



Aspiring to a new standard
of healthcare for Canada

Introduction



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Information technology (IT) has a fundamental role to play in transforming Canada's healthcare system. Over the past decade, large investments and incentive programs have helped to establish a foundation of IT infrastructure and systems that enable healthcare providers to shift from manual environments to more efficient approaches that deliver up-to-date and accurate information.

Despite considerable investment, many systems remain islands of information unconnected to each other. The fragmentation of health information is a major inhibitor of collaboration between health providers. Further, technology adoption remains anemic, with many physicians continuing to rely on paper in their practices.

Nevertheless, the investments made to date have created a foundation for us to move to a new stage of systems investment. By introducing new policies and programs that are purpose-built to move beyond technology adoption to achieve meaningful health outcomes, we can create opportunities for Canada to improve healthcare delivery in a fiscally sustainable way.

This paper explores some of these opportunities. It highlights international examples of programs and policies that could be adapted for the Canadian context and examines the impact of incentive programs to-date in provinces across the country. Finally, a three-stage model presents a pragmatic approach to achieving a new standard of care for the benefit of all Canadians.

Current state: The healthcare playing field in Canada

Healthcare is the largest industry in Canada and the playing field is complex. Fourteen health systems—13 provinces and territories and one federal (that includes First Nations and military)—operate autonomously. Transforming the health system will require many parties working toward a common goal. Despite this complexity, the general consensus is a desire for fundamental change, not incremental improvement. Here's why:

- Canada is trending towards spending a quarter of a trillion dollars annually on healthcare by 2020.¹
- Provincial health spending in Ontario and Quebec already consumes more than half of total program spending. By 2017, that will also be true for British Columbia, Alberta, Saskatchewan and New Brunswick.¹¹
- Treating chronic disease consumes more than half of all direct healthcare spending. This pressure on the healthcare system will intensify in conjunction with the aging population, which is expected to nearly double to 25% of the population by 2036.

However, healthcare costs are only one aspect of Canada's complex topography. When it comes to health system performance, Canada ranks 10th of 11 countries compared in the Commonwealth Fund's 2013 International Health Policy Report. Moreover, patient experience with the healthcare system is under strain and declining. Canada ranks 7th among 15 peer countries with respect to its medical error incident rate, has the longest access times to a doctor or nurse when in need of care, has the most extreme delays for specialist appointments, and has the highest use of emergency rooms, compared to the 11 developed countries in the Commonwealth Fund's Report.

It is well established that information technology is integral to the delivery of care. In Canada, technology adoption has attained a level where policies can start to shift from funding IT directly to incenting health objectives and improved outcomes. While this would not have been possible a decade ago, Canada is today poised to take great strides forward. Funding policy and information technology are two mission-critical levers for achieving change that can lead to sustainable results.

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Leading by example: Incentive programs around the world

It is early days for policies and programs that support improved health outcomes. While rigorous evidence of costs and impacts are not fully available at this stage, there is a strong correlation between the use of health IT and better healthcare: countries with the highest performing healthcare systems also employ health IT extensively to improve care delivery and meet key performance indicators (KPIs) that are regulated through government policies and incentive programs.

While the details of these programs vary, they have three key elements in common:

1. Policies hold healthcare practitioners accountable for achieving specific levels of performance against key performance indicators (KPIs).
2. KPIs fall into distinct performance-based categories, such as cost savings, better quality patient experience or improved chronic disease management.
3. The use of electronic medical record (EMR) technology by primary care clinicians is central to achieving performance targets.



In the UK, which ranks first in health system performance according to a 2014 Commonwealth Fund Survey, governments have stimulated change by paying a premium to physicians that attain a level of practice performance as defined by the Quality and Outcomes Framework (QOF). Early indications show that the QOF has resulted in better recorded care, enhanced processes, and improved outcomes in managing chronic disease.

Today, 98 percent of UK physicians use EMRs. In addition, electronic transactions between primary care physicians and pharmacists are widely used for prescriptions, and are also used among healthcare professionals for the storage and distribution of digital images, such as scans and x-rays.

Similarly, in Sweden, which ranks third in health system performance, more than 90 percent of primary care physicians use electronic patient records for diagnostic data, and about 90 percent of prescriptions are sent to pharmacies electronically.¹¹ In general, both the quality of IT systems and their level of use are high in Swedish hospitals as well as in primary care.

