HL7® news

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# HL7-IHE Interoperability Demonstration Draws Crowds at HIMSS 2004

The HL7-IHE Interoperability Demonstration made a tremendous showing at the 2004 Annual HIMSS Conference & Exhibition, held February 22-26 in Orlando, Fla. Occupying nearly 2,500 square feet of prime exhibit space, the highly-publicized joint demonstration between Health Level Seven and Integrating the Healthcare Enterprise (IHE) featured classroom tutorials, theater presentations, guided tours and hands-on demonstrations.

Under the banner *Interoperability Shining Across a Connected Nation*, the HL7-IHE demonstration (booth #4638) involved an unprecedented 39 participants, sponsors and partners that represented not only the healthcare IT vendor community, but also federal, academic, medical and standards organizations (see thank you ad on page 21).

All of the 24 participating vendor organizations featured HL7 standards or draft specifications in their demonstrations, which highlighted four healthcare scenarios: patient safety, continuity of care, public health, and clinical trials (see related article on page 8). The HL7 standards and draft specifications that were used included Arden Syntax, CCOW, CDA, Version 2, Structured Product Labeling and aspects of Version 3, HL7's next specification, which is approaching the last stages of approval.

***Interoperability Shining Across a Connected Nation was the message conveyed at the HL7-IHE Interoperability Demonstration exhibit at HIMSS 2004. The demonstration occupied nearly 2,500 square feet of prime exhibit space and featured classroom tutorials, theater presentations, guided tours and hands-on demonstrations.***

Meanwhile, 12 different HL7 classroom tutorials were presented throughout the week to crowds that were standing-room-only. HL7 Past Chair Wes Rishel started the week off with a heavily-attended overview of HL7, which was followed by Technical Committee Chair John Quinn's presentation on Version 2— also well attended. HL7 Board Member Woody

*continued on page 2*

## In This Issue...

# HL7-IHE Interoperability Demonstration, cont.

Beeler, Ph.D. contributed three presentations on various aspects of Version 3. Other HL7 classroom sessions covered topics like CDA, CCOW, the EHR, Vocabulary, the CCR and the HL7/CDISC Collaboration.

IHE offered five different classroom presentations on IHE-related subjects like HIPAA Security, EHR, enabling open EMPI and more.

***Representatives of the nearly 40 participant, sponsor and partner organizations squeezed together for a photo at the HL7-IHE Interoperability Demonstration at HIMSS 2004.***

The high demand shown for presentations such as these will result in a larger area being designated for tutorials at the 2005 HIMSS show.

One area within the overall joint demo was specifically designated for HL7 information. Unofficially dubbed "the red zone" reflecting the main logo color of HL7, this 15 x 20-foot area offered attendees the chance to have technical questions answered by HL7 experts. Also in "the red zone," a 50-inch plasma screen played brief informative video clips featuring key HL7 members and top-flight industry luminaries. A variety of HL7 flyers, brochures and membership materials were also available here, promoting HL7's upcoming educational summits, working group meetings and international affiliates. All of the HL7 classroom slide show presentations and the "red zone" video clips are available as downloads from the HL7 website: www.HL7.org

***HL7 Board Technical Committee Chair John Quinn presents his Version 2 educational session in the exhibit classroom at HIMSS 2004. HL7 classroom presentations were very well attended all week.***


## HL7 news

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***"The Red Zone" of the HL7-IHE Interoperability Demonstration Exhibit at HIMSS 2004 featured video clips of key HL7 members and Board members, as well as industry luminaries.***

# EHR-S Second Draft Ballot Open Through April 17

## Results to Be Announced at HL7's May Working Group Meeting in San Antonio

The second ballot on the HL7 Electronic Health Record-System Functional Model Draft Standard for Trial Use (EHR-S DSTU) opened on March 18, 2004. The ballot will be available for comment until April 17 and the results will be announced during HL7's upcoming working group meeting, May 2-7, 2004 in San Antonio, TX.

The current (second) version of the HL7 EHR-S DSTU contains about 130 functions— a dramatic decrease from the first ballot— significantly simplifying the functional outline. This improvement is based on input from both internal HL7 activities and external HL7 participants. The EHR Collaborative— a group of organizations representing key stakeholders in healthcare (www.ehrcollaborative.org)— was instrumental in showcasing the new HL7 EHR-S Model and soliciting provider and vendor input during the 2004 Annual HIMSS Conference and Exhibition (www.himss.org).

### Unprecedented Industry Interest

The HL7 EHR-S Model has stirred unprecedented interest and input from all segments of the health care industry. The first ballot prompted a record-setting 223 votes from industry stakeholders. One reason for the dramatic voter turnout was an educational outreach program. In August 2003, the first draft ballot document was introduced to the provider community— a segment of the health care industry that is typically underrepresented in standards organizations and processes— through a series of six cross-country meetings sponsored by the EHR Collaborative.

