If Canadian health care aspires to be among the world's best systems, as I believe it should, everyone needs to have a confirmed personal relationship over time with a family doctor or other primary care provider. Since no single provider can be available 24 hours a day, 7 days a week, or address the full breadth of patient and community needs themselves, access to an interprofessional team is essential. In contrast to these goals, the current system leaves close to 5 million Canadians without a medical home,[5] forcing them to use walk-in clinics, access emergency departments (EDs), or forgo needed care. There is incomplete and limited support for team-based models of care within a system that is hospital- and physician-centric, stemming from universal coverage of only hospital and physician services historically and as legislated in the Canada Health Act.[6] Most family doctors and general practitioners in Canada are independent small business owners, fully responsible themselves for all the staffing and infrastructure required for primary care, in contrast to extensive staff and infrastructure resources provided by the public system in hospitals. In many ways, primary care physicians are left out of the health care system, with little system input or accountability for the types of services they provide, where they locate their practices, or their hours of operation. Across Ontario, Canada's most populous province, regional health system leaders lack even up-to-date contact information for primary care clinics and clinicians.[7] It is hard to avoid the conclusion that most primary care providers are currently left out of and unsupported by the health care system.

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Current context

The current national context is one of severe ongoing challenges facing the health care system and primary care. The COVID-19 pandemic has exacerbated longstanding structural challenges in health care, with crises in long-term care, hospitals, and intensive care units and more recently in pediatric hospitals and EDs, with record levels of stress, burnout, and turnover among physicians, nurses, personal support workers, and many others.[8] Delays in cancer diagnosis and treatment, elective surgery, routine immunizations, and chronic disease management—along with pandemic-related isolation and impacts on mental health—require system responses that are challenging to mount in the current context. The system is further stressed by early waves of influenza, respiratory syncytial virus, and other respiratory viruses, as well as a worsening epidemic of opioid-related overdoses and deaths.

Pre-existing structural issues include fewer physicians, hospital beds, and advanced imaging scans per capita as well as a lower proportion of health care spending on primary care than most Organisation for Economic Co-operation and Development (OECD) member countries.[9] An additional challenge in attempting to understand work force capacity in our country is that Canada—unlike other OECD countries that count only active comprehensive care providers as primary care physicians—counts all "nonspecialist" physicians as primary care doctors, including roughly 30% of this total who are relatively inactive or in focused practices such as emergency medicine, hospitalist care, and palliative care.[10]

Additional challenges to primary care include reduced capacity as many family doctors near retirement age; declining interest in family medicine among medical students, with close to 100 unfilled funded residency spots

across the country after the second iteration of the 2022 Canadian Resident Matching Service match[11]; the highest projected population growth among Group of 7 countries[12]; and rapid population aging along with increasing system complexity and rates of multimorbidity.

Paradoxically, increasing the number of family physicians per capita has not translated to an increase in capacity to care for the population. As already noted, almost one-third of family doctors are not working in comprehensive care,[10] and this trend is worsening over time. Less well documented until now is a steep decline in services provided per physician over the past 20 years. The number of contacts per physician is down 20% to 24% in 4 Canadian provinces[13] and the number of service days, defined as days with at least 10 services worth at least $20 to $25 each, has declined by 7% to 10% in Alberta and Ontario (unpublished data). While there has been a substantial increase in the number of female family physicians, and female family physicians are more likely to work part-time during their early career owing to childbearing and family obligations, the decline in services over time has included both female and male physicians as well as early-, mid-, and late-career physicians (unpublished data). Substantial increases in patient multimorbidity and system complexity likely underpin these changes.

How serious is the primary care work force shortage?

