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Innovative and Diverse Strategies Toward Primary Health Care Reform: Lessons Learned from the Canadian Experience

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Introduction: In the last decade, Canadian provincial and territorial health systems have taken diverse approaches to strengthening primary care delivery. Although the Canadian and US systems differ in significant ways, important commonalities include the organization of care delivery, core principles guiding primary care reform, and some degree of provincial/state autonomy. This suggests that Canadian experiences, which employed a variety of tools, strategies, and policies, may be informative for US efforts to improve primary care.

Innovations: The range of primary care reform initiatives implemented across Canada target organizational infrastructure, provider payment, health care workforce, and quality and safety. Primary care teams and networks in which multiple physicians work in concert with other providers have become widespread in some provinces; they vary on a number of dimensions, including physician payment, incorporation of other providers, and formal enrolment of patients. Family medicine is attracting more recent medical school graduates, a trend likely affected by new physician payment models, increases in the number of primary care providers, and efforts to better integrate nonphysician providers into clinical practice. Efforts to integrate electronic medical records into practice and pursue quality improvement strategies are gaining ground in some provinces.

Conclusions: Canadian primary care reform initiatives rely on voluntary participation, incremental change, and diverse models, encouraging engagement and collaboration from a range of stakeholders including patients, providers, and policymakers. Cross-country collaboration in evaluating and translating Canada's primary care reform efforts are likely to yield important lessons for the US experience. (J Am Board Fam Med 2012;25:S27–33.)

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Over the last decade, federal, provincial, and local actors have stimulated efforts to strengthen primary care delivery through reform of provincial health care systems in Canada. Various national and provincial reports have highlighted health system challenges and potential improvements; in response, the federal and most provincial govern-

ments made several large, multiyear funding commitments to strengthen primary care. Given Canada's long history of physician autonomy, pro-

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vincial governments have mostly adopted a voluntary approach to physician engagement in incremental reforms, and major initiatives generally have been negotiated with the provincial medical associations. In the face of common perceived problems and goals, diverse provincial health systems have designed and implemented equally diverse primary care reforms.¹ As a result, the Canadian approach has the potential to provide insights into the impacts of a range of tools, strategies, and approaches that reflect diverse populations, a mix of urban and rural settings, and varied political and cultural landscapes.

Although the US and Canadian systems obviously differ in important ways, there remain many similarities in the organization of medical practice and delivery of care. The general practitioner to population ratio in Canada is similar to that in the United States, with both countries having about 1 general practitioner per 1,000 population.² Most physicians are in private practice but are paid by a public insurer (such as the US Medicare program), and nearly half of them are paid almost exclusively via fee-for-service,³ which remains the most common form of physician payment. Important differences are the prohibition against patient cost-sharing at the point of service in the Canadian system and, until recent reform initiatives, a general lack of patient enrollment (rostering) with their primary care physician, which is common in US managed care plans. Patient rostering enables quality measurement and improvement through identification of the affiliated population, better understanding of their needs, and facilitation of a proactive approach to prevention and chronic disease management. Parallels between primary care reforms in the 2 countries are reflected in the recurring Canadian reform objectives that mirror the Institute of Medicine's 6 aims for improvement. These objectives include improved access; improved coordination and integration of care; expansion of team-based approaches; improved quality/appropriateness, with a focus on the prevention and management of chronic illness; and implementation of electronic medical records and information management systems.^{1,4} Significant provincial independence to design and implement health system reforms also mirrors the autonomy of states in implementing features of the Patient Protection and Affordable Care Act.

Primary care reforms in Canadian provinces include a spectrum of interventions ranging from the

implementation of specific and well-defined service delivery models defined by specific organizational characteristics to broad, system-wide quality-improvement initiatives aimed at changing physicians' behavior. A third approach has been the creation of practice networks in which providers share a common governance apparatus and take on more collective responsibility and accountability for addressing their patients' and the local population's needs. These 3 types of reform initiatives have been used in various combinations and intensities across provinces as they seek to transform the provision of primary care (Table 1). The range of primary care reform initiatives including organizational infrastructure, provider payment, health care workforce, quality and safety, and sustaining change are described in further detail later and at length in Hutchison et al.¹

The specific forms that these initiatives take also vary across provincial health systems. Some provinces, such as Ontario, offer a variety of organizational models, whereas others, such as Quebec, have up until recently relied mostly on a single model for implementation throughout the province. Quality improvement programs, a feature of primary care reform in British Columbia, Alberta, Saskatchewan, and Ontario, have varied in their range, intensity, and the aspects of primary health care practices that are targeted for improvement. Practice networks, such as those implemented in Alberta and Ontario, have different sizes and governance arrangements across jurisdictions.

