

Primary Health Care in Canada: Systems in Motion

BRIAN HUTCHISON, JEAN-FREDERIC LEVESQUE,
ERIN STRUMPF, and NATALIE COYLE

McMaster University; University of Montreal; McGill University

Context: During the 1980s and 1990s, innovations in the organization, funding, and delivery of primary health care in Canada were at the periphery of the system rather than at its core. In the early 2000s, a new policy environment emerged.

Methods: This policy analysis examines primary health care reform efforts in Canada during the last decade, drawing on descriptive information from published and gray literature and from a series of semistructured interviews with informed observers of primary health care in Canada.

Findings: Primary health care in Canada has entered a period of potentially transformative change. Key initiatives include support for interprofessional primary health care teams, group practices and networks, patient enrollment with a primary care provider, financial incentives and blended-payment schemes, development of primary health care governance mechanisms, expansion of the primary health care provider pool, implementation of electronic medical records, and quality improvement training and support.

Conclusions: Canada's experience suggests that primary health care transformation can be achieved voluntarily in a pluralistic system of private health care delivery, given strong government and professional leadership working in concert.

Keywords: Primary health care, health care reform, health policy, physicians, family.

Address correspondence to: Brian Hutchison, 422 Mountsberg Road, RR#2, Campbellville ON, Canada L0P 1B0 (email: hutchb@mcmaster.ca).

The Milbank Quarterly, Vol. 89, No. 2, 2011 (pp. 256–288)
© 2011 Milbank Memorial Fund. Published by Wiley Periodicals Inc.

The Canadian Health System

CANADA HAS THIRTEEN PROVINCIAL AND TERRITORIAL HEALTH care systems that operate within a national legislative framework, the Canada Health Act (1984). The act defines the following standards to which provincial health insurance programs must conform in exchange for federal funding: universality (coverage of the whole population on uniform terms and conditions), portability of coverage among provinces, public administration, accessibility (first-dollar coverage for physician and hospital services), and comprehensiveness (defined as medically necessary health services provided by hospitals and physicians) (Marchildon 2005). In practice, medical necessity is broadly defined, covering the vast majority of physicians' services. But the extent of public coverage for pharmaceuticals, home care, long-term care, and the services of nonphysician providers such as chiropractors, optometrists, and physiotherapists varies across the provinces and territories. Other health care policies, ranging from waiting-time targets to the structure of primary care provision, also differ in each jurisdiction.

Most of health care in Canada is publicly financed but privately delivered. The Medical Care Act (1966), which, together with the Hospital and Diagnostic Services Act (1957), established the basis for Canada's universal, publicly financed health insurance system, known as Medicare, effectively enshrined private fee-for-service practice as the dominant mode of practice organization and physician payment in Canada (Naylor 1986). Physicians were brought into Medicare on terms that included the continuation of fee-for-service remuneration, clinical autonomy, and control over the location and organization of their medical practice. As Carolyn Tuohy observed, this founding bargain or accommodation between the medical profession and the state "made no changes in the existing structure of health care delivery [and] placed physicians at the heart of the decision-making system at all levels" (Tuohy 1999, 56). Indeed, federal and provincial policymakers have been hesitant to challenge this accommodation for fear of jeopardizing the medical profession's allegiance to Medicare. The leverage afforded to provinces and territories as the single payer for physicians' services has thus been mitigated by the need to negotiate, rather than impose, changes in physicians' payment systems and accountability arrangements.

Primary Health Care in Canada

By international standards, Canada has a low physician-to-population ratio.¹ But the general practitioner-to-population ratio is above the average for member countries of the Organization for Economic Cooperation and Development and is similar to that of the United States, though below that of several other high-income countries.² Family physicians comprise 51 percent of the physician workforce (Canadian Institute for Health Information 2010c). In 2007, 23 percent of family physicians reported being in a solo practice, while 74 percent said they were in a group or interprofessional practice (College of Family Physicians of Canada et al. 2007a). About half (48.3%) derive 90 percent or more of their professional income from fee-for-service payments; most of the remainder obtain their professional income through a mix of payment types (College of Family Physicians of Canada et al. 2007b).

Ninety-one percent of Canadians say they have a regular source of care, usually a family physician (Canadian Institute for Health Information 2009), although many report difficulty obtaining access to both primary and referred care (Blendon et al. 2002; Canadian Institute for Health Information 2009; Schoen et al. 2007, 2008, 2010). For example, 13 percent say they have difficulty obtaining access to routine or ongoing care (Canadian Institute for Health Information 2009), and 33 percent report that the last time they were sick or needed care, they had to wait six or more days for a doctor's appointment (Schoen et al. 2010). Although obtaining access may be arduous, 76 percent of Canadian adults rate the quality of care they receive from family physicians as excellent or very good (Canadian Institute for Health Information 2009).

Canadians are entitled to choose their own family physician, and because the Canada Health Act prohibits user charges for insured services, medically necessary physicians' services are free at the point of care. Although direct access to specialists is not prohibited, a family physician's referral to specialist care is the norm in Canada, and many provinces discourage direct access to specialists by paying lower fees for nonreferred consultations. The extent and type of arrangements for after-hours care vary regionally and, in traditional fee-for-service practices, are at the physician's discretion.

The Climate for Primary Health Care Reform

During the 1980s and 1990s, primary health care reform in Canada was characterized by false starts, myriad small-scale pilot and demonstration projects, futile advocacy of fundamental systemwide change, and failure to embrace the alternative strategy of progressive incremental change (Hutchison, Abelson, and Lavis 2001). In the 1990s, while contending with the fiscal fallout from the recession in the early part of the decade, the federal and provincial/territorial governments cut or limited health care spending, made only paltry investments in primary health care innovation, and failed to address the conspicuous lack of primary health care infrastructure in the areas of information technology, administration, staffing, and quality improvement. During this period, innovations in the organization, funding, and delivery of primary health care were at the periphery of the system rather than at its core, although some of those initiatives laid the groundwork for later advances.

While Canada's primary health care system was stagnating, many other countries were moving forward with systemic primary care reform. As a consequence, Canada began to lag behind other high-income countries on many primary care access and quality indicators. For example, in 2001, 41 percent of adult Canadians said they had difficulty getting care on nights and weekends (tied with the United States for the highest among the five countries surveyed), and 26 percent reported that access to care was worse than two years earlier (highest among the five countries) (Blendon et al. 2002). In a 2000 survey, Canadian family physicians were more concerned than those in the other countries surveyed about primary care quality (Australia, New Zealand, the United Kingdom, and the United States): 59 percent thought their ability to provide quality care had fallen in the past five years, and 61 percent were "very concerned" that their quality of care would decline in the future (Blendon et al. 2001). Despite the country's universal coverage, the years of constrained funding and inattention from policymakers had clearly taken a toll on Canadians' ability to obtain primary health care services.

In the early 2000s, a new policy environment emerged as policymakers in several provinces appeared to absorb the lessons of the past:

- Policy legacies and entrenched professional and public values limit the possibilities for radical, "big bang" reform.

- There is no single “right” model for the funding, organization, and delivery of primary health care. Different models have different strengths and weaknesses and may perform better or worse in different contexts and with different target populations. Most are capable of evolutionary development. Some models may be complementary.
- No single funding or payment method holds the key to transforming primary health care. Changing physicians’ payment methods may facilitate, but does not ensure, change in the organization and delivery of care. Conversely, organizational change and improved quality of care are possible through varied arrangements for remunerating physicians.
- Primary health care renewal demands major investments in system transformation and infrastructure (appropriate premises and staffing, information management systems, and tools and facilitation to support the coordination of care and the improvement of quality) (Hutchison 2008; Hutchison, Abelson, and Lavis 2001).