EMR solutions represent the most significant opportunity for health IT to drive healthcare performance improvement at a systemic level.

The UK approach

The UK has implemented the Quality and Outcomes Framework (QOF), which includes an annual reward and incentive program based on detailed general practice performance targets. The QOF covers four main domains, each with a set of performance indicators against which practices score points according to their level of achievement. The four domains are:

1. Clinical
2. Organizational
3. Patient experience
4. Additional services

Clinics are awarded points for managing common chronic diseases, such as asthma and diabetes, how well the practice is organized, how patients view their experience at the clinic, and the amount of extra services offered, such as child health and maternity services.

There are early indications that the framework has resulted in better recorded care, enhanced processes, and improved outcomes, such as the control of glycated haemoglobin (HbA1c) and high blood pressure in people with diabetes.

In the Netherlands, which is among the first countries in the world to develop a comprehensive tool for reporting on 125 indicators related to quality, access and affordability of healthcare, 97 percent of practitioners use EMRs in their practice. Information for 8 million patients (about half the population) is exchanged via regional electronic health records, and a national, searchable system referred to as “healthcare Google” makes records available through a searchable database accessible to eligible practitioners throughout the country.

In the US, since the HITECH act (Health Information Technology for Economic and Clinical Health) was enacted in 2008, physician adoption of EMR technology to meet five meaningful use core objectives has increased by at least 66 percent. Of particular note, the percentage of physicians engaging in e-prescribing doubled to 73 percent by 2012, and physicians’ capability to meet the four other meaningful use core objectives related to improving quality, safety and efficiency grew by 66 percent to 90 percent.^{iv}

These international examples suggest that connected EMR solutions represent the most significant opportunity for health IT to drive healthcare performance improvement at a systemic level, ultimately translating into improved quality of care and better health outcomes.

The US Approach

The US has implemented a policy of meaningful use, which is defined as using certified electronic health record (EHR) technology to

- improve quality, safety, efficiency, and reduce health disparities,
- engage patients and family,
- improve care coordination, as well as population and public health, and
- maintain privacy and security of patient health information.

Ultimately, it is hoped that meaningful use compliance will result in

- better clinical outcomes,
- improved population health outcomes,
- increased transparency and efficiency,
- empowered individuals, and
- more robust research data on health systems.

Source: HealthIT.gov

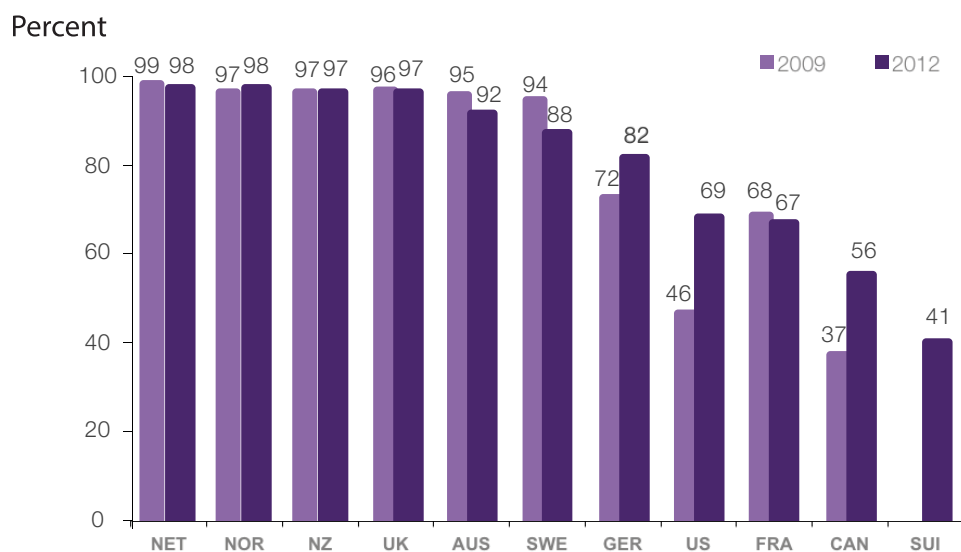
How Canada stacks up

Canada is making progress. EMR use in Canada has grown 19 percent between 2009 and 2012. Yet despite this growth, the country's EMR adoption rate of 56 percent is the lowest in the G7.^v This begs the question, why is Canada lagging?

