

The Electronic Health Record in Canada: The First Steps

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William Pascal, Director General, Office of Health and the Information Highway, Health Canada, described the “ideal” health care system in Canada as follows:

Borderless. Seamless. Accessible in all reaches of the country. Delivering fast, accurate diagnosis and treatment. A system where health care providers are equipped to focus on prevention and evidence based treatment, where all points of care (homes, schools, family practitioners, community clinics and hospitals) are linked. Free from red tape and wasteful duplication. Offering individuals the tools to take control over their own health. Where the privacy, security and confidentiality of personal health information are assured. That is indeed the vision for Canada’s health care system. It’s based on e-health to improve the quality, accessibility and effectiveness of health care. It features a pan-Canadian electronic health record, a range of integrated provider solutions and trusted health information for all Canadians.¹

This paper will briefly canvas the impetus behind an “electronic health record” (“EHR”) in Canada and some of the organizations created to support its development.

What is an Electronic Health Record?

There are many definitions of an EHR. The Health and the Information Highway Division (“HIHD”), Health Canada has defined an EHR to be “a health record of an individual

that is accessible online from many separate, interoperable automated systems within an electronic network”.² The Federal/Provincial/Territorial Advisory Committee on Health Infostructure (“F/P/T Committee”) has used the following definition of an EHR:³

A longitudinal collection of personal health information of a single individual, entered or accepted by health care providers, and stored electronically. The record may be made available at any time to providers, who have been authorized by the individual, as a tool in the provision of health care services. The individual has access to the record and can request changes to its content. The transmission and storage of the record is under strict security.

Therefore, the essential elements of an EHR are that it is:

- electronic ... it consists of bits and bytes – voice, video, images and data;
- contains personal health information identifiable information about a person’s health status and the events that have had an impact;
- longitudinal ... all relevant personal health information collected over a period of time that can be shared among health professionals;
- accepted by a health professional ... a record that can be accepted for use by a health professional in the provision of quality care;
- organized to support care ... structured to support clinicians and their support staff in the delivery of health care services;
- under the custody of a known party ... under the management of a trusted entity that can ensure only approved access;



- virtual ... it does not reside all in one place and can be assembled as required;
- available to the individual ... a tool for the health consumer.⁴

In an excellent and wide ranging paper reviewing the United States' quest for an EHR and its implications on privacy, Lawrence Gostin poses the following question:

What exactly are the goals of a health information infrastructure and how can these goals be attained? Overall, the goals are: (1) to guarantee the integrity of health data so that information is accurate, complete, current, and trustworthy, since the integrity of information is critical to quality patient care, assessment of services, research, and public health; (2) to ensure the availability of health data so that persons who need the information for legitimate health purposes have ready access to the data, since without readily available clinical information, providers cannot make informed decisions regarding diagnosis and treatment; and (3) to allow the administrative simplification of financial and other transactions, since burdensome and duplicative processing of transactions can significantly drive up the costs of providing health care.⁵

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date to outline how best to use the emerging information highway for the economic, cultural and social advantage of all Canadians. In issuing its final report in September 1995, IHAC emphasized that Canadians needed easy, fast access to information if they were to thrive in the information economy and singled out four areas for the strategic application of information technologies to enhance quality of life, improve services and reduce costs. One of these areas was health, where numerous benefits were seen to be derived from the development of a national health information infrastructure.

Most importantly, Recommendation 11.15 of the final report called for the creation of an advisory council to identify applications for new information technology in the health sector. This eventually became the "Advisory Council on Health Infostructure" ("ACHI"), as discussed below.

The Prime Minister of Canada launched the National Forum on Health in October, 1994 to

advise the federal government on innovative ways to improve the health care system. The Forum concluded in its 1997 report⁶ that a prime objective should be the expedited development of an evidence based health system involving all decision makers and stakeholders, including health care providers, policy makers and patients. The Forum also recommended the creation of a nationwide health information system.