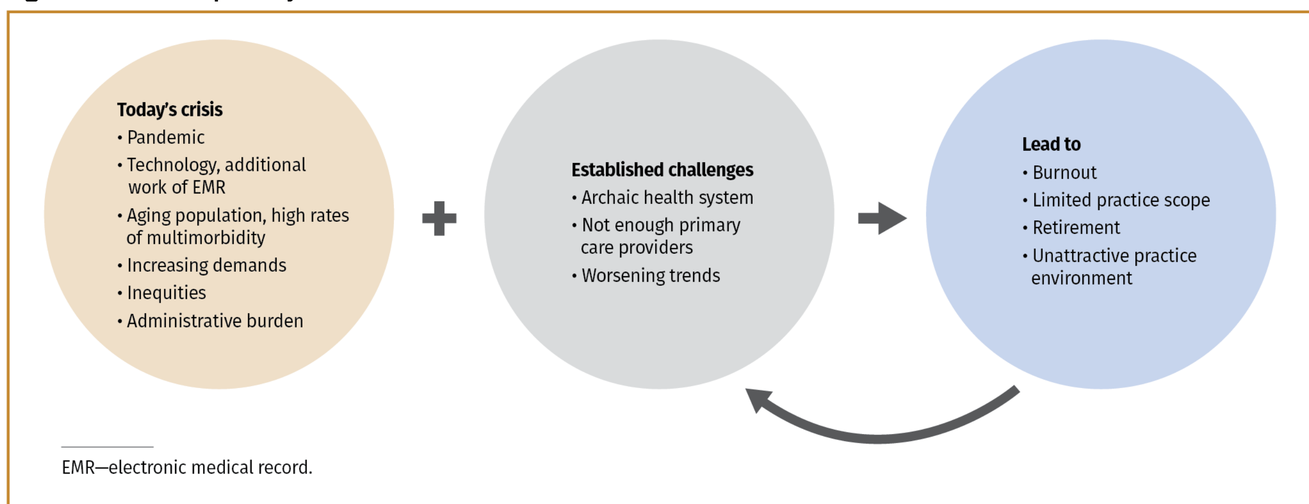
Evidence gaps related to part-time versus full-time practice; roles and scopes of practice; office staffing and overhead; time spent with patients; impact of electronic records and record keeping; and time required for care coordination, administration, and paperwork comprise serious challenges for primary care work force planning. Nonetheless, some educated guesses can be made. In 2019 a total of 4.6 million Canadians over the age of 12 years lacked a primary care provider[5] and roughly 6.6 million Canadians were attached to family doctors who were 65 or older,[14] with an average primary care physician retirement age of 70.[15] Immigration targets will exceed 450,000 people per year by 2025,[16] and Canada is expected to have a net population growth of at least 2 million people over the next 5 years.[17] As a rough estimate, close to 10 million Canadians will need primary care providers in the next 5 years and there are currently only about 1200 family medicine residents exiting training per year.[18] If a full-time comprehensive practice can provide care for about 1400 people, and 70% of new graduates are in comprehensive practice and 30% work part-time, at least 10,000 new family doctors will be needed in 5 years, a goal that is unattainable in the current system.

In summary, Canadian primary care is in crisis, with an archaic health care system, not enough primary care providers, and worsening trends resulting in a vicious cycle of unreasonable demands, burnout, and providers leaving practice or reducing scope, all resulting in further demands on the system and an unattractive practice environment for new graduates (**Figure 1**).

What are options for transformation?

With so many structural and systemic barriers to change and worsening trends, it is challenging to know where to start. Recent work[19] has highlighted the needs and preferences of family medicine residents and early-career family physicians, which may serve as a promising starting point for system redesign aimed at recruitment and retention of family medicine physicians. As it happens, those directions also help advance other aspects of the Quintuple Aim[1] and the Patient's Medical Home.[3] Factors shaping practice intentions and choices include opportunities to deliver comprehensive care in team-based models (consistent with how they trained); alternatives to fee-for-service remuneration, with fair compensation; the ability to take time off, with coverage

Figure 1. Canadian primary care crisis



EMR—electronic medical record.

for patients; the ability to focus on medicine, rather than running a business; and fulfilling work that responds to community needs.[19]