Many industry leaders have participated in the validation of the simplified and improved HL7 EHR-S DSTU. According to John E. Fishbeck, associate director, division of standards and survey methods at the Joint Commission on Accreditation of Healthcare Organizations (JCAHO), "This model could provide a great value by establishing guidelines for an Electronic Health Record that can improve the quality and safety of care, increase collaboration and information sharing to enhance patient care, potentially lower costs, and provide better clinical data upon which to base future policy and research."

### The HL7 EHR-S Model— Normalizing Language

"The HL7 EHR-S Model will provide a common language for the provider community to help guide their planning, acquisition, and transition to electronic systems; and it will facilitate a more effective dialogue between providers and vendors," said Don Mon, PhD, vice president of practice leadership for the American Health Information Management Association (AHIMA).

Concerns expressed by some in the industry that the model was to be used as a compliance tool for the US Government are unfounded. "The HL7 EHR-S Model is not a conformance tool," said Linda Fischetti, co-chair of the HL7 EHR Special Interest Group (SIG). "It is a means to provide a foundation so that all stakeholders involved in describing EHR-System behavior will have a common understanding of the functions."

The HL7 EHR-S Model can also be likened to a dictionary that provides meanings to all of the words contained within it and, put simply, provides a long list of words from which the user can choose to use in a composition. From a user perspective, it can be used to enable consistent expression of system functionality; and like a dictionary, it is expected to evolve over time to match the needs of users.

### A Gradual Compliance

It is important to note that compliance with the standard does not mean that every function of the model be addressed by every vendor immediately. There are three main reasons for this:

1) **Some of the functions are visionary** (e.g., evidence-based medicine, or real time monitoring of public health). Very few, if any, vendors will have the ability to incorporate these functions right away. A two-year DSTU period will provide the industry time to decide how functions like these should be implemented and what priority they carry.
2) **Some of the functions are more important to one care setting than to another.** Vendors that sell to the home health market will most likely not utilize the same functions as those that sell to the inpatient acute hospital. In both cases, the vendor will get its standard functions from the functional outline, but they don't have to use 100 percent of the functions contained within that outline.
3) **The standard is voluntary.** Vendors can choose which of the EHR functions they include in their products, and by what timeline they will include them. Thus, two vendors in the same industry segment may have different EHR functions implemented in their products, but what functions they have all come from, or are mapped to, the EHR standard.

### What's Next for the EHR?

Assuming the second ballot is successful, the document will then be submitted to the American National Standards Institute (ANSI) as a DSTU for a period of up to 24 months. This will be announced to the industry at large and HL7 will encourage the industry to download and use the draft standard and report their findings back to HL7. Once industry feedback has been included, the document will be updated and re-balloted and then published as a normative standard and submitted to ANSI for approval.

Individuals interested in participating in the second ballot of the HL7 Electronic Health Record-System Functional Model can register to vote at www.HL7.org/ehr/ballot/signup.asp. Additional information about the draft standard is available from the dedicated EHR section of the HL7.org website: www.HL7.org/ehr.

# Health Level Seven in 2004

By Mark Shafarman, HL7 Chair

*Mark Shafarman*

We're only in April, yet 2004 has already seen some significant new developments for our organization.

## Standards:

There has been continued progress in Version 3. Several domains have reached ANSI status, including: RIM, Release 1; Claims & Reimbursements, Release 1; Refinement, Constraint and Localization to Version 3 Messages, Release 1; and Scheduling, Release 1. Other areas of Version 3 are now at DSTU level, including: Medical Records, Release 1 among others. Several other portions of V3 have passed ballot within HL7 and are in the process of being submitted to ANSI for approval. They include XML ITS Structures, Release 1, XML ITS Data Types, Release 1, Data Types - Abstract Specification, Release 1, Shared Messages, Release 1, CMETS, Release 1, and UML ITS Data Types, Release 1.

Both the V3 RIM and HL7 Version 2.5 are being submitted to ISO TC 215 for consideration as ISO standards.

HL7's work in the EHR standards area is also continuing. The second Electronic Health Record - System Functional Model Draft Standard for Trial Use opened on March 18, and will close on April 17. The results of the ballot will be announced at the upcoming HL7 Working Group Meeting, May 2-7 in San Antonio, TX.

The HIMSS HL7/IHE demo was an unqualified success (see article on the cover and page 8). Of particular note is that the V3 XML message schemas are both stable and implementable, and thus a major step towards the maturity of Version 3 has been demonstrated.

## New projects:

There are also significant new efforts to harmonize Version 3 models, both within HL7 and with related standards. The Templates Harmonization project, lead by Jane Curry, is investigating interoperability between templates (from HL7), archetypes (from openEHR) and entries (from CEN 13606). Within HL7, several TCs including Orders and Observations, Structured Documents, and Patient Care are developing a single RMIM to support the "clinical statement". The goal is to develop a model that will allow interoperability between the clinical content of a CDA release 2 document (the "clinical statement"), and the corresponding clinical information in a Version 3 messaging model (such as a lab order or result).