This article describes the context, extent, and main characteristics of primary health care reform in Canada during the past decade. We outline the dominant primary health care reform strategy, the goals for reform, the available policy levers, and the provincial/territorial primary health care policy initiatives that have been implemented since 2000 at either a system level or on a more limited scale to gain experience before extending them to the entire system. We then summarize the major achievements, describe interprovincial variations in policy innovation, and identify key reform challenges. Finally, we consider the transformative potential of the reform strategies that have been adopted in relation to the goals for primary health care identified by Canadian and international policymakers.

Methods

Our policy analysis draws on descriptive information from published and gray literature, government and government agency websites, and a series of semistructured interviews with informed observers of primary health care in Canada. We conducted interviews with informants from only those provinces and territories for which we lacked sufficient

information from other sources to accurately portray their reform initiatives and policy environment: Nova Scotia, New Brunswick, Newfoundland and Labrador, Northwest Territories, Manitoba, and Alberta. We selected as informants individuals who had a detailed knowledge of past and current reforms in their respective jurisdictions and were not affiliated with either the provincial/territorial government or the provider associations.

We initially contacted these prospective informants via email, explaining the research project and goals of the interview and requesting an appointment. The interviewers made at least four attempts to reach each prospective participant. They used a script that we developed for one-on-one, semistructured telephone interviews that asked four questions about the historical background and current climate, four questions about the general approach to reform and key policy levers, and two concluding questions about the changes in the policy environment over time and lessons learned. The interviewers obtained verbal consent from the participants to audiotape all interviews. The interviews were completed with five informants between September 2009 and October 2009. One informant provided information about two provinces.

In this article, we use *primary health care* as an inclusive term covering a spectrum of activities from first-contact episodic care to person-centered and comprehensive care sustained over time. The term may include population-based approaches (as in community health centers) to health promotion, community development, and the social determinants of health, although most primary health care in Canada is provided by physicians working in a family practice model of care.

Results

A New Policy Environment

Beginning in the late 1990s, Canada's improved fiscal climate and higher federal health care funding (some earmarked for primary health care) made investments in primary health care easier for provincial governments to contemplate. In 2000, in keeping with the recommendations of various federal and provincial reports, the First Ministers (the prime minister of Canada and the provincial and territorial premiers) established the \$800 million Primary Health Care Transition Fund to accelerate

primary health care reform. The fund was used to support pilot and demonstration projects, as well as research at the provincial/territorial and national levels.

The 2003 First Ministers Health Accord included a \$16 billion federal investment in the Health Reform Fund, which was targeted to primary health care, home care, and catastrophic drug coverage. At their September 16, 2004 meeting on the future of health care, the First Ministers established a goal of 50 percent of Canadians having 24/7 access to multidisciplinary primary health care teams by 2011, and they agreed to “accelerate the development and implementation of the electronic health record.” The primary care reform agenda was given further impetus by the findings and recommendations of two national reviews of health care (Commission on the Future of Health Care in Canada 2002; Senate Standing Committee on Social Affairs, Science and Technology 2002), the growing political and public concern about health care access and quality, the mounting dissatisfaction among family physicians with their working conditions and their ability to provide high-quality care (e.g., Blendon et al. 2001; Cohen et al. 2001; Commonwealth Fund 2000; Woodward et al. 2001), and medical school graduates’ declining interest in family medicine (Canadian Institute for Health Information 2001). These concerns were both fueled and reflected by the media, with particular attention to emergency room “overcrowding,” which was increasingly attributed to patients’ having difficulty accessing family physicians. In this climate, organized medicine in several provinces—having previously adopted a cautious, if not hostile, attitude toward primary health care reform—began to negotiate the nature and terms of that reform in the early 2000s.

Reform Strategy

Because of Canada’s formidable policy legacy of physicians’ autonomy and self-management, its provincial and territorial governments, without exception, adopted a voluntary approach to physicians’ engagement in incremental reform. In those jurisdictions where primary health care transformation has been the most far-reaching (Ontario, Alberta, British Columbia, and Quebec), major initiatives have been negotiated with the provincial medical association that serves as the physicians’ bargaining agent. Key policy innovations have often been embedded in a formal

agreement between the medical association and the government or health ministry. Most of the evolving provincial/territorial primary health care systems encompass a diversity of funding, physicians' payments, and organizational models.

Goals and Objectives for Primary Health Care

Although the goals and objectives of the provinces and territories for primary health care and its reform differ, they do contain recurring themes: improved access to primary care services; better coordination and integration of care; expansion of team-based approaches to clinical care; improved quality/appropriateness of care, with a focus on prevention and the management of chronic and complex illness; greater emphasis on patient engagement/self-management and self-care; and the implementation and use of electronic medical records and information management systems. Less consistently identified objectives include better experiences for patients and providers, delivery of a defined set of services to a specific population, adoption of a population-based approach to planning and delivering care, community/public participation in governance and decision making, building capacity for quality improvement, responsiveness to patients' and communities' needs, greater health equity, and health system accountability, efficiency, and sustainability. These objectives of Canadian primary health care reform mirror the Institute of Medicine's six goals for improvement: safety, effectiveness, efficiency, person centeredness, timeliness, and equity (Institute of Medicine 2001), with a heavy emphasis on timeliness and effectiveness and on cost control rather than efficiency.

Policy Levers

Provincial and territorial governments are the principal funders of primary health care services, which also is their most potent policy lever. Desired innovations in the organization and delivery of care are often linked with the provision of funding or resources that enhance primary care providers' (especially physicians') income, quality of working life, or professional satisfaction. Other policy levers are contractual agreements with providers; funding of health professional training programs that determine the number and types of health human resources available to

provide primary health care; development or modification of governance structures; and regulation and legislation. The last tend to be only rarely used to advance primary health care reform, except in relation to the scope of practice of regulated primary health care professionals.

Key Initiatives

We identified several primary health care reform initiatives that have been implemented broadly in one or more jurisdictions to advance the policy objectives just summarized. These include interprofessional primary health care teams, group practices and networks, patient enrollment with a primary care provider, financial incentives and blended-payment schemes, primary health care governance, expansion of the primary health care provider pool, implementation of electronic medical records, and quality improvement training and support.

Interprofessional Primary Health Care Teams. Although interprofessional primary health care teams are being introduced across the country, only a few provinces—Alberta, Quebec, and Ontario—have made substantial progress toward the First Ministers’ goal of giving 50 percent of Canadians access to multidisciplinary primary health care teams by 2011.

In Alberta, three-quarters of the province’s family physicians participate in Primary Care Networks, which were introduced in 2005 through an agreement by the Alberta Medical Association, the provincial health ministry, and Alberta’s regional health authorities. Primary Care Networks are run by physicians and may have a single or, more often, multiple sites. The Primary Care Network model allows for wide local variation in the organization and delivery of services. As of January 2011, there were thirty-nine Primary Care Networks, with 3 to 273 physicians, averaging 58 physicians per network as well as other health professionals, which may include nurses, dietitians, social workers, mental health workers, and pharmacists. Given the networks’ large size and organizational diversity, the extent to which care is delivered by teams at the practice level is highly variable. In an evaluation of the effectiveness of ten Primary Care Network teams using the Team Effectiveness Tool (TET), eight teams had mean scores in the range indicating “no significant concerns,” one of which had a mean score in the “effective team” range (Drew, Jones, and Norton 2010; Saskatchewan

Health 2002). Low scores on the “team partnership” subscale pointed to that dimension of team effectiveness as an area of weakness (Drew, Jones, and Norton 2010).

