



# Standards Newsletter

Vol. 1, Spring 2005

## ***First Issue of Infoway's Standards Newsletter Launched***

Welcome to the first issue of the *Infoway* Architecture and Standards newsletter. This information vehicle is designed to update our readers on *Infoway's* initiatives and involvement in the crucial area of architecture and standards development in relation to establishment of electronic health solutions. The goal is to accelerate establishment of a pan-Canadian Electronic Health Record Solution (EHRs).

A common view on a pan-Canadian basis of architecture and standards will have many benefits. First and foremost, it will result in open, standards-based, and interoperable solutions. Solutions that are interoperable "out-of-the-box" will clearly be the most cost effective to procure and deploy. For our public sector partners, this means a lower cost for the solutions, systems integration and testing. For our private sector stakeholders, this means you can view Canada as one large marketplace rather than the fragmented market you have experienced in the past.

As we embark on an EHRs that is made up of a set of loosely coupled components – from value-added healthcare information technology services to clinical databases – common standards and specifications are critical. We need common definitions of business concepts, nomenclatures and

### **In this issue**

- **Standards Collaboration Process**
- **HL7 and *Infoway* projects**
- **IRIS and Client Registry messaging**
- **IHE Canada**
- **EHRs Blueprint Evolution Project**
- **Privacy and Security Architecture Project**

messaging standards that enable semantic interoperability and interoperability profiles that define how these loosely coupled systems can effectively work together.

### ***Key Challenge***

A key challenge for all of us is to define an architecture, specifications and standards that work for a very complex industry, with very complex business rules, with subtle variability between jurisdictions, among health regions and among delivery organizations and clinical settings.

Given all of the diversity and variability, we want to convey to our stakeholders how the Health Information Access

Layer (HIAL) will create an application abstraction layer that presents a common view to point-of-service systems. This newsletter is designed to keep you informed about developments and activities in all of these areas.

Specifically, this newsletter will provide an in-depth update for the standards initiatives underway as *Infoway*-led and sponsor-led projects. It will also report on *Infoway* staff activities with respect to international standards organizations in order to influence those efforts, and promote our joint efforts to ensure standards are relevant to our agenda and business requirements here in Canada.

#### ***Blueprint update***

A lot of work is underway to update the EHRs Blueprint – A Framework for Interoperability, as well as tooling to support those initiatives. Those projects will be reported on as well.

As in standards, there is a lot of work underway internationally on architecture – from an HL7/OMG initiative for services definition to the work of IHE in specifying how systems interoperate

using well established message standards.

The audience for this newsletter is health informatics professionals in the private and public sectors with a responsibility for EHRs solution requirements, design, implementation, deployment and adoption. These include CIOs, CTOs, business analysts, product managers, business and technical architects, standards experts and systems engineers.

I hope you find the following information interesting and useful. Please do not hesitate to contact me at [dgiokas@infoway-inforoute.ca](mailto:dgiokas@infoway-inforoute.ca) if you have any questions or wish to suggest a topic for future newsletters. Our goal is to provide you with updates roughly three times a year.

May I invite you to read on.

**Dennis Giokas,**  
Chief Technology Officer  
Canada Health Infoway

---

## **Standards Collaboration Process (SCP)**

The EHR Standards Steering Committee has met a number of times since its launch last fall. The Committee leads and approves the establishment of pan-Canadian EHR information standards in support of *Infoway* investment programs. Members of the Steering Committee include senior executives from all federal, provincial and territorial jurisdictions as well as the Canadian Institute for Health Information (CIHI), the Standards Council of Canada, Canadian Health Information Management Association and

representatives from the nursing, pharmacist and physician communities. CIHI provides Secretariat support to the Committee.

At its most recent meeting in Montreal, the EHR Standards Steering Committee:

- Provided strategic direction on the development of a standards evaluation methodology that will guide SCP decisions on pan-Canadian standards;
- Confirmed the need for moving forward with a project focused

on EHR Clinical Vocabulary;

- Provided direction on the maintenance and conformance strategy project required to support approved EHR Standards;
- Endorsed the submission of Provider Registry messages to HL7 Inc.; and
- Reviewed and endorsed the 2005/06 operational plan and budget for the Standard Collaboration Process.

In mid-March, the EHR Standards Advisory Committee – for which CIHI also plays the role of secretariat – formally began work at its first meeting in Toronto.

Members of the EHR Standards Advisory Committee consist of a number of experts that can recommend standards solutions based on their objective, pan-Canadian, and broad-based expertise and opinion. In essence, the EHR Standards Advisory Committee ably represents standards requirements across the Canadian healthcare system.

