Commission of Inquiry on Hormone Receptor Testing

Part II Submissions

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INTRODUCTION

1.   The Commission of Inquiry on Hormone Receptor Testing (the "Inquiry") was established by the Government of Newfoundland and Labrador under the *Public Inquiries Act, 2006* on July 3, 2007. The Commission proceedings were divided into two parts and the Healthcare Insurance Reciprocal of Canada ("HIROC") was granted standing with respect to Part II.

2.   Part II of the Inquiry focuses on policy and legal issues raised by the Inquiry's Terms of Reference. In addition, Term (f) of the Terms of Reference directs that recommendations be made as to the issues raised in Part I of the Inquiry. Information obtained through Part II submissions and the Symposium may be used to assist in the development of such recommendations.

3.   Upon review of the evidence heard during Part I of the Inquiry, HIROC's position is that there are several underpinning issues that should be dealt with in order to put the facts at issue in context and to provide the Commissioner with assistance in developing recommendations. In that respect, HIROC's submissions will address the topics of data management, health human resources and cultural issues within the healthcare setting.

4.   The evidence heard during Part I of the Inquiry also indicated that there is a concern with the balance between the current protections for quality and peer reviews under the *Evidence Act* and the desire to share information for the end result of improving patient safety. In that respect, HIROC's submissions will address the underlying concepts behind these two positions.

HEALTHCARE INSURANCE RECIPROCAL OF CANADA

5.   HIROC is an insurance reciprocal exchange which operates on a subscription and not-for-profit basis. It is the leading and largest healthcare liability insurer in Canada with approximately 500 health care facilities such as hospitals, nursing homes and community health centres, as members and subscribers in provinces across Canada. At all times material to the Inquiry's mandate, HIROC provided liability insurance for the Health Care Corporation of St. John's and its successor, the Eastern Regional Integrated Health Authority ("Eastern Health").

6.   In addition to providing liability insurance to its members and subscribers, HIROC is also a well-known advocate and promoter of health care interests within Canada. In accordance with its philosophy and vision statements, it promotes efficiency and innovation in healthcare insurance related areas through the delivery of comprehensive risk management programs and critical resources and research information.

7.   HIROC has provided educational programs to its subscribers and others within the healthcare sector since the time of its inception. HIROC participates regularly on various government committees and task forces aimed at addressing systemic issues as diverse as disclosure, liability, risk management, interprofessional collaboration and healthcare safety.

8.   HIROC's Communications Department works collaboratively with subscribers to ensure they are kept up-to-date regarding industry specific news, organizational program and service developments, marketing and special events. HIROC's Risk Management staff provide advisory services to subscribers on a wide range of clinical and operational issues. HIROC offers a range of additional risk management services at no charge to

subscribers including software based risk appraisal solutions, education, risk management reports and a video lending library.

9. In 2007, as part of HIROC's vision, "Partnering to Create the Safest Healthcare System", it expanded access to its proprietary risk management products and services to non-subscribers as part of its new Membership Program. The program offers non-subscribers fee-based access to various HIROC products and services aimed at supporting their risk management and patient safety objectives. HIROC subscribers currently have access to these programs and services as part of their premium.

10. Program expansion to non-subscribers enhances HIROC's existing knowledge of best practice activities. This information will be made available to benefit all HIROC subscribers. The profits from this initiative will be directed towards various Canadian patient safety initiatives including research and new product development.

11. HIROC is one of the earliest members of the Canadian Patient Safety Institute (CPSI). In 2001 the need for a coordinated strategy to improve patient safety was recognized. That year, the annual conference of the Royal College of Physicians and Surgeons included a one-day forum on patient safety. Following the one-day forum, the National Steering Committee on Patient Safety (NSCPS) was developed. The NSCPS then consulted with Canadian healthcare organizations, provincial and territorial ministries of health, Health Canada and other experts. The NSCPS's report, Building a Safer System, was released in 2002 and proposed a national integrated strategy for improving patient safety. A key recommendation of the report was the creation of the CPSI.

12. The 2003 First Ministers' Accord on Health Care Renewal recognized the need for a national strategy for improving patient safety. Further, it stated that the Health Ministers would take leadership in implementing the recommendations of the NSCPS. The 2003 federal budget included $10 million annually for patient safety initiatives, including the creation of the CPSI. In December of 2003, Health Canada officially created the CPSI. Since then, HIROC has been active within the CPSI and has representatives sitting on a number of CPSI committees.

13. Following an extensive review of HIROC's interactive, web-based Risk Management Self-Appraisal Modules (RMSAM), Accreditation Canada announced the referencing of RMSAM within its revised standards for organizations being surveyed in 2009.

14. HIROC is one of several founding members of the Ontario Healthcare Risk Management Network (OHRMN). The network encourages closer cooperation amongst healthcare risk management and patient safety personnel by encouraging the exchange of ideas and information relative to risk management and patient safety, promoting professional development and acting as a resource for healthcare organizations interested in initiating or improving their risk management capability.

15. HIROC has a number of partnerships through which it supports and encourages patient safety and healthcare provider education. Examples of those partnerships include:

- HIROC and the Canadian Medical Protective Association (CMPA) have developed a joint statement regarding Liability Protection for Midwives and Physicians to assist in responding to questions from both groups regarding their respective responsibilities when involved in the care and treatment of the same patient during the course of pregnancy, birth and the post-partum period.

- HIROC is a key sponsor of CPSI's Safer Healthcare Now! initiatives in Ontario and Atlantic Canada.

- HIROC and the Society of Obstetricians of Canada formed Salus Global Corporation which focuses on the development, marketing and operational support of programs and tools to improve healthcare performance and safety.

- HIROC and the Institute for Safe Medication Practices Canada recently signed a partnership agreement. The agreement recognizes several areas of mutual benefit including joint marketing initiatives, the sharing of selected anonymous aggregate data and potential refinements to the type of data collected to ensure consistency.

- HIROC staff sit on a number of committees of the Ontario Hospital Association (OHA). HIROC is also a regular sponsor of OHA events and seminars. Both organizations joined the CMPA and the College of Physicians and Surgeons of Ontario in developing and co-sponsoring a video conference series aimed at physicians wishing to learn more about upcoming regulatory and legal guidelines related to disclosure.

- HIROC has acted as a sponsor and participant in conferences organized by the Newfoundland and Labrador Association of Health Care Risk Managers.

DATA MANAGEMENT

The Issue

16.   Throughout the Inquiry hearings, reference was made to concerns with data quality and information management. From a broad perspective, issues with data quality and information management affect all aspects of healthcare. Although information management and infrastructure do not themselves provide "care" to a patient, they are essential to ensure that the patient receives the appropriate care. As stated by Roy Romanow, "To take full advantage of the potential of information, evidence and ideas in the health care system, the necessary information infrastructure must be in place."[1]

17.   Romanow elaborated on the need to have good information systems and the lack of progress that has been made in ensuring that the proper health information infrastructure is in place.

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[1] Roy J. Romanow, Q.C. *Building on Values: The Future of Healthcare in Canada – Final Report* (2002) at 76.

Good information systems are essential to a high quality health care system. They allow health care providers, managers and policymakers to share information and use the best available evidence to guide their decisions. They can also forge a strong link between quality on the one hand and accountability on the other.

…

Provinces and territories, health regions, and health care providers understand and support the need to make better, more effective use of information technology in addressing a number of challenges in today's health care system. Yet, despite this consensus, progress has been slow and provincial and federal initiatives are being developed in isolation, despite the fact that costs of each government going it alone are very high. Initiatives in provinces are motivated by different interests and objectives and it is not always clear if the projects are driven by administrative priorities, commercial interests, or the interests of citizens.[2]

18.   The following figures help to put the need for quality data and information infrastructure in perspective:

- In Canada, there are 2,000 healthcare transactions every minute.