A critical impetus to the development of a national health infostructure strategy came with the release of the *Canada Health Infoway: Paths to Better Health: Final Report* issued by the ACHI in February 1999 (the "Final Report").⁷ Established in August of 1997 pursuant to the IHAC recommendations mentioned above, the ACHI had a broad mandate to "... consider how information technologies and systems could best support and promote more informed decision making by health professionals, physicians, administrators, planners, policymakers and individual Canadians."⁸

In the Final Report, the ACHI coined the term "Health Infoway", to be interchangeable with the term "health infostructure" and recommended the establishment of a

The History of Canada's Health Infostructure

The HIHD's website at <http://www.hc-sc.gc.ca/hcs-sss/ehealth-esante/res/cat/index_e.html> provides a chronology of the dynamic history of the development of Canada's health infostructure in the past several years, and its critical features are discussed below.

In April of 1994, the federal government formed the Information Highway Advisory Council ("IHAC") with a man-



nationwide Health Infoway to improve the quality, accessibility and efficiency of health services across the entire spectrum of care in Canada.

The ACHI specified that the four strategic goals for the Canada Health Infoway should be to:

1. empower the general public by providing reliable health information and ensuring equitable access and opportunity for feedback;
2. strengthen and integrate health care services by providing health care professionals with communications and information tools such as the EHR, telehealth and similar technologies and by enabling interprovincial health care applications and better portability;
3. create the information resources for accountability and continuous feedback on factors affecting health; and, most notably,
4. improve privacy protection within the health sector by:
 - (a) harmonizing provincial, territorial and federal legislative frameworks for the protection of privacy within the health sector; and
 - (b) implementing fair information practices and privacy enhancing technologies by all organizations with access to personal health information.⁹

In identifying cooperation as the critical success factor to a comprehensive Canadian Health Infoway, the ACHI stated that “Canada has not one, but 12, interlinked single-payer, publicly funded health insurance systems. They are not in competition with each other, but many efforts to develop province wide health information systems – the necessary building blocks for the Canada Health Infoway – have occurred without sufficient consideration of how these will fit into a Canadian system in the future.”¹⁰

The ACHI recognized that privacy protection should become an actual design feature of any EHR initiative, stating that privacy is a “fundamental value in Canadian society.”¹¹ The ACHI suggested that the development of a privacy infrastructure should occur concurrently with the development of an EHR, if not before, and described what it considered to be key mechanisms to be included in privacy protection legislation relating to health information in Chapter 5 of the Final Report, “Improving Privacy Protection”. The ACHI concluded that “[s]ignificant variations now exist in provincial and territorial laws, regulations and guidelines for privacy and the protection of personal health

information in the public sector”¹² and that, in its view “a real danger exists that Canada could end up with many different approaches to privacy and the protection of personal health information. Different approaches could make it difficult, if not impossible, to improve the portability of services or create information resources needed for accountability and continuous feedback on factors affecting the health of Canadians.”¹³ It recommended that all Canadian governments have legislation specifically aimed at protecting personal health information “through explicit and transparent mechanisms”.¹⁴

In the summer of 1997, Health Canada established the Office of Health and the Information Highway (OHIH) (now called The Health and the Information Highway Division) as its focal point for all matters concerning the use of information and communication technologies in the health sector. The HIHD assists in federal policy development, partnership and collaboration and knowledge development to coordinate, facilitate and manage health infrastructure-related activity. In January 2001, it issued a useful paper entitled “Toward Electronic Health Records”.¹⁵ The report acknowledged many barriers to the development of a comprehensive EHR, but identified several principle issues, being:¹⁶

1. Many players and many approaches;
2. Lack of high level management of the EHR;
3. Lack of standardized functional system;
4. Lack of Pan-Canadian health network architecture;
5. Lack of policies on key issues such as liability and privacy;
6. Lack of centralized leadership.