***New Health Level Seven Board Chair Mark Shafarman is presented with the symbolic "Passing the Gavel" plaque by Past Chair Wes Rishel.***

With the recent expansion of HL7 into new areas, and the simultaneous development of Version 3, we are experiencing some growing pains. To ensure that HL7 remains as effective as it has been with strong volunteer support, the Board initiated a committee, the Organization Review Committee (ORC), at the 2004 San Diego meeting to identify key concerns and symptoms of our rapidly changing organization and provide recommendations to address these concerns (see related article on page 11).

The Implementation Committee has also started work, and one of its major projects is the V3 Early Adopters Program (see related article on page 20).

## Upcoming Reminders

Please join HL7 at our upcoming working group meeting, which will be held May 2-7, 2004 in San Antonio, Texas. In addition to the meetings of our numerous technical committees and special interest groups, the upcoming meeting in San Antonio will offer 23 educational tutorials on topics ranging from the basics of HL7 Versions 2 and 3 to the use of HL7's automated tools for V3 message development.

I sincerely hope that you take the opportunity to join us in beautiful San Antonio. Online registrations are being accepted until April 16, 2004. After that, on-site registrations are still possible. Please visit our website (www.HL7.org) for more information.

Our first HL7 Educational Summit of 2004 took place at the end of March in Chicago, IL Two more summits are planned for 2004 (see page 18 for more information).

Plans are also underway for the first HL7 Working Group meeting in Europe. It is tentatively scheduled for May 2005 in the Netherlands. Mark your calendars!

# Five New HL7 Benefactors Join In Past Four Months

Since December 2003, Health Level Seven has welcomed five new benefactors, increasing the overall number of HL7 benefactors from 18 to an impressive, all-time high of 23.

Wyeth Pharmaceuticals, Partners HealthCare System, Inc., Pfizer, Inc., Booz Allen Hamilton Inc., and HIMS Solutions, Inc. are the newest HL7 benefactor members.

- **Wyeth Pharmaceuticals** joined as a benefactor on December 22, 2003. Wyeth has a long history of pioneering developments in pharmaceuticals and biotechnology, with leading products in the areas of women's health care, neuroscience, musculoskeletal disorders, cardiovascular therapy, vaccines and infectious disease, hemophilia, immunology, and oncology. Wyeth is also a leader in the development of nutritionals.
- **Partners HealthCare System, Inc.** became an HL7 benefactor on January 16, 2004. Partners HealthCare was founded in 1994 by Brigham and Women's Hospital and Massachusetts General Hospital. Partners is developing an integrated health care delivery system throughout the region that offers patients a continuum of coordinated high-quality care. The system includes primary care and specialty physicians, community hospitals, the two founding academic medical centers, specialty facilities, community health centers, and other health-related entities. Partners HealthCare is a non-profit organization.
- **Pfizer Inc.** joined as an HL7 benefactor on January 26, 2004. Pfizer Inc discovers, develops, manufactures, and markets leading prescription medicines for humans and animals and many of the world's best-known consumer brands. Pfizer's innovative, value-added products improve the quality of life of people around the world and help them enjoy longer, healthier, and more productive lives. The company has three business segments: health care, animal health and consumer health care. Pfizer's products are available in more than 150 countries.
- **Booz Allen Hamilton Inc.** became an HL7 benefactor on February 9, 2004. Booz Allen, a global leader in strategy and technology consulting, provides services to major international corporations and government clients around the world. Major areas of expertise include:
  - Strategy
  - Organization and Change Leadership
  - Operations
  - Information Technology
  - Technology Management
- **HIMS Solutions, Inc.** HIMS Solutions, Inc is a division of T. Neary & Associates, Inc and was formed in 2003 exclusively for its Electronic Health Record system market. HIMS Solutions, as part of T. Neary & Associates, combines over 25 years in the Healthcare Industry and offers all services related to it including but not limited to revenue cycle management, compliance, operational assessments, clinical consulting services, HIMS consulting, and a fully functional interfaced single vendor application system that will support our Healthcare Organizations of today and their electronic health record needs. HIMS Solutions philosophy is to create "busi ness partners," not to just serve clients, and sell services and systems. HIMS Solutions partners with organizations to create and complete their healthcare visions, and will lead them from the beginning of the implementation of their electronic health record through to completion and ultimate success.

"The support of our benefactors is critical in enabling HL7 to continue its work toward interoperability in healthcare's clinical practice, administrative and financial systems not only in the US, but worldwide," said Mark Shafarman, HL7 chair.

## HL7 2004 Benefactors

# Update from Headquarters

By Karen Van Hentenryck, Associate Executive Director, Health Level Seven, Inc.

*Karen Van Hentenryck*

## JANUARY 2004 WORKING GROUP MEETING

518 individuals were in attendance at the most recent HL7 working group meeting, which convened January 18-23 in San Diego, CA. A recap of that meeting is provided below.

### Recognizing our Volunteers

One of the highlights of this meeting was the Wednesday morning general session, where the organization recognized several of its volunteers. The Wednesday morning general sessions included the official "passing of the chairman's gavel" from Wes Rishel, outgoing Chair, to Mark Shafarman, who will serve as Chair of the HL7 Board of Directors through the end of 2005. Dr. Robert Dolin, Kaiser Permanente, who rotated off the HL7 Board of Directors at the end of 2003, was also recognized with a plaque of appreciation. In addition, HL7 recognized one of its newest benefactors, SAIC, who could not be in attendance at the October 2003 meeting when the other benefactors were recognized.