Infrastructure

A centerpiece of reform in many Canadian provinces has been the development of multidisciplinary, interprofessional primary health care teams. Like patient-centered medical homes in the United States, these teams are designed to improve access to care, continuity and coordination of health care services, and the quality of primary care.⁵⁻⁷

Significant flexibility has been allowed in how these groups develop, with one province explicitly developing a range of models and others allowing provider-led innovation within one model. Common elements of primary care teams and networks include multiple physicians working in concert with other providers, including nurses, and explicit agreements with health min-

istries or local health authorities to improve accessibility of services—in 2010, 23% of Canadians reported having no regular doctor and 33% reported that they waited 6 or more days for a doctor's appointment the last time they were sick or needed care.⁸ Participation by both providers and patients is voluntary. Important variations include whether there are changes to physician payment under these models, how other providers are incorporated into team practice (as equals or under a physician ownership model), and the formal enrollment (rostering) of patients. Significant differences also exist in the extent to which these new models have become the dominant method of primary care delivery in terms of physician and patient participation.¹

Group and network models were first implemented in the 1970s and newer versions date from the early 2000s. Several initial evaluations suggest positive impacts on team effectiveness,⁹ rates of preventive care delivery,¹⁰ and health promotion and community orientation.^{11,12} Evaluations aimed at understanding impacts on health service utilization patterns, costs, and patient health are currently underway in several provinces.

Despite several years of policy and funding commitments to the broad implementation of electronic medical records (EMRs), Canada remains far behind other OECD countries in achieving these goals. Nevertheless, the similarities between delivery systems in Canada and the United States suggest the potential to learn from Canadian initiatives that have been relatively successful. The share of family physicians that report using EMRs is highest in Alberta, where 66% of family physicians report using them.³ This likely reflects both the generous funding provided to acquire and implement EMRs, the degree of flexibility accorded to providers to implement heterogeneous systems, and the extent to which these initiatives were integrated into the new primary care models described earlier. Provincial and federal efforts have predominantly focused on an overall, centralized, secure architecture for health information technology, and in many cases this seems to have taken precedence over putting clinically relevant EMRs into practice.¹

The formal enrollment of patients in primary care provider groups and networks has proceeded most rapidly in Quebec and Ontario where it is

an integral part of the new primary care models and the majority of the populations are enrolled with a primary care provider.¹ The pace has been slower elsewhere, and because enrollment provides a basis for systematic practice-level performance measurement and quality improvement, this presents an ongoing challenge to Canada's system that allows free choice of provider.

Payment

In the last decade, Canadian provinces have moved toward blended payment arrangements (ie, combining fee-for-service with capitation or incentive payments), with the percent of physicians receiving 90% or more of their income from fee-for-service decreasing from 58.7% in 2002 to 48.3% in 2007.^{14,15} The Ontario experience is particularly instructive because in the last few years the majority of primary care providers have voluntarily moved to blended payment models. The extent to which provinces are altering payment systems varies greatly, however, as does the degree to which this approach forms a centerpiece of their primary care reforms. Although all provinces modified their remuneration schemes somewhat, few have made a fundamental move away from fee-for-service payment (Ontario and the Northwest Territories are notable exceptions). Many have simply provided adjusted fees for specific populations within a fee-for-service context (eg, a fixed annual payment for enrolling elderly or chronically ill patients, increased fees for vulnerable populations with greater health care needs) while focusing their primary care system reforms on other levers such as organizational or governance structures (eg, primary care teams). Most provinces now remunerate certain types of coordination and collaborative activities not traditionally paid under fee-for-service, but few have moved toward partial capitation or integrated pay-for-performance schemes related to the achievement of certain targets or performance levels.¹

There exists some evidence to support the notion that these new models of remuneration have positive effects on patient outcomes by increasing the provision of evidence-based preventive care,^{16,17} increasing the likelihood that physicians will provide information to their patients about how to access appropriate after-hours care¹⁸ and ultimately lead-

ing to lower emergency department use.¹⁹ Furthermore, there is suggestive evidence that there are positive impacts on physician productivity.²⁰ However, it remains to be seen if there are any real efficiency gains through reduced system costs or improved health outcomes.