In my recent article examining EHR funding approaches in the US and UK, I make the association that Canada's comparatively lower EMR adoption rate is related to its history of subsidizing the purchase and implementation of EMR technology rather than on achieving specified health objectives.

Other countries' experiences suggest that when EMR adoption levels reach 80 percent or more, there is a strong correlation between quality of care and use of technology. As Canada steps closer to these higher levels of EMR adoption, the use of technology itself may well become a defining attribute of a new standard of care and, by extension, stronger policy levers may be needed to compel lagging regions to catch up.

Doctors' Use of Electronic Medical Records in Their Practice, 2009 and 2012



In the majority of countries studied in the Commonwealth Fund's Health Policy Survey of Primary Care Physicians, EMR systems are employed by more than 80 percent of practitioners.

Future state: Incenting health objectives and outcomes

Canada's EMR funding programs have had some success and paved the way to making the next stage of healthcare possible. Taking into consideration key learnings from the international community alongside the complexity of the fragmented Canadian health system, the following three-stage EMR deployment framework offers a pragmatic model with which to align future incentive programs in Canada.



Stage 1: Adoption

Adoption of Electronic Medical Record systems, an essential first step, has reached a significant level in most jurisdictions. While more current data is pending, recent unofficial reports from western provinces indicate that adoption of technology within the general practitioner community is actually approaching more than 80%.

The true promise of EMR systems is realized only when they can connect to the rest of the health system.

This is encouraging, as it sets the ground for the rapid deployment of policies that will stimulate efficiencies in the health system. Provinces that lag can catch up quickly by leveraging lessons learned from those that are more advanced. Without significant EMR adoption in all provinces, disparate levels of care across the country may intensify—a scenario that can be averted through incentive programs.

Yet, EMR adoption alone can only go so far. A standalone EMR is little more than a store-and-retrieve filing system containing information entered by a physician. While there are some benefits to this, a primary physician who operates in a silo is capturing only a fragment of their patients' reality.

The true promise of EMR systems is realized only when they can connect to the rest of the health system. In this way, a doctor gains access to health information about a patient from other sources and can transact and communicate with other parts of the health system. Lab results, medication profiles, a patient's biometric information and notes from other physicians can all be integrated with the EMR system, giving physicians a more complete view. While we are seeing some integration with, lab results and discharge summaries for example, fully bi-directional integration with other key data sources is not yet prevalent. With point-to-point digital communication, physicians can stay up-to-date on a patient's status on an ongoing basis, not only during in-person appointments. The advent of home monitoring technologies will take this concept of continuous monitoring to a whole new level.

Connecting healthcare silos allows physicians to schedule follow-ups and organize care plans more efficiently. The technology exists today to equip physicians to move beyond silos. To do so will require that system connectivity is incorporated into physician EMRs to facilitate collaborative health services.

Stage 2: Collaboration and Connectivity

Today, interactions between primary care physicians and the rest of the care continuum remain primarily manual, in part because data repositories for medication profiles, lab results and imaging are in varied stages of development from province to province, and in part because data needs to be in a format that can be digitally exchanged in a “chain of trust” and integrated with EMRs and other systems.

Canada is now in a position to reap the benefit of years of effort and investment.

Canada is now in a position to reap the benefit of years of effort and investment that have been applied to building repositories of information. Utilities that have allowed lab results to be downloaded directly into the EMRs for many years can be extended to provide two way communication with a variety of health data sources. Medication management including e-prescribing will be a major focus for health improvement in coming years. SaaS (Software as a Service) models will also make it easier to facilitate point-to-point communications between physician EMRs for purposes of referral, on-call coverage and collaborative care protocols.

Collaboration and connectivity is not only important among healthcare providers. Patients also need to be able to connect and collaborate with their providers.

Kaiser Permanente showed that the use of secure patient-physician e-mail was associated with a statistically significant improvement in effectiveness of care and management of chronic disease.^{vi} Kaiser Permanente Northern California (KPNC) developed a suite of patient-friendly Internet, mobile, and video tools for its 3.4 million members and has achieved many successes. For example, the number of virtual “visits” grew from 4.1 million in 2008 to an estimated 10.5 million in 2013.^{vii}

Over the next five years, supported by the right policies and legislation, it will be possible to use approaches like this, which can be extended to medication management and e-prescribing and which will connect more of Canada's healthcare data directly to care providers and more Canadian patients to their practitioners.