HL7 also took time at its meeting to recognize its meeting sponsors:

- **SAIC – Grant Rickard**– Thanks to SAIC for hosting the HL7 cocktail reception
- **INTERFACEWARE – Eliot Muir –** Thanks to INTERFACEWARE for sponsoring our Working Group meeting brochure
- **Siemens, Joan Miller –** Thanks to Siemens for sponsoring our Onsite Meeting Guide
- **LINK Medical, Choung Nygen –** Thanks also to LINK Medical for sponsoring the continental breakfast all week
- **Woody Beeler, Beeler Consulting and Abdul-Malik Shakir, Shakir Consulting** - Thanks to these consultants for sponsoring the Thursday cookie break
- **Woody Beeler, Beeler Consulting, Ted Klein, Klein Consulting, Inc,** and **Abdul-Malik Shakir, Shakir Consulting** - Thanks to these consultants for sponsoring the Thursday evening MnM Facilitators Roundtable

### Technical Steering Committee Meeting

The Technical Steering Committee (TSC) is comprised of the co-chairs of all of the Technical Committees (TC) and Special Interest Groups (SIG) within HL7. The Technical Steering Committee meeting convenes on Monday evening during the working group meeting. Decisions made in this group are forwarded as recommendations to the HL7 Board of Directors for a final decision. During this particular meeting, the TSC voted to recommend approval of a new Laboratory SIG (see related article – page 18). The complete mission and charter of the Laboratory SIG can be viewed at: www.HL7.org/special/committees/lab/index.cfm

***Above: Joan Miller accepts a plaque on behalf of Siemens, the sponsor for the HL7 January working group meeting On-site Guide.***

Although not a voting item, Stan Huff, co-chair of HL7's Vocabulary TC, introduced a proposal for adopting realms. A sub-committee of the Board is reviewing this issue. Woody Beeler, Project Leader for the HL7 Version 3 initiative, introduced the V3 Early Adopters Program at the TSC meeting and the program was kicked off during a Wednesday lunch. This program is designed to both engage and learn from those organizations that are actively undertaking to develop and implement a set of HL7 Version 3 messages. The early adopters program provides both advantages for and responsibilities expected from those organizations that sign up. These companies will receive access to HL7 technical expertise, particularly the tools and methodology, and will receive recognition in HL7's newsletter and at the working group meetings. Their responsibilities include agreeing to take part in debriefing sponsored by the technical committee, to contribute implementation profiles, and to share their issues and concerns with the appropriate technical committee. The Early Adopters program is sponsored by HL7's Implementation Committee.

### Board of Directors Meeting

The HL7 Board of Directors met on Tuesday evening during the working group meeting. The Board approved the formation of an Advisory Committee, which will be a group of experts who, because of their experience and, in some cases, their distance from the day-to-day workings with HL7, can provide good guidance to the HL7 Board on some of the more difficult issues facing our organization.

The HL7 Board of Directors also formally announced the re-formation of the Implementation Committee and named Abdul-Malik Shakir and Charlie McCay as co-chairs of this committee. The complete mission/charter of the HL7 Implementation Committee can be viewed at:www.HL7.org/special/committees/impl/index.cfm

## OTHER NEWS OF INTEREST

### Four Sections of HL7 V3 Receive ANSI Approval

Over the past several months, four sec-

***Grant Rickard of Science Applications International Corporation (SAIC) accepts a plaque from HL7 Board Chair Mark Shafarman recognizing SAIC as an HL7 Benefactor. SAIC was also presented with a plaque in thanks for their sponsorship of the HL7 Cocktail Reception.***

***The Health Level Seven Board of Directors for 2004***
***Standing from left: Mark McDougall; Charlie Mead, M.D., M.S.C.; George "Woody" Beeler Jr., Ph.D.; Abdul-Malik Shakir; Hans Buitendijk; Klaus Veil; Kai Heitmann, M.D. Seated from left: Daniel Jernigan, M.D.; William "Ted" Klein; John Quinn; Mark Shafarman; Wes Rishel; Jane Curry; and William Braithwaite, M.D., Ph.D.***

***Not pictured: Charles "Chuck" Meyer and Ed Hammond, Ph.D.***

tions of the HL7 Version 3 standard have received ANSI approval. Those sections are:

- HL7 Version 3 Standard: Refinement, Constraint and Localization to Version 3 Messages, Release 1 – received ANSI approval on October 9, 2003
- HL7 Version 3 Standard: Reference Information Model (RIM), Release 1 – received ANSI approve on December 17, 2003
- HL7 Version 3 Standard: Scheduling, Release 1 – received ANSI approval on December 17, 2003
- HL7 Version 3 Standard: Claims and Reimbursement, Release 1 – received ANSI approval on January 8, 2004