- In one year there are:

    - 440 million laboratory tests

    - 382 million prescriptions

    - 322 million office-based physician visits (94% result in handwritten paper records)

    - 35 million diagnostic images

    - 2.8 million in-patient hospitalizations

- Every transaction requires documentation and information exchange.[3]

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[2] *Ibid*, at 77.

[3]   Canada Health Infoway, "Value to Canadians: Overview" (n.d), online: http://www.infoway-inforoute.ca/en/ValueToCanadians/Overview.aspx.

19.   The development of appropriate health information and communication technologies was identified as one of the top priorities in 2000 in the First Ministers' Agreement.[4]   This commitment was reinforced in the 2003 Accord on Healthcare Renewal and the 2004 10-Year Plan to Strengthen Healthcare.[5]

20.   In 2000, to address the health infrastructure priority, the Government of Canada announced an investment of $500 million in an independent not-for profit corporation whose mandate was to accelerate the development and adoption of modern systems of information technology, such as electronic patient records, so as to provide better healthcare.[6]   The corporation was termed Canada Health Infoway (the "Infoway").   Its two part mission is as follows:

> 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.
>
> To build on existing initiatives and pursue collaborative relationships in pursuit of our mission.[7]

21.   Infoway has a national mandate and has taken a pan-Canadian approach in its work.   One goal of the pan-Canadian approach is to ensure that health record elements are built with consistent standards which will in turn ensure future interoperability within and across jurisdictions.[8]

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[4] Canada Health Infoway, *2015: Advancing Canada's next generation of healthcare*, (n.d) at 5.

[5] *Ibid*, at 5.

[6] *Ibid*.

[7]   Canada   Health   Infoway,   "Who   we   are: Overview"   (n.d)   online: http://www.infoway-inforoute.ca/en/WhoWeAre/Overview.aspx.

[8] *Supra*, note 4 at 5.

22.   In 2002 Infoway initiated the Electronic Health Records (EHR) Data Definitions and Standards Project (the "Project") in collaboration with the Canadian Institute for Health Information (CIHI). The goal of the Project was to define a clear strategy for key health information standards initiatives that will advance the development and implementation of the interoperable EHR.[9] For the purposes of the Project, standards referred to the "structure, content and communication of health information."[10]

23.   There are numerous benefits that may be gained by achieving standards based EHRs. A brief summary of benefits includes: improved quality and consistency of care; more accurate and effective communication; better coordination of services; and an improved ability to work collaboratively. The full range of benefits is outlined in Appendix A.

24.   The end result of the Project was identification of key issues, priorities and gaps for the establishment of EHR health information standards. In that respect, the development of standards to support the following areas were identified as a priority:

- Common clinical vocabulary including diagnostics and intervention nomenclature;

- Unique identifier for client/provider/location of care;

- Encounters and the definition of an encounter;

- Standardized documentation;

- Pharmacy/medications;

- Laboratory;

- Messaging standards, including operational systems, registries and those specific to the EHRS/EHR;

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[9] Canada Health Infoway, *Electronic Health Records (EHR): Standards Needs Analysis*, (2004) at 2.
[10] *Ibid*, at 3.

- Core data set/EHR data set;

- Client/provider/location registeries;

- Privacy harmonization/authentication; and

- Trust relationships.[11]

The need for ongoing, sustainable infrastructure to support these standards was also identified.[12]

25.   In May of 2003, Infoway and CIHI announced the signing of a MOU which formalized a relationship for the development and maintenance of standards required in support of EHR data.

26.   In 2005, a comprehensive health IT strategy was developed by Infoway in order to guide the next ten years of investments in healthcare information systems. Stakeholders from across the country provided input and helped to identify the progress that had been made to date and the gaps that remain within the system.

27.   Infoway's core objective is to provide electronic health records to 50% of the Canadian population by 2010. Unfortunately, it does not appear that the goal will be achieved by 2010. Only Alberta, Prince Edward Island and the Northwest Territories are on track to achieve this goal. Newfoundland and Labrador, along with Ontario, Manitoba and Saskatchewan, will require more time and more funding to complete implementation.[13]

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[11] *Supra*, note 9 at 13.
[12] *Ibid*.
[13] *Supra*, note 4 at 9.

Those provinces will have partially achieved the goal and will have a number of the core systems, including registries and diagnostic imaging in place by 2010.[14]

28. The achievements to date are encouraging. However, a number of risks that may jeopardize full implementation have been identified by stakeholders in all jurisdictions. While additional funds are required, the infusion of money will not satisfy all concerns. One area of concern relates to the capacity of the healthcare system to implement the changes due to a perceived shortage of skilled healthcare IT workers and change leaders. Another area of concern is the need to balance the pace of change that will impact the front-line clinicians.[15]

29. Infoway suggests that Canada needs to pursue four initiatives in order to continue to make progress in building the required infrastructure. Specifically, Canada will need to pursue the following:

> Complete the baseline electronic health record and extend its functionality and reach.
>
> Build a case for ongoing support and secure funding.
>
> Bring key stakeholders – the public and front-line practitioners in particular- on board.
>
> Selectively invest in IT to enable the next level of "business needs".[16]

30. When one considers the amount of information required to monitor and make patient care decisions, in addition to, the number of health care professionals who interact with a patient, it is clear that information infrastructure is an essential component of health care.
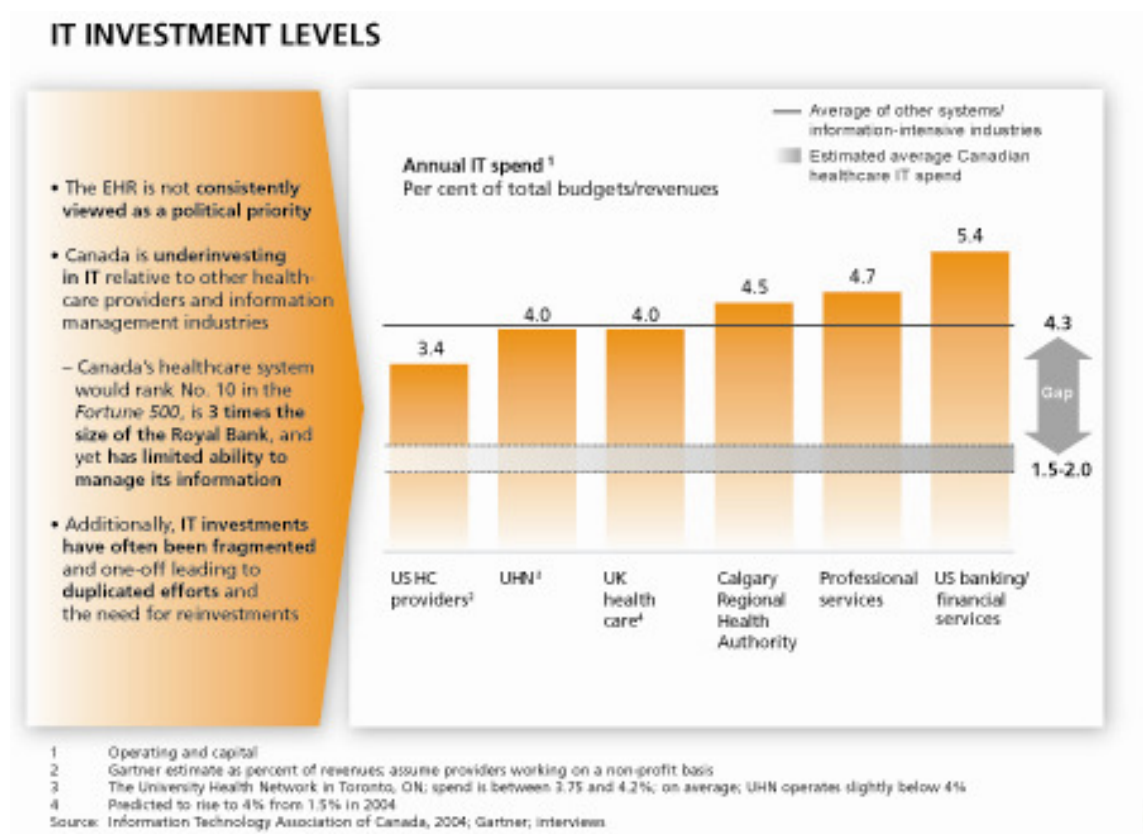
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[14] *Ibid*.

