



Projects reporting progress on all fronts

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Welcome to the second edition of the Canada Health Infoway Standards and Architecture Newsletter. We have made a lot of progress towards achieving our agenda over the last few months.

Progress highlights

The EHR Standards Steering Committee and the Advisory Committee recently met and, among other items, began work on change management strategies for the Standards Collaboration Process. Within the HL7 Inc. context, the Provider Registry Messaging passed committee level balloting and will go to membership balloting in the fall. Client Registry messaging will also be going forward to HL7 ballot in the fall. The CeRx pan-Canadian Standards Group has published the fourth in a series of four packages on drug messaging specifications which means now all of

the CeRx specifications are available for review by interested parties.

In May, *Infoway* was represented at the ISO Technical Committee (TC 215) meeting. *Infoway* is now actively involved with, or leading the activities for, several of the ISO working groups. Common terminology standards are critical to achieving an interoperable EHR and this spring *Infoway* launched the EHR Clinical Terminology Integration Project to accelerate the establishment and adoption of pan-Canadian EHR clinical terminology standards.

Fall publication

The EHRS Blueprint Evolution team is in the final stages of its review. The Privacy and Security Conceptual Architecture team has completed its consultations and is completing its work toward documentation of the architecture. Both efforts will publish jointly in the fall. More details about each of these activities are in the articles that follow.

I've just returned from an Integrating the Healthcare Enterprise (IHE) workshop in Oak Brook, Illinois. The theme was Effective Integration of the Enterprise and the Health System. I did the keynote address on *Infoway* and covered our use and support of IHE integration profiles. José Mussi, our

Group Director, Clinical Programs, did a breakout session where he went into detail as to how our solution architecture supports a regional healthcare information network. Canada was recognized broadly by the organizers for our promotion of IHE, use of IHE in our investments and our contributions to furthering the IHE agenda. More information and the presentations from the workshop may be found on their web site: www.ihe.net.

New initiatives

Over the summer, a number of new initiatives will be started. The Pan-Canadian EHR Standards Organization Tactical Plan project is now fully staffed. Analysis has begun to develop a strategy and business model for an organization or organizations that can support all phases of the standards

development lifecycle in support of all standards for the EHRS. Consultations on the options will begin in the fall.

Also this summer, we expect to have phase 1 projects approved (scoping and planning) for three important standards initiatives in support of our programs. They are Public Health Surveillance, Jurisdictional Laboratory Information Systems and the Interoperable EHR. The next issue of the newsletter will profile each of these new initiatives in more detail.

In the meantime, I wish everyone a wonderful summer.

Dennis Giokas,
Chief Technology Officer
Canada Health Infoway

Standards Collaboration Process (SCP)

Infoway has created the Standards Collaboration Process as a means to secure pan-Canadian approval of the standards established in *Infoway* projects. The process governs the establishment of pan-Canadian standards for *Infoway* investments. It includes those jurisdictions, standards-related organizations, healthcare providers and vendors that will build operate and use an interoperable EHR. *Infoway* has set up the EHR Standards Steering Committee, the EHR Standards Advisory Committee and a number of pan-Canadian standards groups to work on this process.

The EHR Standards Steering Committee recently met in early June. The committee leads and approves the

establishment of pan-Canadian Standards in support of *Infoway* investment programs. Members of the Steering Committee include senior executives from all jurisdictions (federal/provincial/territorial) as well as the Canadian Institute for Health Information (CIHI), the Standards Council of Canada (SCC) and representatives from the nursing, pharmacy and medical communities. CIHI provides secretariat support to the committee.

At its June meeting in Toronto, the EHR Standards Steering Committee:

- Confirmed the strategic direction of a standards evaluation process that will guide the Standards Collaboration Process decisions on pan-Canadian EHR standards;
- Endorsed the upcoming HL7 Inc. balloting activities related to the

- Provider Registry, Client Registry and CeRx programs;
- Began its strategic work on change management planning for the Standards Collaboration Process; and
- Approved an issue management process for the Standards Collaboration Process.

The EHR Standards Advisory Committee recommends pan-Canadian EHR standards to the EHR Standards Steering Committee and provides tactical direction for *Infoway* standards initiatives at all stages of the Standards Life Cycle. The committee also plays an important role in facilitating the resolution of standards issues between the various pan-Canadian Standards Groups.