In Quebec, 219 Family Medicine Groups (Groupes de médecine de famille), involving 3,177 family physicians (37% of the province’s family medicine workforce), have been established since 2002. The Ministry of Health and Social Services hopes to accredit 300 groups, which are expected to cover 75 percent of Quebec’s population. Family Medicine Groups consist of six to ten physicians working with nurses and sometimes other providers to offer primary care services to registered patients on the basis of contractual agreements with the provincial government. A second private clinic model, the Network Clinic, was established in many regions through contractual agreements with regional health authorities. Network Clinics have an enhanced interdisciplinary team and complement Family Medicine Groups by providing extended hours of service and on-site access to diagnostic services (Pineault et al. 2009). Family Medicine Groups are linked with Centres de santé et de services sociaux (CSSS), which represent a merger of local institutions (acute care, long-term care, and community health centers), mostly through their Centres locaux de services communautaires (CLSCs), which are community-governed, interdisciplinary primary health care organizations that, as part of the CSSS, provide primary health and social services to geographically defined populations. Introduced in 1972, CLSCs were intended to be the dominant or exclusive model of primary health care in Quebec. But the continuing opposition to the model by organized medicine consigned CLSCs to minority status, and as a result, the proportion of Quebec’s family physicians working in CLSCs has never exceeded 20 percent (Lévesque, Roberge, and Pineault 2007).

Early evidence suggests that the performance of Quebec’s Family Medicine Groups is superior to that of other primary health care models (Beaulieu et al. 2006; Haggerty et al. 2008; Pineault et al. 2008; Provost et al. 2010; Tourigny et al. 2010). For example, Beaulieu and colleagues (2006) found that the integration of nurses and a linked clinical care protocol in Family Medicine Groups had a positive impact on the accessibility, coordination, and comprehensiveness of care and patient knowledge. And in a study of the provision of clinical preventive services, Provost and colleagues (2010) found that rates of preventive care delivery were higher in Family Medicine Groups and CLSCs than in traditional fee-for-service practices.

In Ontario, Community Health Centres and Family Health Teams are the chief interprofessional primary health care models. Together they now account for 21 percent of family physicians practicing in the province. The number of family physicians working in interprofessional teams increased from 176 in 2002 to more than 2,500 in early 2011.

The first Community Health Centres were established in 1979. In 2004/2005, the provincial government announced its intention to create twenty-one new Community Health Centres and twenty-eight satellite clinics. Forty-eight new centers and satellites are now in operation, bringing the number of Community Health Centres (not including satellites) to seventy-three. Community Health Centres employ more than 300 physicians; 290 nurse practitioners; more than 1,700 other clinical, health promotion, and community development professionals; and more than 800 administrative and management personnel.

In a multifaceted study of four organizational/physician payment models in Ontario in 2005/2006, Community Health Centres performed better than fee-for-service practices and two capitation-based models in chronic disease management, health promotion, and community orientation (Hogg et al. 2009; Muldoon et al. 2010; Russell et al. 2009) but were the least efficient model (Milliken et al. 2011).

Established in 2005, Family Health Teams are the provincial government's flagship initiative in primary health care renewal and are the first explicitly interprofessional primary health care model introduced to Ontario in three decades. Currently, 170 teams are operational, and 30 are under development. They include more than 2,100 family physicians and approximately 1,400 other primary health care professionals, most commonly nurses, nurse practitioners, dietitians, mental health workers, social workers, pharmacists, and health educators. Nurse Practitioner-Led Clinics are similar in concept to Family Health Teams except that the ratio of family physicians to nurse practitioners is much lower and physicians function mainly as consultants. Four Nurse Practitioner-Led Clinics have been established, and twenty-two are in various stages of development. No studies of Family Health Teams' performance have been published to date, but a multiyear evaluation of the Family Health Team initiative, commissioned by the Ontario Ministry of Health and Long-Term Care, is in its third year.

Smaller-scale initiatives to create interprofessional primary health care teams, some led by physicians and others by the community, are

under way in the remaining provinces and territories. Saskatchewan, for example, has created thirty “central” primary health care teams, usually with three to ten physicians (not necessarily in the same location) and one to two nurse practitioners per team. Some of these “central teams” are linked to smaller satellite teams, which, at a minimum, are staffed by a nurse practitioner and a visiting physician from the central team. Most teams are based in rural or northern regions.

Group Practices and Networks. The encouragement of group practice and the support of primary health care networks have been a key part of the reform strategies in Quebec, Alberta, and Ontario. Groups and networks provide a critical mass to enable quality improvement, 24/7 access to care, and economies of scale. Ontario has created an alphabet soup of primary health care organizational models (referred to as Patient Enrolment Models), most of which require participating physicians to be part of a group practice or practice network. Such models now encompass two-thirds of Ontario’s family physicians. Practice networks in Ontario, as elsewhere, include both solo and group practices.

Patient Enrollment with a Primary Care Provider. Patients’ formal enrollment with a primary care physician or group is an integral feature of primary care reform only in Quebec and Ontario. In both cases, enrollment is voluntary. More than half of the Quebec population is currently registered with a family physician; enrollments with a primary care physician in Ontario grew from 600,000 in 2002 to 9.5 million in February 2011, 72 percent of the provincial population.

Financial Incentives and Blended-Payment Schemes. During the past decade, primary health care reform initiatives throughout Canada have included a shift from unitary physician payment methods (mainly fee-for-service but also capitation or salary) to payment arrangements that include blends of fee-for-service, capitation, salary, or payments per session (e.g., per half day), and targeted payments designed to encourage or reward the provision of priority services. Nationally, the proportion of family physicians who receive 90 percent or more of their professional income from fee-for-service payments declined from 58.7 percent in 2002 to 48.3 percent in 2007 (Canadian Medical Association 2002; College of Family Physicians of Canada et al. 2007b). The shift has been most far-reaching in Alberta, Quebec, and Ontario in association with the development of Primary Care Networks, Family Medicine Groups, and patient enrollment models, respectively, and in British Columbia

through a program of targeted incentive payments known as the Full Service Family Practice Incentive Program.

Alberta's Primary Care Network physicians receive a base remuneration (usually fee-for-service) plus targeted payments for after-hours coverage and other priority activities. In addition, Primary Care Networks receive supplementary funding on a per-patient basis to support enhanced staffing (including administration), premises and equipment, chronic disease management, expanded office hours, and 24/7 access to appropriate primary care.

Quebec's Family Medicine Groups receive a small annual fee for each registered patient, supplemental fees for registered patients from vulnerable populations, and payment for time spent attending meetings and completing paperwork. Funding also is available to support staffing, premises, and information technology. The bulk of the remuneration for physicians in Family Medicine Groups and Network Clinics continues to come from fee-for-service payments (Pineault et al. 2008).

The two-thirds of Ontario's family physicians who practice in a Patient Enrolment Model are paid through various blends of capitation, fee-for-service, and targeted payments. Capitation is the principal component for 50 percent of Patient Enrolment Model physicians, and fee-for-service is the main element for another 45 percent. The rest receive salary-based blended payments. All payment models include special fees or premiums (which vary across models) for providing priority services such as care of seniors, enrollment of new patients, and after-hours care. Most payment models include fees for preventive care outreach, pay-for-performance payments for preventive screening and immunizations, and bonus payments for the provision of certain services (obstetrical deliveries, hospital services, palliative care, prenatal care, and care of patients with serious mental illness) above threshold levels.

A growing, but still limited, body of evidence suggests that the payment models and incentives introduced in Ontario are improving preventive care delivery, chronic disease management, physician productivity, and access to care. A study during the mid-1990s of the provision of preventive care to unannounced standardized patients by primary care physicians in south central Ontario found that being paid by salary or capitation (versus fee-for-service) payment was positively associated with the provision of evidence-based preventive care (Hutchison et al. 1998). An econometric study by investigators from the McMaster University Centre for Health Economics and Policy Analysis assessed

physicians' responses to financial incentives, including preventive care pay-for-performance bonuses and special payments for priority services (e.g., obstetrical deliveries, prenatal care, hospital care, palliative care, in-office technical procedures, home visits, and care of patients with serious mental illness) above specified thresholds. Using a controlled before-after design, the study found that the pay-for-performance incentives led to an increase over baseline levels in the provision of four of five preventive services: 5.1 percent for seniors' influenza vaccination; 7 percent for Pap smears, 2.8 percent for mammography, and 56.7 percent for colorectal cancer screening (Hurley et al. 2011). There was no detectable response to the special payments for priority services above threshold levels.