[15] *Ibid,* at 10.

[16] Ibid, at 13.

Yet, estimates on the amount of annual spending on building and maintaining the health infrastructure suggest that Canada lags behind in this type of spending as compared to other countries and other information intensive sectors.[17]   Of note is that fact that spending on health infrastructure also varies considerably across Canada.[18]

31.   The following figure highlights the discrepancy in information infrastructure funding between Canadian healthcare systems, other healthcare organizations and other sectors.[19]

IT INVESTMENT LEVELS

Legend:
— Average of other systems/ information-intensive industries
■ Estimated average Canadian healthcare IT spend

Annual IT spend[1]
Per cent of total budgets/revenues

Bar values: 3.4, 4.0, 4.0, 4.5, 4.7, 5.4
Reference line: 4.3
Gap: 1.5-2.0

Categories: US HC providers[3], UHN[2], UK health care[4], Calgary Regional Health Authority, Professional services, US banking/ financial services

- The EHR is not consistently viewed as a political priority
- Canada is underinvesting in IT relative to other health-care providers and information management industries
  - Canada's healthcare system would rank No. 10 in the Fortune 500, is 3 times the size of the Royal Bank, and yet has limited ability to manage its information
- Additionally, IT investments have often been fragmented and one-off leading to duplicated efforts and the need for reinvestments

1   Operating and capital
2   Gartner estimate as percent of revenues; assume providers working on a non-profit basis
3   The University Health Network in Toronto, ON; spend is between 3.75 and 4.2%; on average; UHN operates slightly below 4%
4   Predicted to rise to 4% from 1.5% in 2004
Source: Information Technology Association of Canada, 2004; Gartner; interviews

32.   Even with the limited amount of money that has been spent in the healthcare IT sector, there are concerns that the spending to date has not been optimal.   There are some
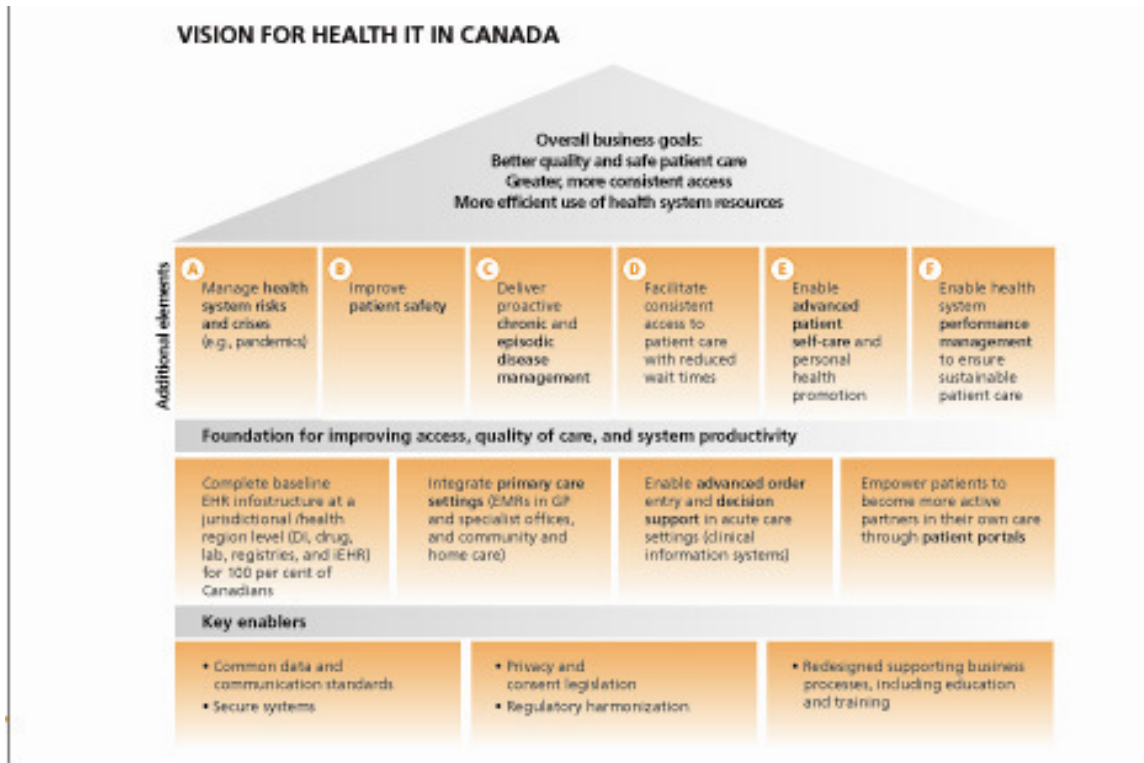
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[17] *Ibid*, at 14.

[18] *Ibid*.

[19] *Ibid*.

jurisdictions that do not have a strong regional information infrastructure. In such situations, the costs of development and maintenance may be duplicated in several different settings.[20] In addition, without careful planning these systems may have difficulties when an attempt is made to integrate them. Careful initial planning could avoid some of the costs of duplication and integration.

33. As stated earlier, Infoway has outlined an integrated plan to achieve Canada's health IT goals. The information infrastructure required can be categorized under three headings: foundational elements, additional elements and system enablers.[21] The following figure outlines how these elements fit together.[22]

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34.   Viewing this figure, one can observe how it will assist in achieving the following goals:

> Continued enhancement of patient safety by eliminating errors caused by misinformation or delayed information and by encouraging greater communication across the continuum of care.

> Greater and more consistent access to health services by streamlining processes and freeing up capacity to reinvest in patient care.

> Improved overall system sustainability by driving performance management and lowering cost of care.[23]

35.   Canada's healthcare system is a $100 billion+/year business. Implementing a solid health IT system will have numerous benefits. Investments in information infrastructure will:

> Improve the patient care experience through a new sense of empowerment and service.

> Help enable greater human resources flexibility and satisfaction by freeing up clinical and administrative time to devote to patient care and by making it easier, through standardized IT and business systems, for clinicians to work across different provider settings.

> Speed the development of evidence based medicine through analyzing drug treatments and therapies, which can help contain the growth in pharmaceutical expenditures and improve patient outcomes.[24]

36.   From a financial perspective, integrated benefits of information infrastructure (when all elements are in place) are estimated to be $6 billion to $7.6 billion annually (in 2006 dollars).[25] In addition, there will be savings from eliminating duplicative or unnecessary

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[23] *Ibid*, at 16.

[24] *Ibid*, at 20.