In February 1998, a two day meeting of senior government officials entitled “The Federal/Provincial/Territorial Chief Information Officer Forum” was held to both discuss issues impeding the application of information technology within Canada’s health system and to explore solutions. Following this forum, Health Canada hosted a Federal/Provincial/Territorial Workshop on Privacy in October 1998 to develop a strategic and secure framework to allow the transfer of personal health information across Canada.¹⁷ The results of the workshop included:

1. participants endorsing the idea for the harmonization of federal, provincial and territorial privacy regimes and systems for the secure and appropriate communication of personal health information across Canada;



2. a recommendation that the Conference of Deputy Ministers of Health be requested to establish a special national taskforce to develop a harmonized approach to the privacy and security of personal health information; and
3. the establishment of a planning committee to determine the terms of reference and focus for such a national taskforce.

The Federal/Provincial/Territorial Chief Information Officer's Forum evolved into the F/P/T Committee (as distinct from ACHI), which in December 2000 issued the "Blueprint and Tactical Plan for a pan-Canadian Health Infostructure"¹⁸ to provide advice to the Conference of Deputy Ministers of Health on strategic issues, priorities and tactics pertaining to the development of the Canadian health infostructure. In 2001, the F/P/T Committee released an update document, the "Tactical Plan for a Pan-Canadian Health Infostructure: 2001 Update"¹⁹ to assess the status of the EHR and to outline its findings from its gap analysis of the health infostructure developing in Canada (the "2001 Update"). The 2001 Update covered a broad range of topics and issues and detailed key national and international initiatives and concluded that the development of Canada's health infostructure should focus on three tactical initiatives in the following order of priority: (1) EHRs and telehealth – beginning with an initial set of data elements and using a limited number of implementation projects including privacy, harmonization and standards for data, technology and security; (2) integrated provider solutions – being information and technology solutions for all health care providers starting first with integrated physician solutions to other regional information systems; and (3) health information for the public – being a portal for the Canadian public that provides comprehensive and trusted health information to support self care decision making.²⁰ The 2001 Update included a section entitled "Privacy and Security",²¹ stating that privacy requirements "... are the single most important factor that will influence the implementation of electronic health records."²²

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The federal government's financing of Canada's health infostructure began in 1997 with a \$50 million commitment over three years, with Health Canada being the lead funding department. In September of 2000, the federal government announced that it would "invest \$500 million immediately in an independent corporation mandated to accelerate the development and adoption of modern systems of information technology, such as electronic patient records, so as to provide better health care."²³ That independent corporation, Canada Health Infoway, Inc. ("Infoway") was announced in 2002 with a stated mission to "[foster] and [accelerate] the development and adoption of electronic health information systems with compatible standards and communications technologies on a pan-Canadian basis with tangible benefits to Canadians."²⁴ On February 18, 2003, in support of the 2003 First Ministers' Accord on Healthcare Renewal, the 2003 Budget announced the provision of an additional \$600 million to Infoway "to accelerate the development of EHRs, common information technology standards across the country, and the further development of telehealth applications, which are critical to care in rural and remote areas".²⁵

Finally, in December of 2002, the federal, provincial and territorial Deputy Ministers of Health created the Advisory Committee on Information and Emerging Technologies ("ACIET") to continue the work started by the F/P/T Committee, discussed above. The ACIET is therefore the principal advisory committee to the ongoing Conference of Federal, Provincial, and Territorial Deputy Ministers of Health, and is comprised of representatives of government as well as external members from Infoway, the Canadian Coordinating Office on Health Technology Assessment, the Canadian Institute for Health Information and other external experts as ACIET deems appropriate.

A final note: One of the better websites available for general information regarding Canada's health infostructure is the HIHD website with information on resources, key topics and the health infostructure in general.²⁶ One of its features is a searchable database profiling Canadian EHR, telehealth, education, privacy and health information infostructure projects, entitled the "Canadian e-Health Initiatives Database".



With these first step initiatives at the federal and provincial levels, Canada has moved forward in establishing its vision of a pan-Canadian electronic health system.

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8. *Ibid.* at 15.
9. *Ibid.* at 1-4.
10. *Ibid.* at 1-5.
11. *Ibid.* at 4-5.
12. *Ibid.* at 5-2.
13. *Ibid.*
14. *Ibid.* at 5-3.
15. *Supra*, note 2.
16. *Ibid.* at 24-28.
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