Tu, Cauch-Dudek, and Chen (2009) assessed hypertension management during 2004/2005 by Ontario physicians working in salaried (Community Health Centre), capitation-based-blended-payment (Primary Care Network), and traditional fee-for-service practices. After controlling for patients' sociodemographic factors and co-morbid conditions, treatment and control rates were found to be higher in the Primary Care Network (capitation model) practices, which were more likely than the fee-for-service practices to employ nurses and nurse practitioners.

Kantarevic, Kralj, and Weinkauff (2010) found that Family Health Group (fee-for-service-based, blended-payment model) physicians provided more services and visits, saw more patients, made fewer referrals, and treated more complex patients than did traditional fee-for-service physicians, suggesting that the incentives included in this model increase physicians' productivity. Effects on quality of care were not assessed.

In a study of after-hours care in a single northern Ontario community, Howard and colleagues (2008) observed a lower six-month prevalence of emergency department use by patients of Family Health Network physicians (capitation-based, blended-payment model), compared with patients of physicians in Family Health Groups (fee-for-service-based, blended-payment model) and traditional fee-for-service practices. In a study of after-hours telephone information provided by Ontario family physicians, Howard and Randall (2009) found that physicians participating in Patient Enrolment Models, all of which require and financially reward physicians to provide after-hours care to enrolled patients, were more likely than physicians in conventional fee-for-service practice to suggest that patients use an after-hours clinic operated by the group or

network with which the physician was affiliated (32% versus 10%) and were less likely to provide no instructions (11% versus 26%) or only to suggest using an emergency department or urgent care center or calling 911 (13% versus 24%).

British Columbia's targeted incentive program, introduced in 2002/2003, gives incentive payments to family physicians for chronic disease management, obstetrical care, complex care, mental health care, end-of-life care, and case conferencing (Cavers et al 2010). Manitoba initiated a demonstration project that supports fee-for-service family physician groups to establish interprofessional collaborative teams and integrate electronic medical records into day-to-day patient management. The initiative includes a pay-for-performance scheme based on twenty-seven clinical process indicators.

Beginning in 2001, the Northwest Territories government negotiated and implemented a wholesale transition from fee-for-service to salary remuneration of family physicians. By 2009, 95 percent of family physicians were on a salary-based contract that includes sick leave, maternity leave, and recruitment and retention bonuses.

Primary Health Care Governance. The predominance of independent, physician-owned and -managed solo and small-group family practices has inhibited the development of regional or local governance mechanisms for primary health care. Primary health care providers and stakeholders in most communities and health regions have no collective voice and no means for assuming collective responsibility and being held accountable for addressing their patients' and the local population's needs. The current wave of reform does, however, offer examples of primary health care governance initiatives, sometimes aligned with other reform elements such as funding mechanisms and organizational arrangements.

In Quebec, Family Medicine Groups have been associated from the outset with a set of contractual agreements between accredited clinics and other health institutions at the local, regional, and provincial levels. These contractual agreements formalize the collaboration and sharing of resources among and within primary care clinics. In addition, regional and local departments of family medicine have been established in Quebec (Département régional de médecine générale). These departments, composed of elected representatives from each local area's pool of general practitioners, have a mandate to coordinate the supply and planning of primary care services and to work in close collaboration with regional health authorities and local health centers. For example, these

departments control the entry of new general practitioners into the area and determine where these newcomers will perform their mandatory emergency room or long-term care service requirements. As such, they represent one of the first attempts at integrating general practitioners into the governance of Quebec's health system.

British Columbia has supported the development of Divisions of Family Practice in eighteen communities and plans, by 2012, to extend this support to any community or region in the province where family physicians wish to establish a division. These divisions are local organizations of family physicians who are prepared to work together at the community level to improve clinical practice, offer comprehensive services to patients, and participate in health-service decision making in partnership with their regional health authority and the Ministry of Health Services. (Five regional health authorities govern, plan, and coordinate health care services in conformity with the goals, standards, and performance agreements established by the Ministry of Health.) The initiative is sponsored and funded by the General Practice Service Committee, a joint committee of the British Columbia Ministry of Health Services and the British Columbia Medical Association. The divisions are expected to work with their health authority and local community agencies to identify and address gaps in the delivery of health services at the community level. Although membership in the divisions is voluntary, a division must include the majority of family physicians in the community.

Expansion of the Primary Health Care Provider Pool. In response to public concerns about access to primary health care and pressure from professional associations and advocacy groups, provincial and territorial governments moved during the last decade to increase the numbers and types of primary health care providers. The greater number of medical school spaces and family medicine residency positions has resulted in a 9 percent rise in the number of family physicians per 100,000 Canadians, from 94 in 2000 to 103 in 2009 (Canadian Institute for Health Information 2010c). Most provinces and territories have introduced or expanded training and/or employment opportunities for midwives and nurse practitioners, and Ontario has established a university-based training program for physicians' assistants.

Midwifery is now a legal and regulated profession in eight provinces and one territory: Ontario (1994), British Columbia (1998), Alberta (1998), Quebec (1999), Manitoba (2000), Northwest Territories (2005),

Saskatchewan (2008), Nova Scotia (2009), and New Brunswick (2010). In Ontario, the first province to recognize midwifery and fund midwifery services, the number of midwives has grown by 150 percent since 2002 to more than five hundred, and midwives now attend 10 percent of births in Ontario.

Nurse practitioners are licensed in every Canadian province and territory. The number of licensed nurse practitioners in Canada, most of whom are primary health care nurse practitioners (Donald et al. 2010), more than doubled from 800 to 1,990 between 2004 and 2008 (Canadian Institute for Health Information 2010a, 2010b). In 2008, more than 50 percent of Canadian nurse practitioners were based in Ontario (Canadian Institute for Health Information 2010a), and between 1999 and 2010, the number of primary health care nurse practitioners licensed in Ontario increased tenfold from 130 to 1,362 (College of Nurses of Ontario 2008, 2011). In comparison, the province of Quebec still has fewer than 100 nurse practitioners. In a study of chronic disease management by Ontario's primary health care practices (Russell et al. 2009), a high overall score for processes of care was associated with the presence of a nurse practitioner, independent of the organizational and payment model.

Perhaps not surprisingly given the population growth, the inter-provincial variability in the introduction of nonphysician primary health care providers, and the recency of many of these initiatives, this expansion of the provider pool has yet to be reflected in greater national-level access to care. For example, the percentage of adult Canadians with no regular place of care rose from 9 to 14 percent between the 2007 and 2010 Commonwealth Fund International Health Policy Surveys (Commonwealth Fund 2010; Schoen et al. 2007). While the percentage that were seen on the same day the last time they were sick increased from 22 to 28 percent, the percentage waiting six or more days to be seen also increased, from 30 to 32 percent. The percentage that found it somewhat or very difficult to get care on nights and weekends without going to the emergency room declined only marginally, from 65 to 63 percent.

Implementation of Electronic Medical Records. Family physicians' use of electronic medical records varies widely among the provinces (from 12.8% in Prince Edward Island to 56% in Alberta, as of 2007) (College of Family Physicians of Canada et al. 2007c). Across the provinces, the use of paper-only charts ranged from 37 percent (Alberta) to 83 percent

(Prince Edward Island), and the exclusive use of electronic records ranged from 0 percent (Prince Edward Island) to 21.7 percent (Alberta). In large measure, this variation reflects the extent to which provinces have subsidized the acquisition, implementation, and ongoing use of electronic records. Since 2007, government support for the implementation of electronic medical records has accelerated in some provinces. For example, the Ontario government is extending to all primary care physicians its subsidies for the adoption and continued use of electronic medical records, which previously were available only to physicians working in specific primary care reform models. In 2010, the federal government made \$380 million available to support the implementation of electronic medical records by community-based physicians and nurse practitioners. In the Commonwealth Fund's International Health Policy Surveys of primary care physicians, the use of electronic medical records reported by Canadian respondents increased from 23 to 37 percent between 2006 and 2009 (Schoen et al. 2006, 2009).