[25] *Ibid*.

tests and a recouping of future investment costs by freeing up capacity through improved

process efficiency.[26]

37.   There are a number of risks associated with either failing to make the necessary

investments in information infrastructure or delaying them. Specifically:

> Government will ultimately need to spend more money on IT if
> jurisdictions and providers make uncoordinated investments in
> building or upgrading or replacing non-compatible systems.   It
> will also incur higher investments in front-line staff to maintain
> manual processes.
>
> Exposure to legal or ethical risks associated with medical errors
> resulting from a lack of accurate and timely information will
> increase.
>
> Human resource challenges in rural areas and less IT-enabled
> jurisdictions will be further heightened, particularly as younger
> clinicians increasingly expect to work in computer environments
> and will demand change or gravitate to centres that can provide
> these advantages.
>
> Providing health services, particularly complex medical treatments,
> to rural regions will become increasingly difficult if they are
> isolated from centres of specialization and do not have access to
> telehealth functionality.
>
> A continued lack of critical information to drive true performance
> management within a $100 billion business will further constrain
> the managers of the system in making the right tradeoffs and
> assessments.[27]

38.   It is unlikely that Canada will achieve full implementation of an integrated health

infrastructure vision by 2015. The reasons provided for this delay include:

> Costs containments – The required investment may be perceived as
> prohibitively high compared to Canada's historical average IT
> spending of 1.5% to 2% of total hospital budget. In addition, many
> other healthcare priorities are competing for funds – such as

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[26] *Ibid*.

[27] *Ibid*, at 21.

investments in more front-line staff and medical devices – and other resources. Political tradeoffs may tend to favour these more visible items.

Different starting points and priorities by jurisdiction – While some jurisdictions are well advanced and can be expected to make significant progress against many of the business needs by 2015, others have only started to implement the systems covered by the Infoway mandate. In addition, the lack of a common strategy beyond the electronic health record will result in jurisdictions pursuing other priorities, both IT and non IT related, that may not contribute to reaching the vision by 2015.

Natural project sequencing – Implementing the systems that enable the vision can only partially be done in parallel (e.g. physician and clinical systems can be implemented at the same time). Most will need to follow a natural sequence.

Resource limitations – Progress in some jurisdictions is already limited by the inability to find sufficient skilled and experienced healthcare IT specialists.

Change management requires time – The front-line capacity to absorb change is limited and adopting new practices takes time.[28]

39.   Infoway identified five priorities to enable Canada to make significant progress over the next ten years. These priorities are considered essential elements of an e-health strategy to 2015 and need to be commonly committed to across the jurisdictions.[29] Specifically:

Ensure baseline electronic health record and public health infrastructure are in place across the country.

Unlock additional quality and safety benefits by enabling decision and communication across the care continuum.

Enable public visibility into wait times.

Begin to facilitate patient self-care and empowerment.

Trial and perfect more advanced functionalities in wait times and chronic disease management.[30]

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[28] *Ibid*, at 22-23.

[29] *Ibid*, at 24.

40.   The Newfoundland and Labrador Centre for Health Information (the "Centre") is a resource that can be maximized to achieve the goals outlined by Infoway. The Centre is responsible for the development and management of a province-wide Health Information Network (HIN). The HIN will allow health professionals to electronically share information with other health professionals. The Centre has a number of projects underway which will assist in the development of the HIN and support a person-specific EHR. The Centre's health informatics projects currently completed or under development are: the Unique Personal Identifier/Client Registry (completed); Pharmacy Network (planning); Laboratory Information System (discussion stage); and Diagnostic Imaging/Picure Archiving and Communications Systems (being implemented and managed by the Department of Health and Community Services with the Centre).[31]

Commission Evidence

41.   As stated above, during the Inquiry hearings, numerous references to data quality and information management were made. On a go forward basis, the evidence of Dr. Reza Alaghebandan and Mr. Don MacDonald (PhD), who work at the Centre, is helpful in examining what needs to be done in Newfoundland and Labrador.

42.   Mr. MacDonald stated in his evidence that by 2011 Newfoundland and Labrador could have one of the most comprehensive electronic health record systems in the world.[32] He went on to make the following comment with respect to what is missing:

> One of the things that we're missing today, and I've said this, is that interface between data and information. We continue to ask our IT people to create information from data. IT people are very

[30] *Ibid,* at 24-27.

[31] Centre for Health Information, "About the Centre", (n.d.) online: http://www.nlchi.nf.ca/about.asp.

[32] Evidence of Don MacDonald, October 24, 2008, p.12, lines 10-12.

good at creating data through technology. There's a different set of skills required to take the data to create the information, and that is what I feel is missing in the health system right now is that piece there. And there's – like in a lot of skill sets, there are not a skill set like this. This is not – you can't go in and start up a department of information management. You have to train these employees. They have to know your business. They have to be intimate with the data. All the employees at the Centre for Health Information, my department, create their own data. They understand, are intimate with the data. So it's not a technology question, it's an information question.[33]

43.   Mr. MacDonald emphasized the need for planning for the implementation of appropriate infrastructure.

But what we really need to start thinking about is what else can we use this data for, for planning, for supporting policy and programs, for secondary use is what we're talking about. So when they go in and build the systems, obviously the priority is to the patient, yes, but if we're in at the table and we're saying , okay, that's great, but let's also include these types of functionalities, so that we can do our jobs better on this end. It's obviously much easier to do that upfront than say in five years from now, okay, let's go back and rebuild it. It generally doesn't work that much.[34]

44.   Mr. MacDonald indicated that he felt that there is a lack of capacity in the healthcare system and within the regional health authorities with respect to information management. He was asked what was needed in order to create the appropriate level of information management within the regional health authorities. In response, he stated:

In my experience, and it is my opinion that this is not something that can happen overnight. There's just not enough skillsets in Canada around information management because it's a cultural shift, and what I mean by that is technology in a lot of cases has provided the data to the decision makers. Taking that data and answering the question appropriately that the decision maker wants is the critical piece that I feel we have to start building capacity. You would not be able to recruit that skillset overnight. I firmly

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[33] Evidence of Don MacDonald, October 24, 2008, p. 12, lines 14-25 and p. 13, lines 1-9.

[34] Evidence of Don MacDonald, October 24, 2008, p. 15, lines 1-15.

believe that we have to start building that capacity within the province. ... With our younger people, having them being mentored by more senior people. It's critical that they're intimate with the data. … You cannot answer a question from the data unless you understand what the data can actually do. [35]

46. In response to an enquiry concerning the role of the province in encouraging and facilitating the development of information management capacity, Mr. MacDonald stated:

> I understand that through one of the press releases perhaps a year ago, the minister at the time had provided funding to each of the authorities for one position, and I'm not sure what the position was, but it was certainly around the information management piece. So that's a step in the right direction. I think we have to be more systemic across the province as to what we should be looking for, what we should be – performance monitoring, for example, a lot of times the board will receive financial indicators, numbers that relate to revenues and budgets so they're able to a high level monitor the performance of the authority from a financial perspective. …. We need to do that obviously for clinical indicators….[36]

HEALTH HUMAN RESOURCES

The Issue

46. The provision of healthcare is dependent on several factors, including the appropriate mix of professionals who provide the service. With respect to health human resources ("HHR"), Canada is experiencing a number of challenges in terms of supply, mix, distribution, retention, recruitment and training.[37] Over the next two decades, Canadian

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[35] Evidence of Don MacDonald, October 24, 2008, p. 27, lines 23-25 and p. 28 lines 1-23.

[36] Evidence of Don MacDonald, October 24, 2008, p. 30, lines 4-23.