Finally, the Canadian experience highlights that successful introduction of new models of physician payment relies on some combination of patients enrollment, identifiable EMR data, and support of the provincial medical associations. Provinces that have been most successful in implementing blended payment schemes also have paid significant attention to these enabling factors. That a single payer is present at the provincial level for medical services is also an important consideration and speaks to the importance of multiple payers in the United States aligning payment schemes, incentives, patient rostering, and approaches to health information technology.

Workforce

Over the last decade, provincial governments have taken action to increase the number of primary care providers, including family physicians, nurse practitioners, and midwives. These efforts, which have varied across jurisdictions, include increasing training and employment opportunities; changing licensing and payment laws and regulations for nonphysician providers; and targeting incentives at family physicians to integrate other providers into an interdisciplinary practice.¹ These efforts to increase the number and range of providers have yet to be reflected in improved access and quality of primary care services at the national level, but ongoing evaluation that takes advantage of the range of provincial approaches could be informative.

Provinces have approached the integration of other primary care providers into clinical practice differently. Some employ nurse practitioners who maintain a formal link with the regional or public health systems, whereas others expect individual clinics or physician-led groups to hire other providers directly. In Ontario, nurse practitioners and other health professionals are paid by provider groups who receive funding earmarked for this purpose. In Quebec, local health and social services networks employ nurses, who work in clinics and provider groups under con-

tract. A parallel idea exists in the US context (ie, whether health plans or health systems hire nurses and physician assistants or whether individual clinics do) and more information about the relative impacts of these 2 approaches could be useful in both systems.

In addition to cross-provincial variation, a fair bit of flexibility exists within provinces, allowing individual practices to move toward interdisciplinary teams at their own pace and in their own way. Instead of a top-down effort to move all providers to some predetermined level of integration, provider- and community-led efforts allow all practices to advance along the spectrum. Over time, this could result in differences across geographic regions in the types of providers and practices available to residents.

A positive outcome of current primary care reforms and new organizational forms has been the increased attractiveness of family medicine as a field of professional practice. Better support to newly formed primary care providers through interdisciplinary team activities, information systems support, and approaches to roster management have been perceived as making practicing family medicine more attractive. Data from the Canadian Resident Matching Service show that the proportion of Canadian medical school graduates choosing postgraduate training in family medicine as their first choice has risen from a historic low of 25% in 2003 to 34% in 2011.^{21,22} New models also have facilitated provider recruitment and retention,²³ whereas older forms of organization such as solo or group fee-for-service practice have struggled to attract newcomers and face major shortages in medical resources.

Quality and Safety

Several provinces have recently 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 Health Care Improvement's Breakthrough Series model.^{1,24} These efforts are often a partnership between the provincial medical association, governments, and health ministries, and the involvement and leadership of professional organizations and professional leaders has been key to their success. Continuing efforts support and sustain quality improvement efforts beyond the

Table 1. System-level Primary Health Care Initiatives

| | Infrastructure | Payment | Workforce | Quality and Safety | EMR Implementation (%) [*] |
|---------------------------|----------------|---------|-----------|--------------------|-------------------------------------|
| British Columbia | | ● | ● | ● | 55 |
| Alberta | ● | ● | ● | ● | 66 |
| Saskatchewan | | | | ● | 41 |
| Manitoba | | ● | ● | | 41 |
| Ontario | ● | ● | ● | ● | 57 |
| Quebec | ● | ● | ● | | 32 |
| New Brunswick | | | ● | | 43 |
| Prince Edward Island | | | ● | | 54 |
| Nova Scotia | | | ● | | 58 |
| Newfoundland and Labrador | | | ● | | 57 |
| Northwest Territories | | ● | | | ND |
| Yukon | | | ● | | ND |
| Nunavut | | | ● | | ND |