Quality Improvement Training and Support. Over the last several years, sometimes in partnership with the provincial medical association, governments and health ministries in British Columbia, Alberta, Saskatchewan, and Ontario have attempted to address the quality gap between current and achievable primary health care performance by mounting quality improvement learning collaboratives based on the Institute for Healthcare Improvement's Breakthrough Series model (Institute for Healthcare Improvement 2003).

Primary health care quality improvement in British Columbia is funded and organized through the Practice Support Program, a joint initiative of the British Columbia Medical Association Section of General Practice, the Ministry of Health Services, and the regional health authorities. The program supports physicians and their office staff to plan and implement enhancements in clinical care and practice management through a series of learning sessions and action periods with the assistance of practice support teams consisting of facilitators and peer champions. Practice teams comprising a physician and a medical office assistant can work on one or more modules that address clinical workflow redesign (Chronic Disease Management, Patient Self-Management, Mental Health, End-of-Life Care), practice management redesign (Advanced Access, Group Medical Visits), or use of information technology (Chronic Disease Management Toolkit) (MacCarthy et al. 2009,

Weinerman et al. 2011). As of March 2009, approximately one-third of British Columbia's family physicians had participated in the Practice Support Program (Cavers et al. 2010).

Alberta's Access, Improvement and Measures (AIM) collaboratives guide practice teams (physicians, health professionals, and office staff) through a facilitated learning process composed of six structured learning sessions and intervening action periods that over fourteen months sequentially address patient access, office efficiency, and clinical care improvement. Since 2005, improvement teams from 137 primary health care clinics, representing about one-third of the province's family physicians, have participated in these collaboratives (Alberta AIM 2010).

Between 2005 and 2009, more than a quarter of Saskatchewan's family physicians participated in chronic disease management collaboratives focusing on diabetes and coronary artery disease. Fifty-four primary care practices (47 family physicians and 170 other providers) are participating in another large-scale collaborative launched in November 2009, concentrating on depression, chronic obstructive pulmonary disease, and office redesign.

In 2007, the Ontario Ministry of Health and Long-Term Care created the Quality Management Collaborative (since renamed the Quality Improvement and Innovation Partnership, QIIP) to help Family Health Teams navigate the transition to a new team-based model of primary health care delivery. In 2009 QIIP became an independent, not-for-profit organization, still funded by the Ministry of Health, with a broadened mandate to support sustained quality improvement across the primary health care sector. QIIP has completed three learning collaboratives with 122 interdisciplinary teams from Family Health Teams and Community Health Centres. Each team directed its quality improvement efforts to diabetes care, colorectal cancer screening, and office practice redesign (access and efficiency) and were supported in their quality improvement work by one of fourteen full-time-equivalent quality improvement coaches. In 2010, QIIP launched the Learning Community, which combines virtual and face-to-face learning to support the acquisition and application of quality improvement methods in primary health care. With the support of the quality improvement coaches, 127 interdisciplinary primary health care teams are participating in one or more of six Action Groups (diabetes, hypertension, asthma, chronic obstructive pulmonary disease, integrated cancer screening, and office practice redesign) in wave 1 of the Learning Community. Ninety-two teams are

participating in wave 2, which began in early 2011 with a focus on office practice redesign.

Summary of Major Achievements since 2000

- Interprofessional primary health care teams have been established in all provinces and territories and are proliferating in Ontario, Alberta, and Quebec. These teams are designed to improve access to care and continuity and coordination of health care services and, like Patient-Centered Medical Homes, are viewed as key to delivering high-quality primary health care.
- Formal patient enrollment with a primary care physician has been broadly implemented in two provinces, Quebec (58% of the population) and Ontario (72% of the population), providing the foundation for a proactive, population-based approach to preventive care and chronic disease management and laying the groundwork for systematic practice-level performance measurement and quality improvement.
- The number of primary care physicians participating in blended-payment arrangements—which include combinations of fee-for-service, capitation, sessional payments, salary, infrastructure funding, and targeted payments for priority activities or performance levels—has increased dramatically, if unevenly, across the country, with a corresponding decrease in strictly fee-for-service arrangements. Blended-payment arrangements allow health care funders to align payments with health system goals, balance the perverse incentives inherent in individual payment methods (e.g., overservicing in fee-for-service, skimping and cream-skimming in capitation, and shirking in salary), support the development of appropriate infrastructure (e.g., information management systems, accessible premises, quality improvement mechanisms), and encourage the provision of priority services, processes, and outcomes of care.
- Training programs for family physicians, midwives, and nurse practitioners have been substantially expanded. This, together with the development of interprofessional health care teams and quality improvement work focused on system redesign at the practice level, should improve timely access to primary health care and may reduce downstream health care utilization and costs.

- Organizations with a mandate to support primary health care improvement and innovation have been established and funded by several provinces' ministries of health. Embedding quality improvement in the fabric of primary health care practice is essential to creating a high-performing health system.

Variation among Provinces and Territories

Table 1 shows the variation among Canada's provincial and territorial health care systems in the system-level implementation of primary health care initiatives. *System-level initiatives* are those that have been implemented broadly within the jurisdiction or on a more limited basis in a jurisdiction with a policy commitment to later broad-scale implementation and a policy environment conducive to systemwide spread. Major reform initiatives have been pursued most aggressively in Ontario, Alberta, and Quebec, followed closely by British Columbia, with fewer system-level initiatives in the remaining provinces and territories. The initiatives are quite different in each jurisdiction. For example, inter-professional primary health care teams in Ontario contain a broad array of providers, whereas those in Quebec are largely confined to physicians and nurses. Similarly, the character of innovative payment and incentive schemes differs substantially from one jurisdiction to another.

Challenges

System Complexity

An incremental and pluralistic approach to primary health care renewal runs the risk of creating a lack of system coherence, high administrative and transaction costs associated with multiple funding, and organizational models and a change process that can become bogged down in the details of implementing and coordinating a multitude of reforms (Hutchison, Abelson, and Lavis 2001). But in a policy environment constrained by policy legacies unfavorable to sweeping health system change, it is likely to be the only feasible strategy for transforming the system (Hutchison, Abelson, and Lavis 2001). Moreover, renewing primary health care by working incrementally toward a desired set of system characteristics can lead to change that is both fundamental and coherent (Commissaire à la santé et au bien-être du Québec 2009).

TABLE 1
System-level Primary Health Care Initiatives

	BC ^a	AB ^b	SK ^c	MB ^d	ON ^e	QC ^f	NB ^g	PE ^h	NS ⁱ	NL ^j	NT ^k	YT ^l	NU ^m
Inter-professional teams		+			+	+							
Group practices/networks		+			+	+							
Patient enrollment		+			+	+							
Payment/incentive schemes		+		+	+	+					+		
Governance		+			+	+							
Additional providers		+		+	+	+	+	+	+	+		+	+
FPs ⁿ		+			+	+							
Other		+			+	+							
EMR Implementation ^o		39%		35%	40%	20%	30%	13%	40%	47%	65% ^p	ND	ND
Quality improvement support		+	+	+	+								

Note: A + indicates a system-level initiative; an empty cell indicates the absence of a system-level initiative. ND = no data available.