Several other V3 domains have either been submitted or will be submitted shortly to ANSI as Draft Standards for Trial Use:

- HL7 Version 3 Standard: Medical Records, Release 1
- HL7 Version 3 Standard: Patient Administration, Release 1
- HL7 Version 3 Standard: Transport Specification – Web Services SOAP/WSDL Profile, Release 1

## 2004 Educational Summits

The first HL7 Educational Summit of 2004 convened March 30-31 at the Chicago City Centre, Chicago, IL. HL7 Educational Summits provide an excellent opportunity for education outside of the working group meeting and its many demands. More than 80 people attended the March 2004 Educational Summit and enjoyed educational tutorials on topics such as the Electronic Health Record, Version 2, Version 3, the Clinical Document Architecture (CDA), Structured Product Labeling and more. HL7's next two Educational Summits are scheduled for August 17-18 in Arlington, VA and November 9-10 in Scottsdale, AZ. Please contact HL7 Headquarters for additional information on these educational opportunities.


***Outgoing HL7 Board member Bob Dolin, M.D. was presented a plaque of thanks in recognition of his contributions to the organization. Dolin remains involved with HL7 as co-chair of the HL7 Structured Documents TC.***

## HL7 Advisory Committee

As has been reported previously, HL7 is in the process of forming an Advisory Committee. The healthcare industry is very diverse and fragmented and, because our Board members are elected and limited in number, they cannot represent all of the different areas that need representation. Specific individuals from the healthcare industry have been asked to participate because of their personal experience and background, and their ability to listen to the views of others and integrate them all into useful strategic advice for HL7. The input of the Advisory Committee will be critical in helping the Board make decisions that incorporate the perspectives from all parts of the healthcare industry. The Advisory Committee positions are two-year, non-renewing seats. At present, four industry leaders have committed to serving on this committee. The first meeting of the Advisory Committee will convene July 28, 2004 at Lake Tahoe, CA.

## New Policies and Procedures

The HL7 Board of Directors has adopted several new policies and procedures in recent months. New policies and procedures will be regularly conveyed to the HL7 membership via e-mail announcements (as was distributed on March 11, 2004) and through the newsletter.
The HL7 Policy and Procedure Manual is available on the HL7 web site at: http://www.hl7.org/library/General/HL7_pnpManual_032004.pdf.

The Board of Directors has adopted the following new policies and procedures. They are included in the Policy and Procedure Manual (see above).

| Policy/Procedure Designation | Date Adopted |
|---|---|
| POL 15.02.02 - Nonmember Participation in the Consensus Group (Updated) | 12/02/2003 |
| POL 02.03.01 – Contract Work Selection Process (New) | 02/02/2004 |
| POL 09.02.09 – Committee Decision-Making Practices (New) | 03/01/2004 |
| POL 05.02.01 – Majority Rule (New) | 03/01/2004 |
| PROC 02.03.01 – HL7 Contract Work Procedure (New) | 03/05/2004 |

## May Working Group Meeting

The next HL7 working group meeting convenes May 2-7 at the Hyatt Regency San Antonio, San Antonio, TX. To view the schedule of events and/or register for this meeting, point your browser to http://www.hl7.org/events/sanantonio052004/index.asp.

# Interoperability Shining Across a Connected Nation: HL7-IHE HIMSS Demo 2004 "Breakthroughs & Barriers"

By Liora Alschuler, Project Director, Co-chair, HL7 Structured Documents TC & Marketing, Co-editor, HL7 Clinical Document Architecture (CDA)

The HL7-IHE HIMSS Demonstration 2004 was a joint project of HL7 featuring model-based standards for healthcare and IHE featuring Integration Profiles for healthcare. Nearly 800 people attended "virtual" or "actual" tours of the demo during the four day exhibition.

Much more than a marketing exercise, the demonstration is a laboratory and a test-bed for standards development and implementation. It is an opportunity to deploy and debug new and emerging standards-based solutions as well as a vehicle to communicate to the industry how standards have evolved, what problems they solve and what work remains to be done. This article reports on both breakthroughs and barriers, both the highlights of the project and the areas that remain problematic for standards-based implementation.

The demo presented four clinical scenarios written by physicians and representing actual cases and protocols from their area of expertise. The stories were designed to be demanding and to test use of standards in a particular area. They were Continuity of Care, Patient Safety, Public Health and Clinical Trials. Developed over a period of several months, the scenarios were enhanced through careful planning and a process combining spontaneous combustion between demo participants and occasional incendiary actions on the part of the Project Director.

*Liora Alschuler, project director for the HL7-IHE Interoperability Demonstration, provides a "virtual tour" of the demo at HIMSS 2004. 640 people attended the theater presentations, while 152 went through one or more of the demo scenarios at the exhibit.*

## Breakthroughs

Breakthrough accomplishments shown on the floor at HIMSS supported brokered services, imaging integration, integration with clinical trials, continuity of care and many of the elements required for a standards-based, open, non-proprietary National Health Information Infrastructure.