At its most recent teleconference in June, the EHR Standards Advisory Committee:

- Endorsed the upcoming HL7 Inc. balloting activities related to the Provider Registry, Client Registry, and CeRx programs;
- Approved the membership composition of a pan-Canadian Standards Group to support the EHR Clinical Terminology Integration project; and
- Began its tactical work on change management planning for the Standards Collaboration Process.

To find out more information about the Standards Collaboration Process, visit the Standards Collaboration Process 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.

The Provider Registry Pan-Canadian Standards Project:

Infoway is pleased to announce that the pan-Canadian Provider Registry HL7 v3 messages have successfully passed the first (committee level) ballot towards becoming part of the international HL7 v3 standard.

This is a significant and important step in the standards development process. Having internationally and Canadian balloted standards is part of the *Infoway* commitment to our stakeholders.

Canada has demonstrated the ability to lead and influence the HL7 standards to ensure they support our Canadian requirements in achieving the vision of the interoperable EHR. This is the first international iteration in what is likely to be a two-step ballot process for provider registry messages.

Now that the messages have successfully passed committee level ballot, the next step is the membership ballot in September. In addition, *Infoway* has advised HL7 Canada that at the same time, the messages will proceed through an HL7 Canada ballot to further constrain the messages to reflect the Canadian specific requirements. Successful completion of these two final steps will result in a standard that is both Canadian and international, and with a very broad consensus baseline.

The Client Registry Pan-Canadian Standards Project: As for the Client Registry pan-Canadian Standards, the messages will proceed to committee

level ballot in September and the project is to move onto membership ballot in January.

Ensuring *Infoway's* investments are based on pan-Canadian standards, such as HL7 v3, and a pan-Canadian architecture 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 viewing Canada as one large marketplace rather than as the fragmented market experienced in the past.

While *Infoway* recognizes that v3 is still evolving, *Infoway* continues to invest in HL7 v3 development and implementation projects. For more information on the *Infoway* standards projects and HL7 v3, [CLICK HERE](#)

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 CeRx specification is being developed in four packages each keyed to various drug messaging specifications. *Infoway* is pleased to announce the publication of package #4

(the last package) of the CeRx specification.

With the publication of this package, essentially all of the CeRx transactions are now available for inspection by interested parties. This is important because it will give implementers a very clear idea of scope and complexity. In fact, subject to pending changes and vocabulary work, it also gives implementers a sufficiently complete specification against which to plan software development work. This is excellent news for other stakeholders and vendors who may have been waiting for the materials to stabilize before engaging in the review process. This last package will extend the CeRx specifications with support for the following subject areas:

- **Allergy/Intolerance/ADR:** These messages will enable the recording of allergies and other intolerances as well as enable the reporting of adverse drug reactions.
- **Medical Conditions:** Messages in this subject area will allow recording of medical conditions.
- **Drug Permissions:** This subject area is envisioned to enable practitioners to seek approval for special use medicines through electronic messages.

Work on vocabulary (*i.e.*, codes and coding frameworks) continues as does work to bring the publication of CeRx materials fully in line with HL7 publication formats.

Further progress on international balloting will follow in subsequent newsletters. For more information, join our CeRx on-line forum [CLICK HERE](#)

ISO TC 215 at *Infoway*

Infoway's participation in the recent ISO Technical Committee (TC 215) meeting in Berlin, is part of our commitment to supporting Canada's leadership role in influencing EHR international standards.

The May 2005 ISO/TC 215 meeting was both a plenary and a meeting of all Working Groups (WGs). This was an important meeting for TC 215 as it was the first meeting under the proposed restructuring of the TC itself and the WGs. The proposed re-structuring is in response to the need to develop standards that meet practical, real business requirements in a timely matter. Of particular interest is the addition of WG8 "Business Requirements for an EHR." The work program of WG8 shall focus on two major tasks:

- Identification of requirements for the application of health informatics to health records and systems; and
- Identification of the health informatics standards necessary to fulfil these requirements.

Although all eight working groups have an impact on the pan-Canadian EHR, *Infoway* is leading or actively participating in WG1 - Data Structure; WG2 - Data Interchange; WG3 - Semantic Content; WG4 - Security; and WG8 Business Requirements for the EHR.

The ISO TC 215 is the health informatics Technical Committee to the International Standards Organization. Z295 is the Canadian Advisory Committee/Technical Committee (CAC/TC) under the auspices of the Standards Council of Canada, formed to facilitate Canadian positions to the international community with respect to health informatics standards development being undertaken by ISO/TC215 and ultimately to serve and support the domestic need for standards. CAC/TC is jointly administered by CIHI and the CSA. *Infoway* has both a voting and associate membership on Z295 and is a member of the Z295 Executive.