^aBritish Columbia

^bAlberta

^cSaskatchewan

^dManitoba

^eOntario

^fQuebec

^gNew Brunswick

^hPrince Edward Island

ⁱNova Scotia

^jNewfoundland and Labrador

^kNorthwest Territories

^lYukon

^mNunavut

ⁿCanadian Institute for Health Information. 2010a

^oCollege of Family Physicians of Canada et al. 2007c

^pPersonal communication, Ewan Affleck, Medical Director, Yellowknife Health and Social Services Authority, January 3, 2011

Physicians' Engagement

Given the “founding bargain” with the medical profession on which Canadian Medicare is based, Canadian primary care physicians have been hesitant to embrace any organizational or payment model that they see as threatening their professional autonomy, particularly when the reforms appear to be motivated by a desire to contain costs. To address this reticence, several provincial governments are negotiating primary health care reform initiatives with the provincial medical association representing family physicians on the basis of voluntary participation and pluralism of organizational and remuneration models. This approach recognizes that for Canada, system-level innovation in primary health care is possible only with the support or, at a minimum, the acquiescence of organized medicine. Furthermore, that support is most likely to be obtained if the medical association is present at the policy table. This strategy has allowed large numbers of primary care physicians to view new organizational and remuneration models as opportunities to enhance their effectiveness, the quality of their working lives, and their income. This strategy also, however, has limited the content of reforms to generally agreed-upon changes, whereas more profound and innovative transformations have often faced the opposition of professional associations and made much slower progress.

Teamwork

The transition to team-based care is indeed challenging, especially for physicians who are socialized and accustomed to being the undisputed team leader. In an interprofessional environment, the participation of other professional and administrative staff in policy and management decisions is no longer discretionary. Tension is often greatest between nurse practitioners and physicians. Nurse practitioners are trained and licensed as autonomous professionals (in contrast to registered nurses and physician assistants) and see themselves as “equal members of the health care team.” Nonetheless, policy legacies (physicians’ control of their work environment) and institutional arrangements (physicians’ ownership and governance of group practices and networks) often work against these expectations. The substantial overlap in scope of practice between physicians and nurse practitioners thus demands a thoughtful

and respectful approach to determining each person's roles and responsibilities.

The effective implementation of interprofessional primary health care models will require that change management support is available to providers as they make the transition.

Requirements for Investment

The costs of primary health care renewal are substantial. Where it has been most successful, "buying system change" has entailed increases in physicians' incomes and significant investments in primary health care infrastructure. And because the transformation is still incomplete, the federal and provincial governments must maintain these investments despite the recent economic recession and the deficits incurred to combat it.

Although many provincial and territorial governments have made sizable investments in primary health care information technology, the implementation of electronic medical records remains limited, and most currently approved systems have frustratingly inadequate performance measurement, disease management support, and registry capability. Only 37 percent of Canadian respondents to the 2009 Commonwealth Fund International Health Policy Survey of Primary Care Physicians reported using a computer to generate lists of patients according to diagnosis (the second lowest of the eleven countries in the survey), and 22 percent said they used a computer to generate lists of patients overdue for tests or preventive care (the lowest among the countries studied) (Schoen et al. 2009). Only 14 percent of Canadian family physicians used nine or more of fourteen electronic information functions. This was the lowest of the eleven countries and in striking contrast to the United Kingdom, Australia, and New Zealand, where 89 to 92 percent of primary care physicians use nine or more functions. Arguably, investment and activity at both the provincial/territorial and federal levels have focused excessively on designing the overall architecture for health information technology and too little on putting clinically useful electronic medical records into the hands of health care providers.

Equity

Despite universal insurance coverage and the absence of user charges for physicians' and most diagnostic services in Canada, the research

evidence points to persisting inequities in access to care. After needs for care are taken into account, patients who are poor, poorly educated, or both still have less overall access to specialists' and (possibly) family physicians' services, preventive care, and services for specific health problems (e.g., cardiovascular and mental health care) (Hutchison 2007). A population-based study in Ontario (Glazier et al. 2009) found that better-educated individuals were more likely to receive specialist services, to see specialists more often, and to bypass family physicians to obtain specialist care. Among respondents to a 2003 national population survey, low income was independently associated with self-reported unmet health care needs (Sibley and Glazier 2009). With minor exceptions (e.g., the expansion of Community Health Centres in Ontario), Canada's reform of primary health care has failed to address this issue. "Healthcare providers, planners, managers and policymakers need information (not to mention resources and commitment) at the practice, local, regional, provincial/territorial and pan-Canadian levels so that targeted programs to address disparities can be developed and implemented" (Hutchison 2008, 20).

Evidence-Informed Decision Making

Effective improvements in the quality of a health system require both ongoing performance measurement and the rigorous and timely evaluation of health care policy, management, and delivery innovations. Most provinces and territories are moving in this direction, but the process is not yet complete. Although commissioned evaluations of major initiatives are becoming increasingly common, they often begin too late to allow for the collection of baseline data or to provide useful feedback on the implementation process. Evaluation results are also not consistently made public.

To guide primary health care system planning and management, a suite of relevant health system performance indicators need to be identified and utilized at the local, regional, provincial, and national levels. Various provincial health quality councils (Ontario Health Quality Council, Health Quality Council of Alberta, and Quebec's Commissaire à la santé et au bien-être) have begun to assess the performance of primary care and its contribution to the overall performance of their health care systems. These analyses have highlighted Canadian primary care

clinicians' lack of capacity to assess the clinical impact of the care they provide and to compare their own performance with that of their counterparts in other countries further advanced in the primary care reform process.

The lively pace and variability of primary health care reform initiatives in several Canadian provinces have created promising opportunities to evaluate their impacts within and across jurisdictions. But the absence of good baseline data, the lack of an agreed-upon and applied set of primary health care performance measures, the voluntary participation of patients and providers, and the confounding of primary care physicians' payment methods and organizational forms have made the evaluation of primary health care transformation challenging.

Transformative Potential

During the last decade, Canada's provinces and territories have, to varying degrees, reformed primary health care through initiatives that focus on strengthening the infrastructure of primary health care and establishing funding and payment mechanisms that support the improvement of performance. These policy initiatives reflect the recommendations of two national reviews of health care in Canada completed in 2002, the shared commitments to primary health care renewal by the prime minister and the provincial and territorial premiers in 2000, 2003, and 2004, as well as the declared primary health care goals of individual provincial and territorial governments. The initiatives are also consistent with a report from the Canadian Academy of Health Sciences that envisions an integrated health care system that will

- Offer primary care practices that are responsible for a defined population.
- Be focused on the person (and family or friend/caregiver).
- Provide comprehensive services using interprofessional teams.
- Link with other sectors in health and social care.
- Be accountable for outcomes (Nasmith et al. 2010).

This approach to improving primary health care is congruent with the Institute of Medicine's insistence in *Crossing the Quality Chasm* that health care that is safe, effective, patient centered, timely, efficient, and equitable must focus on system redesign (Institute of Medicine 2001).

The extent to which the structural reforms that have been successfully implemented since 2000 at a system level in several provinces have actually improved processes and outcomes of care will become evident over the current decade.

Conclusion

A culture change in primary health care is gathering force in several Canadian provinces. The general shape of transformed primary health care is becoming clear. The renewed system will offer interprofessional team-based care, multicomponent funding and payment arrangements, enrollment of patients, ongoing performance measurement, and quality improvement processes. As is usual in Canadian health care, the other provinces will likely follow the leaders, each in its own way and in its own time. The pace of transformation will undoubtedly be influenced by the documented accomplishments of the pacesetter provinces and the flow of earmarked federal funding to advance the primary health care reform agenda.