*Vendors demonstrated four scenarios in the "pods" of the HL7-IHE Interoperability Demonstration exhibit: patient safety, continuity of care, public health and clinical trials.*

### Brokered Services

One of the most forward-looking interactions put on the floor at HIMSS was a third-party brokered claims scenario that relied on two claims brokers and two directories, one for persistent objects using ebXML and one for services using UDDI. In short, the scenario showed a small provider and a trusted third-party broker submitting a claim for payment. The payer requests more information and after the broker locates the required documents and submits them, the provider gets paid. The transactions use the HL7/X12 proposal for HIPAA-compliant claims and attachments.

The broker locates the required documentation using an ebXML document registry. The registry returns pointers to CDA documents housed at two locations. The broker retrieves the documents, inserts them into the proposed HIPAA attachments format and submits it. One of the supporting documents is a discharge summary created after the patient was released. Without the document registry and third-party services, the small provider could not have located the document or perhaps known that it was available.

A similar service was provided in support of a clinical trial where the trial sponsor required access to documentation of an event involving a blinded study subject. Here, the sponsor queries the third-party broker who can map the study identifier to a

medical record number, query the document registry, retrieve the document and send it by secure email to the sponsor.

***Note:*** *for the list of players in this and other scenarios, see the list of participants and partners on page 22, and the full documentation of the demo, available on www.hl7ihejointdemo.org.*

**Imaging Integration**
The collaboration with IHE brought with it greater potential for integrating IT functions with images and imaging reports than the HL7 demo had in previous years. The demo used the IHE Scheduled Workflow profile which provides an implementation guide for V2 orders and scheduling messages. The new work, the breakthrough, in this area was implemented in a short number of weeks, essentially the last six weeks before the conference, but was based on more than seven years of collaboration between DICOM and HL7, supporting RIM harmonization by the Imaging Integration SIG and Structured Documents.

The headline interaction went this way: an x-ray report was created at an imaging center using DICOM Structured Reporting (SR), then translated into CDA using a map and algorithm supplied by Fred Behlen, Laitek Technologies. Later, a surgeon reviewing the rendered CDA report on a web browser invoked a hyperlink to the x-ray embedded in the document. The link was a query to the remote PACS to return a jpeg copy of the image. The maturity of the standards made it look easy to point from web-ready document to web-ready image while beneath the interface, a common reference model and implementation standards made it happen.

In this scenario, the new IHE IT profiles provided patient identifier cross-referencing so that the surgeon's query retrieved imaging reports from two name domains, one report created by dictation and the second in DICOM SR.

**Integration with clinical trials**
HIMSS 2004 saw, perhaps, the fastest clinical trial on record. Condensing the interactions to cover care of a single patient into "demo time" is daunting enough, but is nothing compared to condensing the documentation of an entire population in a controlled trial. Given the task, the accomplishments were astonishing, even to those who designed and built it.

The clinical trials scenario collected ECG data at three sites and used the new HL7 V3 Annotated ECG specification to gather the data at a contract research organization core lab provided by Duke Clinical Research Institute. Demonstrating the flexible configuration provided by open standards, one ECG was annotated at the remote site and then submitted while the other two were annotated at the core lab. All three feeds were integrated into a clinical data management system and exported as the HL7/CDISC Operational Data Model (ODM) and sent to our demo sponsor application.

The sponsor used the third-party broker to get background data, as described above, and imported an instance of the V3 Lab Data Model for clinical trials. The whole data set was then exported as an instance of the HL7/CDISC Submissions Data Model and sent to the FDA where reviewers used the graphic viewing software analyze the data.

Integration of clinical trial data gathering was a significant "first" for this year's demo and showed the growing maturity of the body of specifications developed through HL7 CDISC collaboration.

**Continuity of care**
The continuity of care scenario was built to try out CDA Release 2.0 as the framework for the draft Massachusetts Medical Society (MMS)/ASTM Continuity of Care Record (CCR). The CCR became a content specification or template implemented in CDA. The scenario went much further than CCR testing, however. It rendered data from a small provider EMR as V2 observations, imported them into an eForms application which created an initial CCR for an inpatient admission. The CCR was imported into two hospital EMRs. The results and observations produced during the admission were mined for creation of the return CCR which was delivered as a series of V2 observations in a secure email to the small provider.

This scenario was the most challenging undertaken to-date and was a true stress-test for V2/V3 conversion, document/message conversion and EMR/EHR integration. It required integration across applications, platforms, standards and standard vocabularies. It provided a tremendous boost to the enrichment of CDA Release 2.0, still in draft, and to the design of a RIM and CDA-compatible referral standard for the United States.