In addition to recommending pan-Canadian EHR Standards, the committee provides tactical direction for *Infoway* information standards initiatives at all stages of the Standards Life Cycle and ensures appropriate Canadian and international alignment. It also plays an important role facilitating the resolutions of standards issues among various pan-Canadian Standards Groups.

The focus of the first meeting of the EHR Standards Advisory Committee was level-setting, however the Committee also:

- Reviewed and confirmed its Terms of Reference;
- Provided direction in support of its Administrative Policy; and
- Began the process of managing the emerging issues and interdependencies between pan-Canadian Standards Groups.

To find out more about the Standards Collaboration Process at *Infoway*, visit the Standards section of our web site. [CLICK HERE](#)

---

## HL7v3 at *Infoway*

As part of *Infoway's* strategic direction for the development of the interoperable EHR, Health Level 7 version 3 (HL7 v3) has been chosen as the desired standard for clinical messaging. Accordingly, all new messaging standards being developed with *Infoway* investment funds must be developed using HL7 v3.

First introduced in 1987, HL7 has become the benchmark for the electronic exchange of clinical and administrative data in North American health services. There are currently two message protocols supported by HL7: Version 2 (v2) and Version 3 (v3) which was approved in 2004 by the American National Standards Institute.

*Infoway* has opted for HL7 v3 due to its significant advantages over the earlier v2 or non-standard-based messaging protocol. V3 provides for semantic interoperability – the ability that allows

two or more application systems to exchange, understand and use information. In addition HL7 v3 is becoming the desired messaging standard of choice internationally for countries working towards EHRs.

There are five specific projects at *Infoway* that are actively contributing content to the HL7 ballot cycle or are preparing to put material forward to the various HL7 technical committees in the fall of 2005 and in subsequent ballot cycles. They include:

**The Pan-Canadian Electronic Drug (“CeRx”) Messaging Standard Project.**

This project will see the development of HL7 version 3 message specifications to support the pan-Canadian requirements for clinical drug information interchange between and among clinicians. The project will also enable the introduction of drug profiles to Electronic Health Records (EHR) in Canada and will support clinical decision support for electronic prescriptions. The Province of Newfoundland and Labrador, through a recent RFP, will be an early adopter of the CeRx standard.

For more information, join our CeRx on-line forum [CLICK HERE](#)

**The Provider Registry Pan-Canadian Standards Project** along with an implementation project, the **Western Health Information Collaborative Provider Registry Solution Project**

**(WHIC PRS).** The Provider Registry Pan-Canadian Standards Project has obtained pan-Canadian consensus on the interactions and data required to support a repository of providers within the Canadian EHR context. The WHIC PRS project is an early adopter of the HL7 v3 messages that are in the spring HL7 ballot.

**The Client Registry Pan-Canadian Standards Project** has reviewed the content of the Draft Standard for Trial Use (DSTU) in the HL7 standard. Additional content from our Canadian project will be submitted to HL7 in the fall of 2005. This standards group has obtained pan-Canadian consensus on the interactions and data required to support the registration of clients in Canada.

**The National E-Claims Project (NeCST) Project** is also a pan-Canadian HL7 v3 project that successfully contributed content through the Financial Management Technical Committee and those messages are now part of the HL7 v3 standard. NeCST is beginning to get traction in Canada through implementations, some of which are in pilot phase and some are in full production.

To find out more about our HL7 Projects, visit the Standards section of our web site. [CLICK HERE](#)

---

## IRIS Project

IRIS (Infoway Reference Implementation Suite) is a demonstration of Electronic Health Record interoperability messaging created by *Infoway*. The project

demonstrates and proves Client Registry interoperability and messaging using HL7.

Goals of the project were to:

- Show how HL7 V2.4 and V3.0 Client Registry messages work

- together in a demonstration environment;
- Create a test harness for interoperability;
  - Provides healthcare software developers with reusable message proxies that can be integrated in their solutions;
  - Develop code that can be made available under an Open Source license;
  - Enable faster uptake of EHR interoperability messaging; and
  - Make IRIS available to the broadest possible audience.

The first version of IRIS includes the functions of a Client Registry, and a simple ADT (Admit, Discharge, Transfer) application and several key

service components found in middleware products – what *Infoway* calls the Health Information Access Layer (HIAL).

We would very much like your feedback on IRIS. Tell us if you have downloaded it and used it. Tell us how it has helped you in your initiative. Suggestions for improvements are welcome. Comments can be sent to the general standards mailbox at *Infoway*: [standards@infoway-inforoute.ca](mailto:standards@infoway-inforoute.ca).

IRIS is available at Sourceforge.net, an open source distribution site. [CLICK HERE](#)

---

## IHE and Infoway

*Infoway* has been active in promoting and supporting the creation of the IHE (Integrating the Healthcare Enterprise) Canada initiative. IHE is a global forum that brings together healthcare organizations, clinicians, users and vendors from 14 countries with the common goal of going that “last mile” towards making IT standards a reality.