Perhaps the main message emerging from the recent Canadian experience is that primary health care can be transformed in a pluralistic system of private health care delivery through a process that is voluntary and incremental and has strong government and professional leaders working together. This incremental approach enables a relatively quick, systemwide implementation of those reform elements with broad public and stakeholder support. The variety of models offers opportunities to those ready to embrace innovation without imposing changes on the remainder. Given the collective bargaining rights of Canada's medical associations, broad-based primary health care transformation is possible only with the support of organized medicine. A second message is that a single-payer, publicly funded health care system need not be the enemy of health care reform, innovation, and quality improvement.

Endnotes

1. In 2008, Canada had 2.2 physicians per 1,000 population, compared with the OECD median of 3.2 per 1,000 (OECD 2009).
2. The OECD's mean of 0.88 and median of 0.73, versus Canada's 1.04 per 1,000 population in 2008, the United States 0.96, Australia 1.43, Austria 1.53, Belgium 2.01, France 1.64, and Germany 1.48 (OECD 2009).

References

- Alberta AIM. 2010. Taking AIM ... Improving the Care of Albertans; Summarizing the Impact of AIM. Available at www.albertaaim.ca (accessed April 4, 2011).
- Beaulieu, M.-D., J.L. Denis, D. D'Amour, J. Goudreau, J. Haggerty, E. Hudon, G. Jobin, L. Lamothe, F. Gilbert, H. Guay, G. Cyr, and R. Lebeau. 2006. L'implantation des groupes de médecine de famille: Le défi de la réorganisation de la pratique et de la collaboration interprofessionnelle. Montréal: Chaire Docteur Sadok Besroun en médecine familiale.
- Blendon, R.J., C. Schoen, C.M. DesRoches, R. Osborn, K.L. Scoles, and K. Zapert. 2002. Inequities in Health Care: A Five-Country Survey. *Health Affairs* 21(3):182–91.
- Blendon, R.J., C. Schoen, K. Donelan, R. Osborn, C.M. DesRoches, K. Scoles, K. Davis, K. Binns, and K. Zapert. 2001. Physicians' Views on Quality of Care: A Five-Country Comparison. *Health Affairs* 20(3):233–43.
- Canadian Institute for Health Information. 2001. *Canada's Health Care Providers*. Ottawa.
- Canadian Institute for Health Information. 2009. *Experiences with Primary Care in Canada*. Ottawa.
- Canadian Institute for Health Information. 2010a. *Regulated Nurses: Canadian Trends, 2004 to 2008*. Ottawa.
- Canadian Institute for Health Information. 2010b. *Regulated Nurses: Canadian Trends, 2005 to 2009*. Ottawa.
- Canadian Institute for Health Information. 2010c. *Supply, Distribution and Migration of Canadian Physicians, 2009*. Ottawa.
- Canadian Medical Association. 2002. *Results for the CMA 2002 Physician Resource Questionnaire*. Available at <http://www.cmaj.ca/cgi/content/full/167/5/521/DC1> (accessed April 26, 2010).
- Cavers, W.J.R., V.H.F. Tregillus, A. Micco, and M.J. Hollander. 2010. Transforming Family Practice in British Columbia: The General Practice Services Committee. *Canadian Family Physician* 56(4):318–21.
- Cohen, M., B. Ferrier, C. Woodward, and J. Brown. 2001. Health Care System Reform: Ontario Family Physicians' Reactions. *Canadian Family Physician* 47(9):1777–84.
- College of Family Physicians of Canada, Canadian Medical Association, and Royal College of Physicians and Surgeons of Canada. 2007a. *National Physician Survey 2007*. Available at http://www.nationalphysiciansurvey.ca/nps/2007_Survey/Results/ENG/

- National/pdf//Q19/Q19_CORE.only.pdf (accessed October 20, 2009).
- College of Family Physicians of Canada, Canadian Medical Association, and Royal College of Physicians and Surgeons of Canada. 2007b. *National Physician Survey 2007*. Available at http://www.nationalphysiciansurvey.ca/nps/2007_Survey/Results/ENG/National/pdf//Q33/Q33a_CORE.only.pdf (accessed October 23, 2009).
- College of Family Physicians of Canada, Canadian Medical Association, and Royal College of Physicians and Surgeons of Canada. 2007c. *National Physician Survey 2007*. Available at http://www.nationalphysiciansurvey.ca/nps/2007_Survey/Results/ENG/National/pdf//Q39/Q39_NON_CORE.only.pdf (accessed April 26, 2010).
- College of Nurses of Ontario. 2008. *Registered Nurses in the Extended Class Employed in Nursing in Ontario*.
- College of Nurses of Ontario. 2011. *Membership Totals at a Glance*. Available at <http://www.cno.org/en/what-is-cno/nursing-demographics/membership-totals-at-a-glance> (accessed January 17, 2010).
- Commissaire à la santé et au bien-être du Québec. 2009. *Construire sur les bases d'une première ligne de soins renouvelée: Recommandations, enjeux et implications*. Quebec: Gouvernement du Québec.
- Commission on the Future of Health Care in Canada. 2002. *Building on Values: The Future of Health Care in Canada—Final Report*. Saskatoon, SK.
- Commonwealth Fund. 2000. *International Health Policy Survey of Physicians* (charts originally presented at the 2000 International Symposium on Health Care Policy).
- Commonwealth Fund. 2010. *International Health Policy Survey*. Ontario data, courtesy of the Ontario Health Quality Council and Michelle Rey, personal communication, January 3, 2011.
- Donald, F., R. Martin-Misener, D. Bryant-Lukosius, K. Kilpatrick, S. Kaasalainen, N. Carter, P. Harbman, I. Bourgeault, and A. DiCenso. 2010. The Primary Healthcare Nurse Practitioner Role in Canada. *Canadian Journal of Nursing Leadership* 23(special issue):88–113.
- Drew, P., B. Jones, and D. Norton. 2010. Team Effectiveness in Primary Care Networks in Alberta. *Healthcare Quarterly* 13(3):33–38.
- Glazier, R.H., M.M. Agha, R. Moineddin, and L.M. Sibley. 2009. Universal Health Insurance and Equity in Primary Care and Specialist Office Visits: A Population-Based Study. *Annals of Family Medicine* 7(5):396–405.
- Haggerty, J.L., R. Pineault, M.-D. Beaulieu, Y. Brunelle, J. Gauthier, F. Goulet, and J. Rodrigue. 2008. Practice Features Associated

- with Patient-Reported Accessibility, Continuity, and Coordination of Primary Health Care. *Annals of Family Medicine* 6(2):116–23.
- Hogg, W., S. Dahrouge, G. Russell, M. Tuna, R. Geneau, L. Muldoon, E. Kristjansson, and S. Johnston. 2009. Health Promotion Activity in Primary Care: Performance of Models and Associated Factors. *Open Medicine* 3(3):165–73.
- Howard, M., J. Goertzen, J. Kaczorowski, B. Hutchison, K. Morris, L. Thabane, M. Levine, and A. Papaioannou. 2008. Emergency Department and Walk-in Clinic Use in Models of Primary Care Practice with Different After-Hours Accessibility. *Healthcare Policy* 4(1):73–88.
- Howard, M., and G.E. Randall. 2009. After-Hours Information Given by Telephone by Family Physicians in Ontario. *Healthcare Policy* 5(2):106–15.
- Hurley, J., P. DeCicca, J. Li, and G. Buckley. 2011. *The Response of Ontario Primary Care Physicians to Pay-for-Performance Incentives*. Final Report to the Ontario Ministry of Health and Long-Term Care. January.
- Hutchison, B. 2007. Disparities in Healthcare Access and Use: Yackety-yack, Yackety-yack. *Healthcare Policy* 3(2):10–18.
- Hutchison, B. 2008. A Long Time Coming: Primary Healthcare Renewal in Canada. *Healthcare Papers* 8(2):10–24.
- Hutchison, B., J. Abelson, and J. Lavis. 2001. Primary Health Care in Canada: So Much Innovation, So Little Change. *Health Affairs* 20(3):116–31.
- Hutchison, B., C.A. Woodward, G.R. Norman, J. Abelson, and J.A. Brown. 1998. Provision of Preventive Care to Unannounced Standardized Patients. *Canadian Medical Association Journal* 158(2):185–93.
- Institute for Healthcare Improvement. 2003. *The Breakthrough Series: IHI's Collaborative Model for Achieving Breakthrough Improvement*. IHI Innovation Series white paper, Boston.
- Institute of Medicine. 2001. *Crossing the Quality Chasm: A New Health System for the 21st Century*. Washington, DC: National Academies Press.
- Kantarevic, J., B. Kralj, and D. Weinkauff. 2010. Enhanced Fee-for-Service Model and Physician Productivity: Evidence from Family Health Groups in Ontario. *Journal of Health Economics* 30(1):99–111.
- Levesque, J.-F., D. Roberge, and R. Pineault. 2007. La première ligne de soins: Un témoin distant des réformes institutionnelles et hospitalières au Québec? In *Le système sociosanitaire au Québec: Gouverne, regulation et participation*, ed. M.-J. Fleury, M. Tremblay, H. Nguyen, and L. Bordeleau, chap. 5, 63–78. Montreal: Gaëtan Morin éditeur, Chenelière Éducation.