Once connectivity is addressed, we can evolve further toward a system that is focused on driving improved health outcomes.

ePrescribing and Medication Management

Electronic prescribing and medication management represent a major opportunity to improve health quality, patient safety and efficiency of care delivery. Drug spending in Canada represents \$34 billion annually,^{viii} yet our health system relies on passing slips of paper between physicians and pharmacies to manage this activity. Today, even in cases where prescriptions are entered electronically into an EMR, the ability to transmit them digitally to the pharmacy is not prevalent. Without ubiquitous end-to-end digital communication, prescriptions are either hand-written or printed from the EMR system and faxed or carried to the pharmacy where they are manually re-keyed into the pharmacy management system.

The inefficiencies for health providers at both ends of the transaction process are obvious. More disturbing is the margin for error inherent in the manual process that exposes patients to significant injury and even death. In 2004 close to 1 percent of patients admitted to acute care hospitals in Canada experienced a preventable adverse drug reaction.^{ix} In addition, there is a strong correlation between the number of physicians caring for a patient and the number of potentially inappropriate drug combinations prescribed.^x Numerous articles from around the world have documented similar findings.

Electronic prescribing systems have proven to significantly decrease medication errors and reduce preventable adverse events. Furthermore, incorporating clinical decision support—which includes electronic alerts about potential prescribing issues, adverse consequences and alternatives—has the potential to further reduce inappropriate prescriptions.

Stage 3: Health Outcomes Improvement

Canada's complex and over-burdened healthcare system will be best served by incenting behaviours that enable prevention and that address system inefficiencies. Practically speaking, this approach will deliver a faster return on investment and gain more traction with healthcare providers than either fee for service or capitated payment models.

For example, programs aimed at managing chronic disease more effectively can reduce demand for acute care services and shift care out of hospitals and into community settings. Chronic diseases affect one third of the population and represent more than half of all healthcare costs in Canada. Incentive programs that encourage continuous patient monitoring and care that is consistent with best practice protocols can lead to healthier patients and patient populations. The resultant reduction in emergency room visits, hospital stays and other significant cost-heavy strains on healthcare budgets is the key to achieving fiscal sustainability for our publicly funded healthcare system.

Conclusion

Healthcare transformation ultimately rests in the hands of healthcare practitioners and their patients. What is needed to support the required change is an unparalleled level of shared commitment from the technology and government sectors to give healthcare practitioners the tools and support they need to improve performance effectively.

Without bold moves, we risk incremental improvement and disparate pockets of success, which in isolation create hope, but cannot translate into the sustainable change required today and in the years to come.

To move beyond adoption alone, the technology sector must continue to invest, innovate and evolve EMR solutions to equip doctors to deliver evidence-based care and improved patient experiences. It can also help break down healthcare silos by making it easy for practitioners to securely connect with one another. Governments must establish funding policies that provide incentives for practitioners to adopt new approaches that can only be achieved using information technology. This will drive us to the next level of healthcare performance, improving both quality and cost effectiveness in the process.

Without bold moves, we risk incremental improvement and disparate pockets of success, which in isolation create hope, but cannot translate into the sustainable change required today and in the years to come. Other countries have demonstrated that new ways of funding care delivery based on performance objectives can drive substantial improvement. By adapting these approaches to our health system, Canada can deliver a new standard of care—one that ranks alongside the best healthcare systems in the world.

References

- ⁱ CIHI, National Health Expenditure Database, Canadian Institute for Health Information
- ⁱⁱ CIHI, National Health Expenditure Database, Canadian Institute for Health Information
- ⁱⁱⁱ Commonwealth Fund International Health Policy Survey of Primary Care Physicians, 2012
- ^{iv} ONC Data Brief, No. 7, December 2012, Physician Adoption of Electronic Health Record Technology to Meet Meaningful Use Objectives: 2009-2012
- ^v Commonwealth Fund International Health Policy Survey of Primary Care Physicians: 2009-2012
- ^{vi} Zhou et al, Health Affairs, July 2010
- ^{vii} Pearl, Health Affairs, February 2014
- ^{viii} Canadian Institute for Health Information, Health Spending in Canada, 2013
- ^{ix} Baker, Norton, et al, CMAJ, 2004
- ^x Tamblyn et al, CMAJ, 1996



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