Currently, *Infoway* leverages the IHE specifications (i.e. radiology integration profiles) in the Diagnostic Imaging investment program where we have incorporated the adoption of the key radiology specifications in every project in which we invest. We have worked

closely with our sponsors and vendors to create greater understanding of the benefits and challenges of adopting standards in a very pragmatic way. The more recent Phase 2 approvals are now extending the number of specifications that will be implemented in each project. This approach has shown significant value to the sponsors, and in particular those who have recently (or will in the near term) procure imaging modalities, PACS and RIS solutions as it provides a clear definition of interoperability requirements between the various systems that need to collaborate in the hospital environment.

For more information on IHE and IHE Canada, [CLICK HERE](#)

---

## EHRs Blueprint Evolution

The EHRs Blueprint Evolution (EBE) Project is underway and on-track to

produce specifications for how healthcare point-of-service (POS) applications will be able to interact with the proposed EHR infrastructure (EHRi) to share information for the effective and

appropriate provision of health services to Canadians. The EBE Project will extend the depth and breadth of the original EHRS Blueprint, providing EHR Interoperability Profiles, Infostructure Interoperability Profiles, and a conceptual data model for the EHRi. *Infoway* regards these specifications as a form of standardization that will also be subject to the Standards Collaboration Process. This will ensure that all jurisdictions are aware of the standards implications for participating in the interoperable EHR, and have an opportunity to contribute to its evolution and implementation.

A significant part of the evolution of the EHRS Blueprint is the proposal by the EBE team that the HL7 concept of “Templates” be incorporated into our architectural approach. This approach

will allow health service providers to communicate clinical information in a standardized way that is “localized” to meet pan-Canadian needs, and that can be meaningfully interpreted across care disciplines, settings, organizations, and jurisdictions. This template customization will require engagement with the SCP through the project-based, pan-Canadian Standards Groups, to the pan-Canadian Advisory Committee and the Standards Steering Committee.

This is just one example of the many benefits of the application of standards to the EHRS Blueprint architecture, and in utilizing the SCP to promote reusable, readily deployable, EHR solutions.

For more information, join our EBE online forum [CLICK HERE](#)

---

## **Privacy and Security Architecture Project**

The objective of this strategic project is to develop a flexible EHR privacy and security (P&S) conceptual architecture that meets the legislated data protection requirements of all jurisdictions and facilitates secure interoperability between healthcare applications. This robust and scalable privacy and security architecture will also guide *Infoway*’s future investments in EHR systems

The architecture will define privacy and security requirements for an interoperable EHR based on existing legal and regulatory requirements, as well as national and international standards and best practices. It will provide a high-level view of how different functions and components in the system interact with one another and how they will facilitate secure

interoperability. Jurisdictions will be able to use this as a guide in the development and implementation of privacy and security requirements for information technology initiatives. The architecture will also address cross-jurisdictional data protection requirements, necessary as personal health information becomes more broadly accessible to authorized healthcare professionals.

This conceptual architecture will be based on consultations with government representatives responsible for defining privacy and security architectures, representatives from the FPT Information and Privacy Commissioners and Ombudspersons offices responsible for privacy legislation oversight, as well as with privacy and IT security experts, healthcare professionals, technology providers and others.

In January 2005, a 1.5-day workshop was held in Montreal followed by a web

forum to solicit input on the results of our IT privacy and security architecture work to date and to discuss stakeholder requirements that may influence this initiative. These validation activities focused on the development of a technical architecture supportive of provincial and cross-provincial privacy

### ***P&S Architecture Benefits***

Health Information custodians, providers and the public expect the EHR systems to be secure and private. Infoway recognizes that health care IT systems currently provide disparate privacy and security services that in extreme cases inhibit the interoperability of EHR solutions and in many cases have a negative effect on the efficiencies of end users. Common examples are the lack of interoperable single sign-on solutions and the constant redefinition of users with the same or multiple roles in multiple access control repositories which have a negative impact on the efficiencies of healthcare providers and system managers alike. An

and security requirements. A second round of consultation will occur in May 2005 and will address the P&S conceptual architecture itself.

For more information, join our PSA on-line forum [CLICK HERE](#)

interoperable EHR solution will therefore require interoperable privacy and security services.

The P&S architecture is intended to define interoperable privacy and security services that can be aligned with jurisdictional priorities and deployed across the country. It will facilitate jurisdictional goals of protecting privacy rights for patients and providers in a cost-efficient manner through reuse or replication of solutions, and through a potential reduction of operational costs for privacy & security services. It will help reduce privacy concerns associated with highly accessible personal health information within interoperable EHR solutions.