- MacCarthy, D., L Kallstrom, R. Gray, J. A. Miller, and M. Hollander. 2009. Supporting Family Physicians in British Columbia: The Experience of the Practice Support Program. *B.C. Medical Journal* 51(9):394–97.
- Marchildon, G.P. 2005. *Health Systems in Transition: Canada*. Copenhagen: WHO Regional Office for Europe on Behalf of the European Observatory on Health Systems and Policies.
- Milliken, O., R.A. Devlin, V. Barham, W. Hogg, S. Dahrouge, and G. Russell. 2011. Comparative Efficiency Assessment of Primary Care Service Delivery Models Using Data Envelopment Analysis. *Canadian Public Policy* 37(1):85–109.
- Muldoon, L., S. Dahrouge, W. Hogg, R. Geneau, G. Russell, and M. Shortt. 2010. Community Orientation in Primary Care Practices: Results from the Comparison of Models of Primary Health Care Study. *Canadian Family Physician* 56(7):676–83.
- Nasmith, L., P. Ballem, R. Baxter, H. Bergman, D. Colin-Thomé, C. Herbert, N. Keating, R. Lessard, R. Lyons, D. McMurchy, P. Ratner, P. Rosenbaum, R. Tamblyn, E. Wagner, and B. Zimmerman. 2010. *Transforming Care for Canadians with Chronic Health Conditions: Put People First, Expect the Best, Manage the Results*. Ottawa: Canadian Academy of Health Sciences. Available at <http://www.caahs-acss.ca/e/pdfs/cdm%20final%20English.pdf> (accessed December 28, 2010).
- Naylor, C.D. 1986. *Private Practice, Public Payment: Canadian Medicine and the Politics of Health Insurance, 1911–1966*. Montreal: McGill-Queen's University Press.
- Organization for Economic Cooperation and Development (OECD). Health Data 2009.
- Pineault, R., J.-F. Levesque, M. Breton, M. Hamel, and D. Roberge. 2008. La première ligne: Quel rôle des organisations publiques, privées et mixtes? In *Le privé dans la santé: Les discours et les faits*, ed. F. Béland, A.-P. Contandriopoulos, A. Quesnel-Vallée, and L. Robert, chap. 19, 427–50. Montreal: University of Montreal Press.
- Pineault, R., J.-F. Levesque, D. Roberge, M. Hamel, P. Lamarche, and J. Haggerty. 2009. *Accessibility and Continuity of Care: A Study of Primary Healthcare in Québec*. Research report presented to the Canadian Institutes of Health Research and the Canadian Health Services Research Foundation. Montreal: Gouvernement du Québec et Centre de recherche de l'Hôpital Charles LeMoine.
- Provost, S., R. Pineault, J.-F. Levesque, S. Groulx, G. Baron, D. Roberge, and M. Hamel. 2010. Does Receiving Clinical Preventive Services Vary across Different Types of Primary Healthcare Organizations? Evidence from a Population-Based Survey. *Healthcare Policy* 6(10):68–83.

- Russell, G., S. Dahrouge, W. Hogg, R. Geneau, L. Muldoon, and M. Tuna. 2009. Managing Chronic Disease in Ontario Primary Care: The Impact of Organizational Factors. *Annals of Family Medicine* 7(4):309–18.
- Saskatchewan Health. 2002. *Team Effectiveness Tool*. Regina: Primary Health Services Branch.
- Schoen, C., R. Osborn, M.M. Doty, M. Bishop, J. Peugh, and N. Murukutia. 2007. Toward Higher-Performance Health Systems: Adults' Health Care Experiences in Seven Countries. *Health Affairs* 26(6):w717–34.
- Schoen, C., R. Osborn, M.M. Doty, D. Squires, J. Peugh, and S. Applebaum. 2009. A Survey of Primary Care Physicians in Eleven Countries 2009: Perspectives on Care, Costs, and Experiences. *Health Affairs* web exclusive 28(6):w1171–83.
- Schoen, C., R. Osborn, S.K.H. How, M.M. Doty, and J. Peugh. 2008. In Chronic Condition: Experiences of Patients with Health Care Needs in Eight Countries. *Health Affairs* web exclusive 28(1): w1–16.
- Schoen, C., R. Osborn, P.T. Huyn, M.M. Doty, J. Peugh, and K. Zapert. 2006. On the Front Lines of Care: Primary Care Doctors' Office Systems, Experiences, and Views in Seven Countries. *Health Affairs* web exclusive 25:w555–71.
- Schoen, C., R. Osborn, D. Squires, M.M. Doty, R. Pierson, and S. Applebaum. 2010. How Health Insurance Design Affects Access to Care and Costs, by Income, in Eleven Countries. *Health Affairs* 29(12):web first 1–12.
- Senate Standing Committee on Social Affairs, Science and Technology. 2002. *The Health of Canadians—The Federal Role*. Vol. 6, *Recommendations for Reform*. Ottawa.
- Sibley, L.M., and R.H. Glazier. 2009. Reasons for Self-Reported Unmet Healthcare Needs in Canada: A Population-Based Provincial Comparison. *Healthcare Policy* 5(1):87–101.
- Tourigny, A., M. Aubin, J. Haggerty, L. Bonin, D. Morin, D. Reinharz, Y. Leduc, M. St-Pierre, N. Houle, A. Giguere, Z. Benounissa, and P.-H. Carmichael. 2010. Patients' Perceptions of the Quality of Care after Primary Care Reform. *Canadian Family Physician* 56:e273–82.
- Tu, K., K. Cauch-Dudek, and Z. Chen. 2009. Comparison of Primary Care Physician Payment Models in the Management of Hypertension. *Canadian Family Physician* 55(7):719–27.
- Tuohy, C. 1999. *Accidental Logics: The Dynamics of Change in the Health Care Arena in the United States, Britain and Canada*. New York: Oxford University Press.

Weinerman, R., H. Campbell, M. Miller, J. Stretch, L. Kallstrom, H. Kadlec, and M. Hollander. 2011. Improving Mental Health Care by Primary Care Physicians in British Columbia. *Healthcare Quarterly* 14(1):36–38.

Woodward, C.A., B. Ferrier, M. Chen, and J. Brown. 2001. Professional Activity: How Is Family Physicians' Work Time Changing? *Canadian Family Physician* 47(7):1414–21.

Acknowledgments: Our thanks to Charlyn Black, who played a significant role in planning our data collection, helping identify major themes, and providing advice on the structure of the article. Support for this research was provided by The Commonwealth Fund. The views presented here are those of the authors and not necessarily those of The Commonwealth Fund or its directors, officers, or staff.