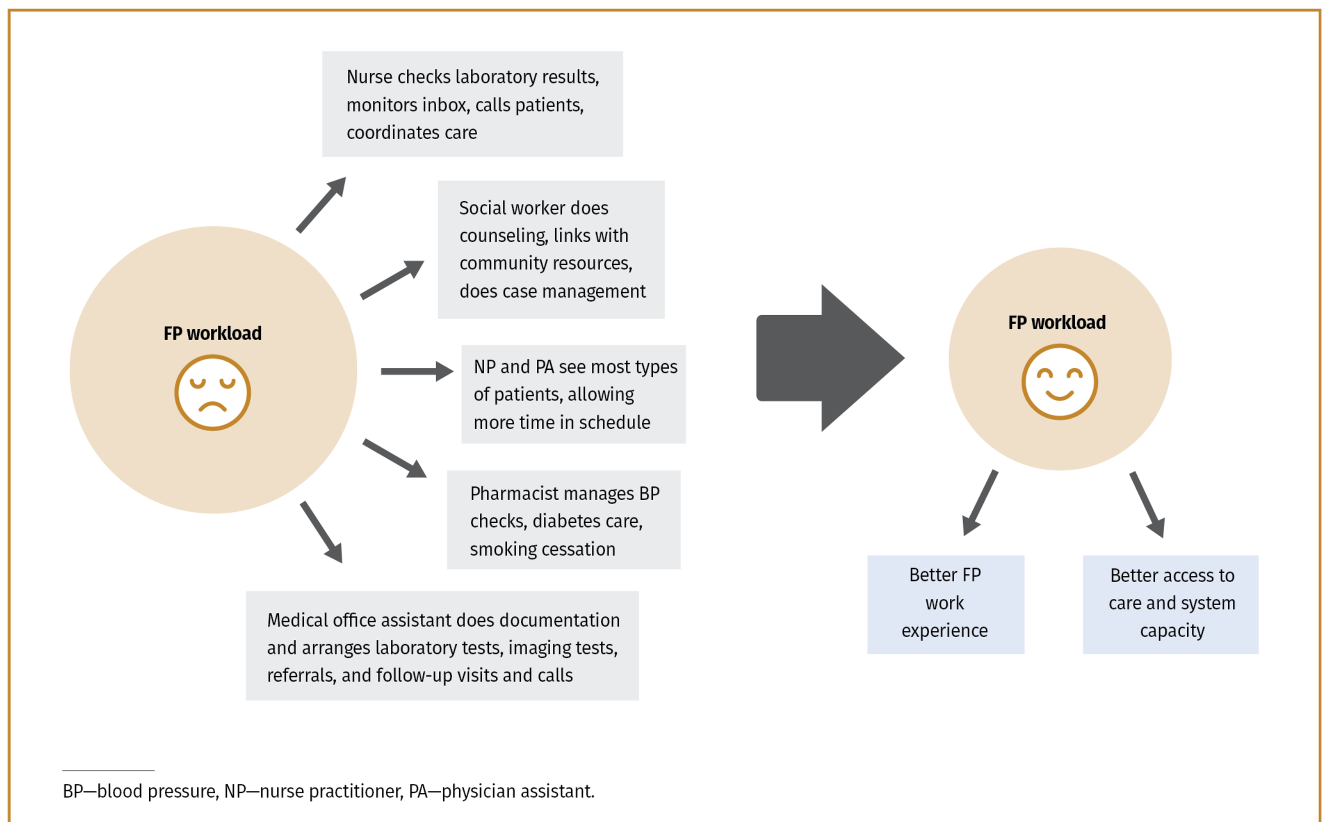
Team-based care

While interprofessional teams are common in academic family practice settings and are a core element of the Patient's Medical Home,[3] they compose a small fraction of Canada's primary care practices. The role and purpose of team-based care can include increasing access to care and capacity, reducing physician workload, improving provider work-life balance, improving quality of care, filling gaps in care (especially mental health and chronic disease management), meeting the breadth of patient and community needs, and creating a supportive and appealing workplace for a variety of health professionals and related staff. **Figure 2** shows an example of how a team of health professionals and related staff can help to reduce family physician workload, provide a better work experience, and improve access and capacity.

It may be important to distinguish the contributions of health professionals such as nurses, nurse practitioners, physician assistants, pharmacists, and social workers from those of other office staff including clerical staff, scribes, information technology professionals, coordinators, patient navigators, and medical office assistants. Health professionals are often bound by narrow scopes of practice within primary care, even when their training and licensure allow them to do much more. For example, there is evidence that nurses can provide superior diabetes care and perform effectively as case managers for patients with complex needs, resulting in enhanced care, lower costs, and reduced clinician time.[20] Similarly, when diabetes care, hypertension, and other cardiovascular disease risks are managed by pharmacists, better outcomes and reduced clinician workload can be achieved.[21] However, in the past, wider scopes of practice for nurses, nurse practitioners, pharmacists, paramedics, and other professionals have been opposed by organized medicine, but following the evidence of better care and reduced workload means surmounting the historical barriers of exclusive physician turf if the current work force crisis is to be addressed effectively and the health needs of Canadians are to be met.

Reducing administrative burden is a promising approach for addressing burnout and reducing workload in primary care, and this has been endorsed by the College of Family Physicians of Canada, the Canadian Medical Association, and others.[22] Streamlining and simplifying work flows in electronic medical records; organizing referral systems (including e-consult, e-referral, and centralized intake and triage); and eliminating or harmonizing forms and letters required for referrals, insurance, government, employers, and benefit

Figure 2. Example of redistribution of tasks among a primary health care team to reduce physician workload



BP—blood pressure, NP—nurse practitioner, PA—physician assistant.

programs are all important approaches to reducing physician administrative workload. Effective use of nontraditional office staff (ie, scribes, medical office assistants, and advanced team care with in-room support) shows promise for major reductions in clerical and coordination work.[23] Many health care providers spend more time charting and coordinating care than seeing patients face to face, which points to important opportunities for expanded teams of health professionals and other office staff to greatly reduce the physician workload by having them take on tasks that they can manage, sometimes more effectively than physicians, thereby expanding access to care for patients and improving work-life balance for physicians.