For more information on *Infoway's* participation in ISO TC215 activities contact [Julie Richards](#)

EHR Clinical Terminology Integration Project

Common terminology standards (data, terminologies, classification systems etc) are critical to achieving *Infoway's* goal of an interoperable pan-Canadian EHR. To accelerate the establishment and adoption of pan-Canadian EHR Clinical Terminology Standards, *Infoway* has initiated the EHR Clinical Terminology Integration Project (CTI).

The purpose of the EHR CTI Project is to identify, in collaboration with all *Infoway* programs, an integrated

portfolio of clinical terminologies to support the interoperable pan-Canadian EHR and help achieve its benefits. In other words, this project will identify the terminologies for data core to the EHR or indicate the *Infoway* investment program responsible for identification of domain specific terminologies. The goal of this project is to ensure that information contained within a patient's EHR is standardized, thus enabling semantic interoperability of clinical information. The objective is to achieve approval by the EHR Standards Steering Committee on the recommendations put forward that will

be tested and implemented in *Infoway* investment projects.

Some of the questions that will be answered through this work include the following:

- What are the dominant trends in EHR clinical terminologies based on the work done by Australia, the United Kingdom, the United States, etc?
- What is the business case for the use of terminologies in the pan-Canadian EHR?
- What criteria will we use to evaluate existing terminologies?
- What terminologies will be established and approved as pan-Canadian standards for the EHR (e.g. will Canada purchase a license for SNOMED?)
- What are the needs for aggregate mapping? (e.g. from SNOMED to ICD-10-CA/CCI?)
- What are the quantifiable and qualitative benefits from both clinical and operational perspectives?
- What are cost effective licensing and implementation options?
- What are the ongoing maintenance costs?

Project Deliverables

The project will begin with the development of a portfolio of clinical terminologies covering all programs, including the resolution of overlaps and white spaces. Some of the key terminology candidates that will be considered include SNOMED (Systematized Nomenclature of Medicine) and CCI (Canadian Classification of Interventions). Mapping functionalities needed between terminologies will be identified as part of this work.

The above information will feed into the development of a business case for EHR clinical terminologies that will identify semantic interoperability benefits as well as the total cost of ownership. Recommendations will be prepared for licensing (including French translation), support and maintenance arrangements for the core EHR terminology.

The project will conclude with the identification of early-adopter projects (i.e., interoperable EHR) for pilot and implementation.

Benefits

Implementation of common terminologies for the pan-Canadian EHR:

- Is essential for semantic interoperability;
- Improves the quality of clinical electronic information for the provision of healthcare and management of the healthcare system;
- Increases the ability to consolidate and report on clinical findings;
- Increases trust by clinicians in the information in the EHR provided by other clinicians;
- Reduces implementation and on-going maintenance costs through pan-Canadian licensing options and other arrangements;
- Allows faster and more reliable review of health information and increased user confidence with use of structured and measurable information rather than free-text only; and
- Improves ease of integration of information systems by vendors and reduces costs and risk during integration of systems.

The EHR CTI Project was initiated in June 2005 and will close in February 2006. Further information about the

project will be available online as it becomes available.

EHR Clinical Terminology Integration pan-Canadian Standards Group:

Consistent with other pan-Canadian EHR standards projects, the establishment of the EHR CTI pan-

Canadian Standards Group will be critical in providing review and validation of pan-Canadian requirements in this area. Membership for this group is currently being recruited until July 26, 2005. For further information about the recruitment process [CLICK HERE](#).

EHRs Blueprint Evolution

The EHRs Blueprint Evolution (EBE) project is now in the final stages of producing the next major Blueprint revision for the sharing of Electronic Health Records across the continuum of care in Canada.

The project has conducted an extensive series of consultations with stakeholders to assess the project content as it has evolved and to provide an opportunity for external review. This consultation has included:

- Major presentations of the project approach and early deliverables at the HL7 Canada spring meeting in Toronto, and again at an e-Health 2005 Pre-Conference Workshop.
- A number of webcasts and an early June face-to-face meeting with the project validation group, which includes representatives of the federal/provincial/territorial jurisdictions as well as key professional associations.
- Consultation with experts in our three focus groups with intensive review in the areas of Clinical Process, System and Data Architecture
- High level presentations during the *Infoway* pan-Canadian Vendor road show in May and June.