^{*}EMR implementation reflects the percent of family physicians in each province that report using only electronic records or a combination of electronic records and paper charts in their main patient care setting.³

●, system-level initiative; empty cell, absence of a system-level initiative; EMR, electronic medical record; ND, no data available. Adapted with permission from Hutchison B, Levesque JF, Strumpf E, Coyle N. Primary health care in Canada: systems in motion. *Milbank Q* 2011;89:256–88.¹

structured learning processes, though sharing of success has been somewhat informal and limited in extent.¹

Although we have seen advances in the implementation of quality improvement efforts across Canadian provinces, less progress has been made in terms of measuring performance and reporting back to providers, payers, and patients. This is likely tied to the limited utilization and functionality of EMRs in most jurisdictions. Alberta, which has the highest level of EMR integration in primary care practice, also has a reporting system that can be used at the practice level to measure improvements in access and clinical indicators over time.²⁵ In other Canadian provinces, low levels of electronic information infrastructure translate to low capacity for clinics to generate information that enables clinicians to understand their rostered patients' characteristics and assess the effectiveness of provided services.

Creating and Sustaining Change

Creating and sustaining change in Canadian primary care systems has been driven by both traditional and innovative governance mechanisms. Successful involvement and collaboration with medical associations as well as allowing flexibility and adaptability in proposed reform models have built on existing structures and relationships. An incre-

mental and participatory approach seems to have been key to integrating previously parallel systems of care provision and to achieving more far-reaching population coverage.

Local, regional, and provincial physician-led governance bodies also have played an important role in primary care reform. Here again, Canadian provinces have varied in their recourse to this type of novel intervention, but those that have done so have seen success integrating the medical profession into decision-making and system design processes. British Columbia's Divisions of Family Practice and Quebec's Regional Departments of Family Medicine are 2 innovative examples.¹ However, it should be noted that organized governance bodies can be both a facilitator and a barrier to change, and it remains crucial to include them in dialogue to design and implement successful reforms.

Conclusion

Several Canadian provinces are leading primary care reform efforts, incorporating interprofessional team-based care, multicomponent funding and payment arrangements, patient enrollment, ongoing performance measurement, and quality improvement processes. Reform initiatives generally rely on voluntary participation, incremental change, and a wide range of models, allowing many primary care physicians to view new organizational and remuneration models as

opportunities to enhance their effectiveness, satisfaction with their working lives, and their income. The pace and shape of future change will be influenced by the documented impact of efforts already underway, the influence of leaders in the provider community, partnership between government and professional leadership, and federal funding to advance the primary health care reform agenda. Cross-country collaboration in evaluating and translating Canada's primary care reform efforts are likely to yield important lessons for the US experience.