If teams are imperative to moving Canadian health care to among the world's best, where will the needed providers come from to care for up to 10 million unattached Canadians in the next 5 years?

On the family physician side, expansion of medical schools, class sizes, and residency spots is under way across the country. Most provinces and territories are also supporting the rapid integration of internationally trained health professionals, including family physicians. Pan-Canadian licensure to ease movement of physicians and provision of virtual care to areas of greatest need is under serious discussion. These efforts are important, but they alone are unlikely to be adequate in the face of low demand for family medicine training, the 6-year minimum duration of training for a family physician after a bachelor's degree, and the scale of need for primary care across the country. Canada has more than 300,000 registered nurses,[24] many of whom have left the profession or are considering doing so in the near future owing to pandemic-related stress and workloads; therefore, attracting nurses into primary care is a major opportunity to grow the interprofessional team. Canada has relatively few nurse practitioners (7400)[24] and even fewer physician assistants (800),[25] but both groups require 2 years of training (nurse practitioners after becoming registered nurses and physician assistants after at least 2 years of university) and both can provide a wide array of primary care services, potentially extending or adding care for up to an additional 800 patients each.[26] Medical office assistants could come from a variety of disciplines and backgrounds, and this could provide clinical experience for internationally trained professionals while they work to advance their credentials and technical language skills. Finally, there are large numbers of psychologists, social workers, pharmacists, physiotherapists, and managers in the private sector, some of whom may be attracted to welcoming and supportive interprofessional primary care teams.

One of the most substantial barriers to system transformation is concern among policy makers about additional costs. The costs of a primary care provider and access to team-based care for every Canadian have not been adequately scoped, and rough estimates vary widely. However, for example, a cost of $100 per Canadian ($3.82 billion in total) would allow a typical group of 10 full-time comprehensive family doctors with a group patient panel of 14,000 people to use an annual budget of $1.4 million to hire and support up to 10 additional health professionals. Assuming those professionals were to include at least 3 or 4 nurse practitioners or physician assistants, as well as nurses, medical office assistants, and staff from other disciplines, such as social work, pharmacy, psychology, and physiotherapy, the practice could potentially take on up to 25% more patients. This assumption depends on medical office assistants providing substantial relief to the administrative burdens of clinicians and substantial task shifting to interprofessional team members who would manage many patients semi-independently with appropriate coordination and communication with the most responsible provider. Although this magnitude of funding is substantial, it represents less than 2% of expected public sector Canadian health care spending in 2022.[27]

Alternative payment models

Although there have been substantial shifts over time toward alternative payment mechanisms, most family physicians and other doctors in Canada are paid through fee-for-service models.[28] Many physicians are comfortable with this mechanism because it is transparent, with reimbursement responding to changes in the number and type of visits, and some policy makers appreciate the incentive in this model to maintain high visit levels. Arguably, fee-for-service models may have been appropriate in an earlier era when most of the population was young, extensive comorbidities were less common, and the health system was much less complex to navigate. Today, a family doctor is often called on to coordinate care provided by multiple specialists, review and renew many medications, deal with new physical or mental health challenges, and navigate multiple forms and accounts on disconnected electronic systems, all within a single appointment. If that appointment is paid under fee-for-service, it typically is geared to a 10- to 15-minute encounter, something that is clearly not feasible for many patients with complex needs. Task-shifting to team members can be hampered in fee-for-service because the physician receives no payment if they do not personally see the patient. Fee-for-service also sets up a transactional relationship with the health system, typically involving little or no accountability for quality of care, resource stewardship, or meeting population needs. Alternatives to fee-for-service include capitation, salary, bonuses and incentives, session-based payments, bundled payments with others in the health system, and blended models that may include several of these elements and may also adjust payments according to patient medical and social complexity. Alternative payment systems have

been associated with greater financial and work satisfaction and with stable, predictable income.[29] They typically require defined patient panels for reimbursement, which enhances capacity for population management and work force planning. Blended payment systems that include capitation incentivize task shifting, as physician reimbursement is tied to enrolling more patients, not seeing them more often. The College of Family Physicians of Canada has called for a shift to blended physician remuneration models given the shortcomings of fee-for-service models brought to light by the COVID-19 pandemic.[30]