- Detailed presentation to vendor representatives nominated by ITAC and CHITTA.
- Workshops with HL7 messaging experts from across the country.
- Internal review by the Solution Architecture Group (SAG) and subject matter and technical experts from *Infoway's* investment programs

The EBE team has finished production on most of the core deliverables of EHR Business Process requirements, EHR Interoperability Profiles, Infostructure Interoperability Profiles and the EHR Infostructure (EHRi) Conceptual Data Model. What remains now is to package that material together and to provide additional narrative that integrates the new project work into the previous version of the Blueprint and updates existing sections to provide additional detail and information around the Functioning Principles for an EHRi, the Common Services, deployment considerations and the integration of registries and domain systems as infostructure services.

When the final draft is assembled, an extensive technical review will be conducted by the *Infoway* Solutions Architecture Group (SAG) and another review with the vendor community and our Validation and Focus Group representatives. Unfortunately, EBE was unable to present to the Standards Collaboration Process Steering Committee in June, so that presentation

has been rescheduled for the next meeting. The team is still working for a September release of the final deliverable, however, this is somewhat dependant on the additional internal and external review cycles the team feels are needed before production. We are

currently planning for the post-release communication strategy which will include general presentations, direct engagement with iEHR project teams, and information packages suitable for different audiences.

Privacy and Security Architecture Project

The Privacy and Security Conceptual Architecture project supports the development of privacy enhancing and secure systems for the protection of personal health information. This will help ensure future interoperable EHR (iEHR) systems will be aligned with federal/provincial/territorial as well as cross-jurisdictional privacy and security requirements.

The Privacy and Security (P&S) Architecture team recently completed the final project milestone. During the month of May, a workshop and several webcasts provided jurisdictional representatives, national healthcare provider associations, such as the Canadian Medical Association, Canadian Nurses' Association, Canadian Pharmacists' Association, and Canadian Dentists' Association, as well as vendors the opportunity to review, comment and influence the first release of the Privacy and Security Architecture. Version 1.1.

The PSA document is now available on the *Infoway* KnowledgeWay website. [CLICK HERE](#)

Infoway consulted with over 70 privacy and IT security experts across Canada in the development of the first pan-Canadian definition of privacy protective and security enhancing services for an iEHR. This body of work represents an

important investment in intellectual capital in the realm of privacy and security with the healthcare sector. The PSA will influence *Infoway's* future investments in the iEHR.

In addition to the conceptual architecture artifact the P&S project has produced important documents that will be of tremendous value to health information system designers and those responsible for the implementation of iEHRs, namely, the Privacy and Security Requirements for an iEHR, and the Privacy and Security Standards assessment. Several jurisdictions have indicated that the Privacy and Security Requirements document provides an invaluable source of information to be used in the product procurement and system design phases.

Infoway wishes to thank all stakeholders who participated in this most challenging initiative by influencing the direction and final version of the architecture.

During the workshops, a number of participants said they had or would be putting in place an internal jurisdictional consultative process to build support for these initiatives. Participants were satisfied with the workshops and made comments such as: "Gratifying to see the convergence," "Renewed energy," "Glad to see providers here," "Valuable for us to hear *Infoway's* vision first hand," and "Great to exchange ideas with other provinces."

For more information, we invite you to visit the KnowledgeWay Web Forums that have been set up to continue the

interaction between *Infoway*, jurisdictions and provider associations. [CLICK HERE](#)

Semantic Interoperability

In February 2005, *Infoway* was invited to attend a meeting of EHR and terminology experts at the office of Health ICT for the European Commission (EC) in Brussels. This meeting of international experts in the field was to define the extent of the problem of achieving consistent semantic meaning of health concepts when shared across a broad spectrum of sources and uses. Sponsored by both the EC and the World Health Organization (WHO), this work is being used as input to a proposal by the EC to its member states for funding applied research and initial solution implementations.

Provided the funding proposal is accepted, *Infoway* has been invited to

participate in some of these applied research activities, possibly providing an environment for trial proposed solutions in our iEHR projects. Canada faces many of the same logistical real-world problems facing the EC member countries regarding the need to reliably and consistently communicate information across jurisdictional, organizational, health discipline and language boundaries. This would be a unique opportunity for Canada to benefit from, and contribute meaningfully to, the international collaboration and efforts in achieving iEHR solutions.

There is no definite timeline for this opportunity, but it is anticipated a decision on the funding of this EC semantic interoperability project will occur over the summer with work beginning in the fall of 2005.