[37] Health Canada, *Pan-Canadian Health Human Resource Strategy: 2006/07 Report – Accomplishments and New Projects*, (2007) at 5.

demographics will significantly increase the demand for HHR, while at the same time, without significant changes, the supply of HHR may decrease.[38]

47.   The supply of HHR is dependent on how many providers are available, their workload and their productivity. In turn, these factors are influenced by such things as technology and the effect of government policies on training programs, immigration and the licensing of foreign trained healthcare providers.[39] Demand for HHR depends on the size of the population, the prevalence of disease, public expectations and activities of the providers themselves.[40]

48.   The following provides a summary of trends and initiatives in Canada with respect to HHR, with a particular focus on physicians and nurses.[41]

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[38] Kisalaya Basu and Cliff Halliwell, *Projecting the HHR Impacts of Demographic Change* (Health Canada, 2004) 8 Health Policy Research Bulletin at 17.

[39] Frank Cesa and Suzanne Larente, *Work Force Shortages: A Question of Supply and Demand* (Health Canada, 2004) 8 Health Policy Research Bulletin at 12.

[40] *Ibid*.

[41] Joshua Tepper and Suzanne Larente, Health Human Resources Strategies Division, Health Policy and Communications Branch as cited in Nancy Hamilton, *Health Human Resources: A Key Policy Challenge* (Health Canada, 2004) 8 Health Policy Research Bulletin at 3.

Major Trends and Initiatives in HHR

Joshua Tepper, M.D., *and* Suzanne Larente, *Health Human Resource Strategies Division, Health Policy and Communications Branch*

1990 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004

Federal, provincial and territorial governments and stakeholder groups review HHR situation; launch of HHR sector studies and/or strategies specific to nurses, physicians and allied health professionals

Higher educational prerequisites for physicians, RNs and many allied health professions

Increased ability of IMGs to work in Canada

10% reduction in medical school seats

Focus on regionalization, amalgamation and hospital restructuring

Rotating internship and corresponding general licence are eliminated

Increased focus on training medical students and residents in community and rural settings

Improvements in rural and community medical education with creation of a new northern medical school in Ontario and satellite medical school campuses in Ontario and British Columbia

Decrease in number of residency positions relative to graduating medical students

Reduction in nursing positions; many remaining jobs converted to part time or casual and many nurses emigrate or quit due to increased workloads

Some provinces and territories without medical schools purchase additional training positions in neighbouring provinces; other countries (including the U.S.) also purchase positions

Series of measures limit the role of IMGs

Many provinces increase number of medical school positions

Minimum of five years for all physician specialty training programs; many are longer as sub-specialties and fellowships proliferate

Primary care reform initiatives implemented in most provinces; interdisciplinary teamwork encouraged and information technology slowly introduced

Growth in number of RNs employed in nursing: 0%

Growth in number of RNs employed in nursing: 1%

Growing efforts to collect data on allied health personnel

Several provinces utilize disincentives to push new graduates to practise in certain geographic locations

Increasing numbers and types of third year training for family physicians

Significant decline in number of medical students interested in family medicine

49.   The current data related to HHR is limited. While there have been improvements made to data collection with respect to physicians and nurses, efforts to collect data on allied

health professionals only began in 2001. Data collection for allied health professionals is generally limited to conducting head counts.[42] However, this method of data collection raises concerns regarding the value of the data as this type of data does not adequately reflect the level/type of service that is being provided.

50. Dominika Wranik of the School of Public Administration at Dalhousie University wrote about innovative HHR models following the Mainstreaming Health Human Resources Innovations conference held at Dalhousie in 2005. Qualitative data for her paper came from three sources: a series of 10 interactive group interviews with key informants; content analysis and review of documents and websites provided by interview participants; and supplemental reviews of academic and grey literature.[43] Wranik's key informants were attendees of the conference and included health policy makers, academics working in the healthcare field, front line healthcare providers and managers of healthcare organizations or regional health authorities.

51. In her paper, Wranik referred to the five spheres of the healthcare system:

> Information: Data on all aspects of population health, population health needs, health care service provision, structures, funding levels and flows of funds.
>
> Providers: Allopathic and alternative physicians and other health care providers.
>
> Services: Actions taken by health care providers aimed at the maintenance or improvement of patient health or alleviation of symptoms.
>
> Education: College and university education, as well as associated residency programs that result in credentialing and certification of

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[42] *Ibid* at 13.

[43] Dominika Wranik, "Health human resource planning in Canada: A typology and its application" (2007) 86 Health Policy 27 at 28.

health care providers. Education also includes continuing education for practicing providers, which may or may not conclude with certification.

Policy: Public sector efforts aimed at regulation, funding and stabilization of the health care sector, as well as programming to deliver health care services directly to the public.[44]

Wranik suggests that healthcare planning is complicated by the nature of the linkages between the five spheres, feedback loops and overlap.

52. Highlighting the importance of data, Wranik writes that "in order for policy to create an effective framework for HHR planning, data on the five spheres of the system and on population needs are required."[45] A lack of data measurement and availability inhibits evidence based planning. HHR planning also requires the appropriate supporting technology and information systems.

53. According to Wranik, there are several barriers to the implementation of HHR strategies including funding, information, organizational structure, leadership/change management and policy making realities. The following table provides an overview of these barriers.

BARRIERS TO IMPLEMENTATION OF INNOVATIVE HHR STRATEGIES	
1. Funding	• Insufficient
	• Block grants structure decreases sustainability
	• Funding made available at policy level does not reach front line of care provision
2. Information	• Insufficient patient data hampers collaboration between providers and delivery of care via distance
	• Insufficient aggregate data inhibit comprehensive, systematic,

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[44] *Ibid*, at 29.

[45] *Ibid*.

	evidence based policy planning
3. Organizational Structures	• Educational institutions support silo culture within health professions
	• Lack of collaborative competencies, skills and training within most organizations
	• Union contracts inflexible and not accommodating to change
	• Restrictive legislation, inflexible to re-definition of SoP's
4. Leadership and Change Management	• Lack of leaders and managers for micro-level HHR initiatives
	• Health care providers cannot perform both health service provision and leadership of HHR initiatives
	• Changes taking place require management in order to be expanded
5. Policy Making Realities	• Decision making is often political, as influenced by public perception, lobby groups or pressure from stakeholders
	• Fragmentation of government makes comprehensive national planning difficult.

54. HHR strategies are being implemented on an ad-hoc basis, whereas in order to appropriately deal with this situation a systemic approach needs to be taken. Overcoming the above barriers will assist in developing a systemic approach. Given this, Wranik suggests the following as supporting objectives for the goal of systemic planning:

> Improved funding structure to increase project sustainability.
>
> Improved funding channels to ensure flow of fund to intended recipients.
>
> Increased flexibility in legislation, such as union contracts and other organizational structures.
>
> Clear definition of scopes of practice and communication thereof to all providers.
>
> Systemic collection of specified data at the micro-level.

Evaluation of micro-level initiatives and reporting on determinants of success. [46]

55.   Building on the above, Wranik suggests that a Collaboration Agent can take on the leadership function. A Collaboration Agent is an HHR manager with additional responsibilities to support the requirements for HHR innovations. According to Wranik, a Collaboration Agent should have the following competencies:

Knowledge of the business of health care provision, collaboration between providers, recognizing community needs, understanding government funding opportunities and understanding data collection needs and standardized tools.

Sensitivity to clinical culture and issues of turf protection.

Training in HR management and ability to strategically align HR management with broader system goals.

Leadership ability and enthusiasm.

Personal credibility and trust from health care providers, and policy makers.

Ability to liaison between the community and health care providers.

Ability to liaison between health care providers and policy makers.

Ability to identify funding opportunities and write applications.