**NHII**
The demo sought to support the rapid, cost-effective adoption of National Health Information Infrastructure objectives, specifically, to advance the electronic capture, access, use, exchange and storage of quality healthcare data. Under this rather broad mandate, demo participants contributed the following:

- Metadata registry for patient records
- Persistent objects stored in distributed repositories
- Access through query profile
- Store/retrieve by EHR, dictation, portal, servers, vEHR, brokers
- Patient identifier cross referencing for records from different domains
- Registry/repository for standards
- Guidelines registry/repository
- Public health reporting using standard vocabulary for lab and clinical data
- Electronic claims attachments
- Unsolicited from hospital EMR
- Brokered third-party service to small provider
- Continuity of Care Record
- Based on work from professional societies, collaborating standards organizations
- Using standard model and vocabulary
- Integrated with EMRs at PCP, hospital, imaging center
- Produced by EMR and by desktop eForms application

For the hundreds of people who toured the demo, perhaps the most impressive highlight was that the laboratory/workshop was "live" and continual, making integration and standards-based implementation immediate and tangible.

## Report Card

For all that the participants and partners put on the floor, the demo process revealed gaps, areas for improvement and areas where progress has been made, but more remains to be done. Our "report card" for 2004, created in collaboration with Charles Parisot (GE), Didi Davis (Eclipsys) and Glen Marshall (Siemens) representing IHE focused on three areas: continuity of care, decision support and reporting.

**Continuity of Care**

Distributed access to distributed information works. The combination of local repositories and a central metadata registry not only provided access to information, but gave us a facile point of entry for other modular services including the UDDI broker and the identity manager.

Imaging integration is expanding outside of its own sphere and beginning to integrate with the IT infrastructure. The brokered services worked well, but lack an open PKI infrastructure. Model-based data integration was tested in the continuity of care and public health scenarios where it showed promise, but vocabulary mapping and templates are required. Authentication was implementable (in potential), but little was put on the floor in the demonstration. Authorization/access control remains the black hole of standards-based security and confidentiality.

**Decision Support**

We distinguish between two types of decision support: physician-based and computer-based. Physician-based decision making saw great strides forward through ubiquitous access to distributed information supported by the metadata registry. As in 2003, computerized decision support was strong where reliant on lab data

For the first time, we demonstrated propagation of Arden Syntax decision support rules from central repository. This worked well in our limited, controlled scenario, but needs more testing. Standard vocabulary for medications was not available.

More generally, the demo surfaced the question of what will be done with richer coded clinical data once it becomes more readily available? We need more work on model/vocabulary integration to facilitate document and template creation and we need to then test these rich sources integrated, in an open environment, with decision support.

**Reporting for Public Health and Safety**

The demonstration highlighted what is possible with coordination of state and federal level reporting based on a shared model and consistent approach to vocabulary. Template-driven reporting is required, and will be yet more demanding of coordination in the application of models and vocabulary. As in 2003, alerts are generated, but not transmitted out of the EMRs in standards-based messages, although these messages have been standardized.

**Report Card 2004 Summary**

- Strengths: distributed access, distributed patient identifier referencing, brokered services
- Emerging strengths: clinical data sharing, distributed to decision support, role of clinical documents, standards-based authentication, clinical data in support of clinical trials
- Weaknesses: patient interaction, clinical content coordination with vocabulary, template formalism, standards-based secure communication, access control

Our conclusion: it was a breakthrough year, which saw unprecedented development and implementation which was acknowledged through unprecedented attendance and attention. These breakthroughs signal the maturity of the model-based specifications from HL7 and the profile-based integration from IHE and they indicate what can be accomplished through collaboration. Meanwhile, the work continues.

PowerPoint version of this article available on www.rsna.org/IHE/hl7ihedemo.

## HL7-IHE Demo 2004 "Firsts":

- Annotated Electro-cardiogram, submissions
- CDA College of American Pathology tumor report
- CDA Continuity of Care Record (CCR)
- Clinical Document Architecture Release 2 (ballot draft)
- Distributed, standards-based decision support
- Document-based HIPAA claims attachments (proposed)
- End-to-end, standards-based electronic clinical trial data submission
- End-user Authentication profile
- Hyperlink between electronic document and PACS image
- Nationally Notifiable Disease report
- Open-source metadata registry for ubiquitous access to distributed information
- Patient Information Cross-reference profile
- Patient Synchronized Applications
- Retrieve Information for Display profile
- Re-use of electronic clinical documents to support a claim
- Structured Product Labeling
- Third-party brokered claims attachments
- Version 3/CDA Templates

## HL7-IHE Demo Notes

The demo is based on an open call for participation. Participants must be members of HL7 and/or IHE. The cost of the demo is underwritten by the host organizations and participants. Participants choose what they want to put into play, the only caveat being that it must utilize an HL7 standard, draft standard or IHE Integration Profile. The demo is designed in a collaborative, iterative process involving heavy use of conference calls, email and reliance on an evolving technical specification edited by the Technical Manager, Steve Moore from Mallinckrodt Institute of Radiology in St. Louis.