References

- Hutchison B, Levesque JF, Strumpf E, Coyle N. Primary health care in Canada: systems in motion. *Milbank Q* 2011;89:256–88.
- Organization for Economic Cooperation and Development. OECD health data 2009: comparing health statistics across OECD countries. Available at http://www.oecd.org/document/54/0,3343,en_2649_37407_43220022_1_1_1_1,00.html. Accessed January 25, 2012.
- College of Family Physicians of Canada, Canadian Medical Association, Royal College of Physicians and Surgeons of Canada. 2010 National Physician Survey: physicians by province/territory. Available at http://www.nationalphysiciansurvey.ca/nps/2010_Survey/Results/physician2_can-e.asp. Accessed November 9, 2011.
- Institute of Medicine. Crossing the quality chasm: a new health system for the 21st century. Washington, D.C.: National Academy Press; 2001.
- The College of Family Physicians of Canada. A vision for Canada: family practice—the patient's medical home. September 2011. Available at http://www.cfpc.ca/uploadedFiles/Resources/Resource_Items/PMH_A_Vision_for_Canada.pdf. Accessed November 9, 2011.
- Alberta Medical Association. Vision: Patients First. October 2010. Available at [http://www.albertadoctors.org/bcm/ama/ama-website.nsf/AllDoc/CB22CDA7EB98D381872577CA00690849/\\$File/AMA_Vision_for_Primary_Care_external_discussion_paper_Oct10.pdf](http://www.albertadoctors.org/bcm/ama/ama-website.nsf/AllDoc/CB22CDA7EB98D381872577CA00690849/$File/AMA_Vision_for_Primary_Care_external_discussion_paper_Oct10.pdf). Accessed June 3, 2011.
- Primary Health Care Advisory Committee of New Brunswick. Improving access and delivery of primary health care services in New Brunswick. Discussion paper. November 2010. Available at <http://www.gnb.ca/0053/phc/pdf/2011/PrimaryHealthCareDiscussionPaper.pdf>. Accessed June 3, 2011.
- Commonwealth Fund 2010. International Health Policy Survey. Canadian data, courtesy of the Ontario Health Quality Council (Michelle Rey, personal communication, January 3, 2011).
- Drew P, Jones B, Norton D. Team Effectiveness in Primary Care Networks in Alberta. *Healthc Q* 2010;13(3): 33–38.
- Provost S, Pineault R, Levesque JF, et al. Does receiving clinical preventive services vary across different types of primary healthcare organizations? Evidence from a population-based survey. *Healthc Policy* 2010;6:67–84.
- Russell G, Dahrouge S, Hogg W, Geneau R, Muldoon L, Tuna M. Managing chronic disease in Ontario primary care: the impact of organizational factors. *Ann Fam Med* 2009;7:309–18.
- Hogg W, Dahrouge S, Russell G, et al. Health promotion activity in primary care: performance of models and associated factors. *Open Med* 2009;3:165–73.
- Muldoon L, Dahrouge S, Hogg W, Geneau R, Russell G, Shortt M. Community orientation in primary care practices: results from the comparison of models of Primary Health Care Study. *Can Fam Physician* 2010;56: 676–83.
- Martin S. More hours, more tired, more to do: results from the CMA's 2002 Physician Resource Questionnaire. *CMAJ* 2002;167:521–2. Tabular data available at www.cmaj.ca/cgi/content/full/167/5/521/DC1. Accessed May 27, 2011.
- College of Family Physicians of Canada, Canadian Medical Association, Royal College of Physicians and Surgeons of Canada. National Physician Survey, 2007. National results by FP/GP or other specialist, sex, age, and all physicians. Available at http://www.nationalphysiciansurvey.ca/nps/2007_Survey/Results/ENG/National/pdf/Q19/Q19_CORE.only.pdf. Accessed May 27, 2011.
- Hutchison B, Woodward CA, Norman GR, Abelson J, Brown JA. Provision of preventive care to unannounced standardized patients. *CMAJ* 1998;158:185–93.
- Hurley J, DeCicca P, Li J, Buckley G. 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 2011. Available at http://www.chepa.org/Libraries/PDFs/CHEPA_WP_11-2_1.sflb.ashx.
- Howard M, Randall GE. After-hours information given by telephone by family physicians in Ontario. *Healthc Policy* 2009;5:106–15.
- Howard M, Goertzen J, Kaczorowski J, et al. Emergency department and walk-in clinic use in models of primary care practice with different after-hours accessibility. *Healthc Policy* 2008;4:73–88.
- Kantarevic J, Kralj B, Weinkauff D. Enhanced fee-for-service model and physician productivity: evidence from family health groups in Ontario. *J Health Econ* 2011;30:99–111.
- Canadian Resident Matching Service. Table XXVII: career choices of Canadian students and graduates 2003 residency match. Available at http://www.carms.ca/eng/operations_R1reports_03_e.shtml#table27. Accessed November 9, 2011.
- Canadian Resident Matching Service. Discipline choice of CMG applicants: 2011 first iteration R-1 match. Available at <http://www.carms.ca/pdfs/>

- 2011R1_MatchResults/7_Discipline%20Choices%20of%20Canadian%20Applicants_en.pdf. Accessed November 9, 2011.
23. Ministère de la santé et des services sociaux. Évaluation de l'implantation et des effets des premiers groupes de médecine de famille au Québec. Quebec: Ministère de la santé et des services sociaux; 2008.
24. Institute for Healthcare Improvement. The Breakthrough Series: IHI's collaborative model for achieving breakthrough improvement. IHI Innovation Series white paper. Boston: Institute for Healthcare Improvement; 2003.
25. Alberta AIM. Taking AIM...Improving the Care of Albertans; Summarizing the Impact of AIM; 2010. www.albertaaim.ca.