Ability to understand data collection needs and implement standardized tools.[47]

56.   Michael Decter, recent Chair of the Canadian Institute for Health Information, suggests that organizational change impacts HHR requirements. Change will occur in the healthcare system due to funding mechanisms, patient expectations, improvements in technology and knowledge. As examples, consider the increase in the amount of home

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[46] *Ibid*, at 37

[47] *Ibid*.

care, the increase in pharmaceutical based therapies that are offered outside of the hospital setting and the move to share health information electronically. Each of these changes in healthcare delivery will influence the HHR requirements.

57.   While changes in how healthcare will be delivered will impact HHR, Decter echoes the belief that the biggest driver for HHR is demographics. With a significant aging population there will be an increase in the need for primary care (part of that will be chronic disease management i.e. diabetes, heart disease, asthma arthritis and cancer). Decter suggests that chronic disease management has current unmet needs and will likely continue to grow and put demands on the healthcare system. Disease management will need to move away from the solo family physician arena to a multidisciplinary team format. As part of that, information technology supports will be required. As well, there will be an increased demand on laboratory systems for monitoring of patient status and therapeutic interventions.

58.   According to Decter, meeting the basic level of HHR is not adequate. From a quality of care perspective, it is better to have a surplus.

> It is a reasonable goal to educate a sufficient number of providers to achieve a modest surplus. Only with a modest surplus can organizational changes be accommodated without imposing excessive overtime and resultant injuries on the existing workforce. A modest surplus is also a way to avoid poor-quality care.[48]

59.   In the 2003 First Ministers' Accord on Health Care Renewal, a commitment was made by governments to work collaboratively to improve HHR issues. In this respect, the Health

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[48] Michael B. Decter, "Healthcare Systems and Organizations: Implications for Health Human Resources" (2008) 11(2) Healthcare Quarterly 80 at 84.

Human Resource Strategy was developed and has three areas of focus: HHR planning, interprofessional education for collaborative patient-centered practice and recruitment and retention.

60.   Following the 2003 First Ministers' Accord on Health Care Renewal, the Conference of Deputy Ministers of Health ("CDM") requested that the Advisory Committee on Health Delivery and Human Resources ("ACHDHR") develop a framework for HHR planning. In 2005, the Framework for Collaborative Pan-Canadian Health Human Resources Planning (the "Framework") was approved by the CDM and endorsed by the Federal/Provincial/Territorial Ministers of Health.

61.   Traditional methods of HHR planning have had each province/territory develop plans independent of one another which resulted in competition between jurisdictions for limited HHR.[49] Because of the relatively small number of health education programs in Canada and the mobility of HHR, a collaborative approach to planning would be beneficial to all provinces/territories.

62.   As addressed above, data management is an issue that affects all aspects of the provision of healthcare. Issues with data management also impact on HHR planning. According to the ACHDHR all Canadian jurisdictions are limited in their ability to apply its Framework because of a lack of:

> High quality, consistent data on all major health disciplines, and
> the lack of national data standards, including common definitions
> and a common approach to collecting data;

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[49] Federal/Provincial/Territorial Advisory Committee on Health Delivery and Human Resources, *A Framework for Collaborative Pan-Canadian Health Human Resources Planning*, (2005; Revised 2007) at 5.

Consistent information on HHR productivity, workload, utilization, demand and efficacy;

Information about educational facilities and their capacity;

Capacity to assess health needs, model delivery systems, and forecast the demand for health human resources;

Capacity to analyze HHR data and translate it into useful knowledge; and

Funding for ongoing data and modeling initiatives.[50]

63.   The Atlantic Provinces have been working together to develop current and future HHR requirements for 30 health occupations. The Atlantic Deputy Ministers for Health and Education are working together to assess the adequacy of health education and training programs in the region in relation to demand. Each province has completed a labour market analysis to determine current and future supply and demand in the region.[51] A regional planning study has been completed which will allow the region to simulate gaps in the supply of and need of HHR.[52] The model will also allow decision makers to test the effectiveness of HHR policy initiatives prior to the actual implementation of the policy.

CULTURAL ISSUES WITHIN THE HEALTH CARE SETTING

The Issue

64.   Culture "expresses shared assumptions, values and beliefs and is the social glue that holds an organization together."[53] The culture of an organization is an important

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[50] *Ibid*, at 9.

[51] *Ibid*, at 7.

[52] *Ibid*.

[53] L.K. Trevino & K.A. Nelson, *Managing business ethics: straight talk about how to do it right*, 2nd ed. (New York: John Wiley & Sons, Inc., 1999) as cited in Christine Kane-Urrabazo, "Management's role in shaping organizational culture" (2006) 14 Journal of Nursing Management 188 at 188.

consideration when assessing the impact of changes, events and normal practice. While culture itself is intangible, its effects are seen in the actions and activities of the employees of an organization.

65.   Culture can have a major impact on employee satisfaction and organizational success.[54] As employee satisfaction impacts retention and recruitment, it is important for an organization to be cognizant of its culture and to make the necessary changes when it appears that culture is having a negative affect on its employees.

66.   Efforts to change a negative culture can have a positive impact on employee satisfaction and retention of new hires. A study of turnover rates among three inpatient units of a surgical program revealed a high turnover rate for new hires (both new grads and experienced nurses). A review of the issue indicated problems with the unit culture. A new program was implemented that changed the way that new nurses were oriented to the units and also changed the culture of the units. The program was based on four core beliefs: partnership, coaching and collaboration, communication and a sense of belonging.[55] The program also emphasized the responsibility of all staff for the successful transition of orientees. Following implementation of the program, the turnover rate decreased from 54% to 4%.[56]

67.   Managers play a key role in assisting the development of a strong, positive organizational culture. Management's role is highlighted in the various factors that affect nurses'

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[54] Christine Kane-Urrabazo, "Management's role in shaping organizational culture" (2006) 14 Journal of Nursing Management 188.

[55] Herminia Shermont, "The impact of culture change on nurse retention" 2006 36(9) Journal of Nursing Administration 407.

[56] *Ibid*.

satisfaction. A meta-analysis of nursing turnover rates indicated that job characteristics (such as the level of autonomy and routinization), problems with role definition (including role conflict and ambiguity), and aspects of the work environment all contribute to low nurse satisfaction. Low satisfaction in turn increases a nurse's intention to leave a job.[57] Many variables can affect satisfaction including: administrative and management practices, the level of support for nursing and nursing practice within an institution, working conditions, the quality of interpersonal relationships, job/task requirements, pay and fairness.[58]

68.   In addition to playing an important role in the normal course of events, management is vital during times of change to support employees and to maintain the positive aspects of an organization's culture.   In this respect, consider what may happen during a change within an organization.

> Generally, when an innovation or change conflicts with the culture
> of the unit or organization, it is the culture that holds fast and the
> innovation or change that fails. Thus, the first step in facilitating
> innovation or change is to assess the prevailing culture or each unit
> that will be affected by that change.[59]

In such a situation, management can play a key role in assessing the prevailing culture and discussing at the management level how to make the transition as smooth as possible.

69.   The healthcare system is no stranger to amalgamations and reconfigurations. Management support is central during the amalgamation process. In a longitudinal study

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[57] *Ibid*, at 408.

[58] *Ibid*.