How we are organized and practise

Recent experience in the COVID-19 pandemic drove home to many physicians how vulnerable their incomes and overhead were to system disruption as patient volumes plummeted and costs for personal protective equipment skyrocketed when the lockdown started in March 2020. The *grand bargain* of physician autonomy has historically been appealing to many physicians, but autonomy can also mean lack of system support for absorbing income and cost shocks; meeting the needs of complex patients; finding replacements for vacations, leaves, and retirement; adapting to information technology changes; and meeting community needs. Many recent graduates do not wish to run a business as well as practise medicine, and they wish to have support for reasonable work hours and time off. While there are many potential organizational models that could fulfil these needs, local payment or employment groups that look after practice management, information technology, and physician and team support could be appealing alternatives to solo and small group practices of today. These groups could be physician led or have shared leadership with the interprofessional team or local community; could contract with local, regional, provincial, and territorial health systems and authorities to support teams and meet community needs; and could have geographic catchment areas to ensure full population coverage. In return, family physicians and team members would assume expectations for after-hours coverage, population attachment, quality improvement, and team functioning to support added capacity. Many of these elements are already present in Canada's community health centres, Alberta's primary care networks, Ontario's family health teams, and Quebec's family medicine groups. The new organizational models envisioned would need to be voluntary, but under the right circumstances they could enjoy widespread support.

Innovate, learn, improve

The system solutions discussed in this paper rest on a firm foundation of evidence in some cases, such as the contributions of strong primary care to high functioning health systems. In other areas, such as the capacity to build large and strong teams that can look after all Canadians, the evidence is emerging, and the success of these innovations will depend on how they are implemented and adapted for diverse settings and populations. Canadian health care is composed of complex systems, so innovations can be expected to have both intended and unintended consequences. For those reasons, it will be essential to bring evidence syntheses to the development and choice of team and payment models and to evaluate them in real time so they can change and pivot for greatest impact and success. The Canadian primary care research community is well positioned to help lead these evaluative efforts. Data systems for monitoring and evaluating primary care with the Quintuple Aim[1] in mind are incomplete in Canada and require investment and attention. The development of data systems, robust evaluation, and use of evidence for constant evolution and improvement would contribute to the adoption of learning health care systems across Canada.[31]

Why primary care?

Ultimately, increased investment in primary care is essential for Canada to assume a position among the world's best health systems. These investments are needed to support powerful teams that add capacity, alternative payment systems, new organizational models, and the ability and culture to innovate, learn, and improve.

Health systems across the globe with strong primary care are associated with greater equity; lower mortality, premature mortality, and infant mortality; and fewer disparities in measures of health outcomes and health care use.[32,33] They are also associated with greater patient satisfaction in relation to overall costs.[34] Primary care is therefore best placed to advance and achieve the Quintuple Aim.

Today we see dire health system shortfalls everywhere, including in EDs and hospitals; with surgical backlogs, diagnostic delays, and late-stage presentation of disease; and in long-term care and home care. What is the rationale for prioritizing investment in primary care when so many other areas clearly need attention? To me, the answer is that primary care is the foundation of the health care system, and the foundation of primary care is weak and requires urgent attention if the rest of the health system is to thrive. For example, it is impossible to imagine a high-functioning cancer care system without millions of Canadians receiving timely and appropriate cancer screening, or a high-functioning cardiac system without widespread risk factor identification and treatment in the community. Many of today's pressure points, such as ED wait times and overcrowded hospitals, can be solved only by building greater community capacity. It is important to recognize that 66% of all daily contacts with the health system in Ontario are through family doctor visits, compared with 6% in EDs and 2% through hospital admissions (Ontario Medical Association, Department of Economics, Policy and Research, personal communication, December 2022).

Conclusion

The investments I have envisioned here are affordable for health care systems and will help ensure that everyone has a primary care provider and team and that care is coordinated and integrated; responds to community needs; reduces the load on the system; provides easier access to care; and fills care gaps such as those in mental health, management of chronic conditions, and prevention. For providers it holds the promise of improved wellness, reduced workloads, reduced administrative burdens, enhanced joy in practice, and a wide variety of practice resources and support. The net effect of these investments would replace the current vicious cycle of overwork, burnout, and leaving practice with a virtuous cycle of attracting and retaining comprehensive care providers, attracting health professional learners, and building enhanced community capacity to look after people closer to home and largely outside of institutions. These directions would help achieve the Quintuple Aim of greater equity, better patient experiences, improved population health, and better provider experiences, all at a reasonable cost and with the goal of a future that looks bright to our communities, patients, colleagues, and learners.

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Competing interests
None declared

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