[59] Janice Jones, "Dual or Dueling Culture and Commitment: The Impact of a Tri-hospital Merger" (2003) 22(4) Journal of Nursing Administration 235 at 237.

of nurses' reactions during the initial phase of an amalgamation and during the amalgamation implementation, the following observations were made:

> Nurses who believed that their hospital was committed to them, valued their contribution, and cared about their well-being perceived significantly less job insecurity, engaged in more control-oriented coping, and reported significantly higher job satisfaction, organizational commitment, and organizational trust and were less likely to be thinking of leaving their job than nurses who perceived little support from their hospital. … Upper-level management may be able to minimize the negative effects of an amalgamation by demonstrating to employees that they care about employees' well-being and value their contribution to the organization.[60]

70.   The study also found that perceived support from one's immediate supervisor was important in maintaining nurses' positive job attitudes during an amalgamation.[61] As well, there was some indication that supervisor support may be more effective than support from coworkers as the supervisor is able to provide informational support which may be valuable in uncertain situations.[62]

71.   As a new organization develops, management support is essential to assist in bringing people together. A study of nurses' commitment to their employing hospitals compared to the umbrella corporate organization during a tri-hospital merger found that the nurses from the acquiring hospital demonstrated a significantly stronger commitment to the corporate system than the nurses from the acquired hospital.[63] The nurses at all three hospitals showed a significantly greater commitment to their own particular hospital than

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[60] Marjorie Armstrong-Stassen et al., "The Impact of Hospital Amalgamation on the Job Attitudes of Nurses" (2001) 18(3) Canadian Journal of Administrative Sciences 149 at 158.

[61] *Ibid*, at 158-159.

[62] *Ibid*.

[63] *Supra*, note 56 at 236.

to the umbrella corporate system.[64] In such a situation, management plays an essential role in linking the different groups and helping all employees feel like they belong to the new organization.

72. Ideally, when organizations merge, they should incorporate the cultural strengths of the legacy organizations. The success of blending cultures is highly dependent on the ability of administrators to integrate cultures at the organizational and subunit level.[65] In order for employees to commit to an organization, they need to be familiar with the organization's mission, goals and objectives.[66] Information is required on an ongoing basis to update the staff with respect to changes and developments throughout the organization. In such a situation, management plays the key role in ensuring the dissemination of the required information.

QUALITY REVIEWS
The Issue

73. In recent years, considerable attention has been paid by researchers and accreditation agencies to practices for ensuring patient safety.   Over the same period, the rights of patients to obtain full disclosure of matters related to their healthcare has been promoted through the patient rights movement and recognized in the policies and practices of hospitals and professional licensing bodies. It is now beyond question that a hospital facility must take considerable and considered steps in implementing practices designed to achieve maximal levels of patient safety. As well, it is now beyond question that a

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[64] *Ibid*.

[65] *Ibid*.

[66] *Ibid*.

patient has the *prima facie* right to all of the facts related to care available to his or her healthcare providers.

74. Within the healthcare field, the benefits of peer review and quality review have long been recognized and applied in processes such as mortality and morbidity rounds or grand rounds.

75. Research and policy papers respecting quality and peer review document the reluctance of healthcare professionals to participate in such processes without assurances that the opinions that they and others provide in the process will not be used against them in later legal proceedings, such as civil suits or disciplinary proceedings, arising out of the same facts. In an effort to promote and encourage participation in quality processes, governments in the United States and certain Commonwealth countries have legislated evidentiary protections or privileges for the opinions provided during, and the conclusions of, such processes. The legislation in these jurisdictions has taken different forms, but all have in common a prohibition against the later use of conclusions and opinions in defined legal proceedings.

76. The evidence in this Inquiry has demonstrated that there are gaps and confusion resulting from the present form of quality review protection.

77. Eastern Health commissioned quality reviews which it intended, and which the reviewers understood, to be reviews which would be protected pursuant to the *Evidence Act*. However, the Supreme Court, Trial Division determined that this was not the case. That determination was based mainly on two findings by Justice Dymond:

(a)   That Eastern Health did not have Quality Assurance Policies and Committees in place; and

(b)   That the decision by Eastern Health to make the recommendations of Ms. Wegrynowski and Dr. Banerjee public, and to share those recommendations with other healthcare institutions and government, was inconsistent with protection for the reports.

78.   Evidence from witnesses in this Inquiry demonstrated that there was confusion as to the extent to which Eastern Health could share the reports of the reviewers with Government, with the affected patients, with other healthcare providers, with the public and even within the institution itself, without losing the protection provided by the *Evidence Act*.

79.   The evidence also demonstrated that there are expectations, especially in Government, in the public and in the affected patient groups that the reports of quality reviewers ought to be shared beyond the institution which commissions the review.

80.   Where the reviews address issues which can be anticipated might be common to other institutions which provide the service under review, the full benefits of the review cannot be available to those other providers unless the review reports themselves are shared.   As stated in the report of the National Steering Committee on Patient Safety:

> Learning from the experience of errors and sharing successful system remedies and effective safeguards in our ...systems will prevent recurrences of the same error.[67]

81.   Organizations and processes already exist in Canada which allow for the sharing of information and analysis of adverse events. The Canadian Patient Safety Institute and the Institute for Safe Medication Practices are examples of formalized institutions for the sharing of information developed from events in hospitals and reviews of such events.

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[67] National Steering Committee on Patient Safety, *Building a Safer System: A National Strategy for Improving Patient Safety in Canadian Health Care* (Ottawa, 2002) at 9.

82.   Other less formal processes also exist.   Organizations of hospital and medical professionals provide educational forums for the dissemination of information concerning adverse events. Health Canada provides warnings and alerts regarding equipment failures and medication issues. HIROC distributes information among its subscribers concerning commonly occurring adverse events. In this province, the Newfoundland and Labrador Association of Health Care Risk Managers provides opportunity for informal sharing of information.

83.   However, as is evident from the decision of Justice Dymond, the current evidentiary protections in the *Evidence Act* do not clearly extend protection for quality and peer review reports shared beyond the institution. Consequently, there is a disincentive to the sharing and dissemination of valuable information from quality reviews with others that provide the same healthcare service. The potential value to patient safety throughout the country, and beyond, is not maximized. This value lost is especially acute in cases such as ER/PR testing where the problems in Eastern Health laboratories are thought likely to be occurring, if not prevalent, elsewhere.[68] Unless information is disseminated among those working in the same field, mistakes are likely to be repeated elsewhere.

84.   As noted, the *Evidence Act* protections do not provide for the sharing of the opinions of quality reviewers with affected patients. It is commonly accepted that any facts disclosed within a quality review which are not otherwise recorded on the health record must be disclosed to patients.[69] However, the *Evidence Act* does not state this expressly, and no

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[68] See D. Craig Allred, "Commentary: Hormone Receptor Testing in Breast Cancer: A Distress Signal from Canada" (2008) 13 The Oncologist 1134.

[69] *Doyle v. Green* (1996), 182 N.B.R. (2d) 341 (N.B. C.A.).

Canadian legislation distinguishes between fact and opinion, and none provide a legislative definition of matters falling outside the quality review evidentiary protection.

85.   Further, patients affected by adverse events usually want answers as to how the event occurred or was not prevented:

> For patients and family members, the physical and emotional devastation of medical error cannot be easily overcome. What they want most out of their ordeal is honest and open dialogue about what went wrong, and a "legacy"- having their experience serve as a lesson for prevention in the future.[70]

86.   An apparently easy manner to provide patients and family members with answers concerning the event which impacted upon them is to share with them reports of quality review or peer review of the event. However, those affected by an adverse event will not easily understand if a quality review finds that the event was preventable but nonetheless the healthcare provider declines to provide compensation for the effect of the event and defends a civil suit or disciplinary proceeding arising out of the event. This result will almost certainly occur in many cases. Quality and peer reviewers commissioned to provide a report do not always proceed on the same basis as expert witnesses commissioned to provide a report in a civil suit; nor do they necessarily answer the same questions. A finding that an event was preventable does not necessarily mean that the event occurred due to negligence or care at a level less than a professional standard.

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[70] Joint Commission on Accreditation of Healthcare Organizations, *Health Care at the Crossroads: Strategies for Improving the Medical Liability System and Preventing Patient Injury* (Illinois, 2005) at 11.

87.   Moreover, the prospect of a report being shared with those affected by an adverse event will have the same chilling effect on participation in the review as led to the implementation of the *Evidence Act* protections.[71]

RECOMMENDATIONS

88.   HIROC submits that the Commissioner should include in her recommendations the following:

(a)   Encouragement for a systems approach to planning and implementing the necessary requirements for information infrastructure and information management within Newfoundland and Labrador.

(b)   The need for sustained funding for the implementation and maintenance of information infrastructure and information management initiatives.

(c)   Encouragement for continued collaboration between the Department of Education and the Department of Health and Community Services.

(d)   The need for collaborative HHR planning at the regional and national level.

(e)   The need for sustained funding for the data requirements for effective HHR planning.

(f)   Encouragement for management (including middle management) positions and leadership training.

(g)   A review of the current *Evidence Act* provisions to consider:

 (i)   promoting disclosure of quality assurance reports to third party organizations involved in patient safety initiatives by extending the evidentiary protections to include communications between healthcare institutions and those third party organizations; and

(ii)   whether a means could be devised through which limited disclosure of the conclusions and recommendations of quality review reports could be made to those impacted by adverse events and the public without affecting the right of the healthcare provider to defend legal proceedings.

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[71] Health Law Institute, Dalhousie University, *Patient Safety Law: From Silos to Systems* (*Appendix 2*) (2006) at 65; *supra*, note 64 at 16-17.

CONCLUSION

89.   A discussion of the first three issues identified in these submissions is not complete without considering how these issues are related to one another. It is evident that these are not stand alone issues. The healthcare environment truly is a system. An issue in one aspect of the system may be reflective of global issues and has many contributing factors. Understanding an issue requires an understanding of the context before an appropriate solution(s) can be determined. Without understanding the context, any proposed solution is simply a "band-aid" solution that will not be beneficial in the long run. Once the issue is understood, careful and thoughtful planning at the specific and global level is required in order to impact a long term, positive solution.

90.   These submissions also addressed quality and peer review. These reports provide more than a review of the facts of a sentinel event. They have a broader, educational aspect that is derived from participants expressing their opinions, listening to the opinions of others and working together to gain the benefit of the participants' collective wisdom and experience. Mechanisms need to be put in place to ensure the full benefit from the review process for patient safety initiatives and healthcare professionals that also addresses individual patient inquiries.

Dated at St. John's, in the Province of Newfoundland, this 1st day of December, 2008.

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Appendix A

BENEFITS OF STANDARDS BASED EHR

Stakeholder Group	Stakeholder Group Benefit of Standards and Interoperable Systems
Providers	• Improved quality and consistency of care through timely access to comparable data from multiple sources; • Increased use of structured and measurable information rather than free-text only, allowing faster and more reliable review of health information and increased user confidence; • Reduced reliance on verbal and anecdotal exchange of health information; • More accurate and effective communication among providers; • Reduced duplication of effort; • Better ability to consolidate clinical findings; • Shorter elapsed time between steps in the care process; • Higher probability of positive patient outcomes.
Patients	• Dramatically reduced need to repeatedly provide personal and family health history each time a patient encounters a different health care provider; • A personal health history that accumulates data with each encounter and that is easily understandable across a range of providers; • Better coordination of services across providers; • Reduced duplication of diagnostic procedures; • Better health outcomes.
Service Delivery Organizations	• Ability to reuse solutions implemented elsewhere in Canada, leveraging: - Lessons-learned - Change management and implementation strategies • A broader base of comparable data for monitoring and measuring performance; • Improved ability to work effectively in regionalized or collaborative capacity with other organizations, across different geographies and care settings; • Ability to interface to the interoperable EHR for access to compatible

Stakeholder Group	Stakeholder Group Benefit of Standards and Interoperable Systems
	data from a vast array of sources beyond an organization's boundaries; • Higher confidence in vendor software products through improved ability to predict suitability for use, effectiveness and return on investment.
Provinces/Territories	• Increased reliability and flexibility in allocating limited system, human and financial resources in the delivery of health services, through improved interoperability and comparability of information and business processes among organizations and across a wide range of settings; • More accurate, reliable and comparable data as the foundation for responsive policy decisions, capacity planning and program monitoring; • More accurate and timely comparability with other jurisdictions on the effectiveness of health service delivery programs. This leads to improved program planning and can provide a better foundation for resource allocation; • Ability to participate in, and have access to, the coordinated work effort of many F/P/T jurisdictions in the development of standards. This collaboration and sharing of health business requirements and the subsequent solutions offers a rich set of capabilities that could not reasonably be developed by just one jurisdiction; • Better access to potential *Infoway* investment funding through participation in the standards development process, together with a willingness and readiness to actively use the standards.
Educators	• Standards help educators offer curricula that are tightly integrated with the accreditation process; • Data that is captured for care is often used for education and research - use of standards increases data's relevance and usefulness; • One measure of the effectiveness of standards is their impact on practice improvement and practice outcomes, for example patient safety; • Exposure to standards-based curricula allows educators and healthcare professionals to understand the health informatics environment at a very early stage; Standards enhance task-specific extraction of information from published sources, such as matching cases to clinical studies or clinical practice guidelines.

Stakeholder Group	Stakeholder Group Benefit of Standards and Interoperable Systems
Researchers	• Higher quality comparable data across a broader range of sources; • Enhanced "linking" across disparate data sets (linking people, providers, locations, disease entities, treatment modalities, etc.); • Reduced time and effort to prepare data for use; • Larger, comprehensive datasets; • Ability to merge/correlate datasets across a broader range of studies; • Better ability to measure and assess outcomes and to identify health determinants.
Vendors	• Create a market advantage for those vendors who participate, in terms of (1) understanding early directions of health information standardization and product development and (2) the opportunity to actually "set" the national/regional or international standard in a particular domain or service. • Reduced customization by existing and prospective clients, resulting in better margins, reduced time-to-market and increased responsiveness to clients; • Improved access to prospective customers nationally (and potentially internationally); • Compliance with standards increases value of the product and service to clients.
Systems Integrators	• Easier integration of information systems; • Reduced costs and risk during integration of systems; • Easier transfer of skills between projects.
Standards Development Organizations	• Increased participation by stakeholders in the development and ownership of standards; • Improved ability to define localization needs for standards regionally and nationally; • Better applicability and suitability of open consensus standards in meeting current and emerging business requirements of the health sector.
Canada Health Infoway	• Provides objective criteria for better assessment of initiatives for *Infoway* strategic investment;

Stakeholder Group	Stakeholder Group Benefit of Standards and Interoperable Systems
	• Increased probability for project success and transportability of solutions; • Increased willingness by other organizations and regions to adopt successful investments; • Maximized return on investment of public funds; • Improved effectiveness of solutions in meeting pan-Canadian business needs in the health sector; • Improved ability to implement benefits of *Infoway's* Electronic Health Record Solution (EHRS) Blueprint, which requires pan-Canadian collaboration on the selection and implementation of health information standards.
Canadian Institute for Health Information	Many of the standards requirements inherent in achieving interoperability at a pan-Canadian level are directly applicable to CIHI in its role as a consolidated source of analysis on the health of Canadians and the health of the healthcare delivery system at large. Achieving interoperability through standards offers the potential for CIHI to benefit from EHR data through: • Large potential longitudinal source of semantically consistent data from multiple sources and contexts; • Source of data for primary use, such as in the Canadian Joint Replacement Register (CJRR), Canadian Organ Replacement Register (CORR), etc; • Source of data for secondary use in other analytical databases, such as Health Services, Adverse Events, Health System Expenditures, and Population Health.

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