### Special thanks to:

Mallinckrodt Institute of Radiology Patient Identifier Cross Referencing (PIX) server

Fred Behlen, Laitek Technologies

DICOM SR to CDA transformation

The SIMI Group

State Department of Health application

Michael Palmer, Zurich Biotech

SAS to ODM conversion

NorthEast Monitoring

Corelab software integrating aECGs

CSS Informatics

FDA Patient Profile Viewer

AMPS

FDA aECG Viewer

Amnon Shabo, IBM Haifa

Sample CDA Botulism Case Report

Data Conversion Labs

Sample Structured Product Labeling transformation

**Demo Executive Committee**

Karen Van Hentenryck, HL7 Associate Executive Director

Landen Bain, Co-chair, HL7 Marketing Committee

Joyce Sensmeier, HIMSS

Chris Carr, RSNA

# Health Level Seven Initiates Organizational Review Committee (ORC)

By Hans Buitendijk, HL7 Board of Directors; Co-Chair, Orders and Observations

***Hans Buitendijk***

HL7 has been very successful in the creation of a broad, internationally accepted standard through Version 2. Version 3 was initiated to address various shortcomings of V2 and create a platform to move well into the future using strong modeling principles as the corner stone to address interoperability requirements that V2 cannot address. As the organization has grown and the methodologies are switching toward V3, the organization and volunteers are experiencing some growing pains. To ensure that HL7 remains as effective as it has been with strong volunteer support, the Board initiated a committee, the Organization Review Committee (ORC), at the 2003 San Diego meeting to identify key concerns and symptoms of our rapidly changing organization and provide recommendations to address these concerns. Areas where these growing pains and methodolgoy shifts are clear are:

- Rapid expansion from a US focus to an organization with many international interests
- V3 progress and learnings
- Continued use and value of V2
- Expanding interest into different healthcare domains, e.g., genomics, pediatrics, clinical trials, health surveillance
- Expansion of scope from data inter operability to functional modeling, from operational transactions to health record exchange

From these areas challenges arise that range from meeting management (e.g., larger number of groups needing to meet and synchronized) and volunteer participation (e.g., focus of efforts and availability of the right expertise at the right time) to V2-to-V3 migration (e.g., taking better advantage of V2 knowledge, V3 education, and value statements) and balancing international interests (e.g., changing role of US realm and creating a global approach).

The ORC consists of:

- Chair: Mark Shafarman
- Members: Hans Buitendijk, Jane Curry, Freida Hall, Dick Harding, Kai U. Heitmann, Virginia Lorenzi, David Markwell, Charlie Mead, Helen Stevens, Gavin Tong, and Mike Henderson.

To ensure a clearly articulated and deliberate approach with opportunities for feedback, the ORC has agreed to proceed as follows:

- Inventory, Validation, and Initial Prioritization of Key Issues
- Perform Root Cause Analysis
- Validate Key HL7 Objectives
- Develop Alternate Solutions
- Present Final Recommendations

At the time of publishing this article, we are well into Root Cause Analysis and progressing towards identifying alternate solutions and recommendations.

Along the way we will keep the membership appraised of our progress through various channels, and to provide opportunity for further input and discussion. To this end, we have established a list server to solicit feedback at various points in the process, and a progress update will be provided in San Antonio. To subscribe to the list server go to www.HL7.org/special/committees/lists.cfm

HL7 is facing some challenges, but we strongly believe that the current process of discovery will yield opportunities for improvement that will further strengthen not only the organization, but more importantly, the resulting standards for broad international use.

# Setting the Right Expectations for the EHR Standard

by Donald T. Mon, PhD

*(Reprinted by permission from the Journal of American Health Information Management Association, March 2004, p.52-53)*

The electronic health record (EHR) standard has been receiving widespread attention since the spring of 2003, when the Centers for Medicare and Medicaid Services (CMS) and the Department of Health and Human Services asked the Institute of Medicine for guidance on care delivery functions and Health Level 7 (HL7) to subsequently develop the functional model.

As described in the January 2004 Journal of AHIMA, the first draft of the functional model was released for voting in August and rejected in September.1 Historically, standards rarely pass on the first ballot. So it was not unusual for the EHR standard to be rejected. In fact, it would have been remarkable if it had passed.

Participants filed 223 ballots, nearly triple the number HL7 normally receives for a standard. On top of that, numerous stakeholders weighed in from all sectors of the industry. When a thousand voices have to be heard—as they should for an open standards process—it is extremely difficult to factor in all their issues and get it right the first time.

This article reviews some of the major problems with the first model—not to criticize it, but to explain what the issues were, the level of detail involved, and what had to be done to correct them.

## Problems with the First Draft

In retrospect, there was value both in the first model and its rejection. The first model generated an intense discussion on the EHR's purpose and need.

Previous works, dating back to the computer-based patient record concept of the early 1990s, were erudite and extremely useful as high-level guidance. But those efforts could not have foretold how difficult it was to work through the level of detail necessary to build an EHR functional model. You would only know that by going through the process—which is what the first draft helped everyone understand in dramatic fashion. Its rejection caused everyone to think longer and harder about what was truly important about the standard.

The first major problem was the Jekyll/Hyde nature of the functions themselves. The first draft was comprised of more than 1,600 functions and subfunctions. Only about 250 of those were to be voted on; the rest were included for informational purposes.

With so many functions, the model appeared quite comprehensive. On the other hand, it was simply too difficult to absorb—and, to some, overly complex and duplicative. Moreover, it was not clear which functions were to be voted on and which existed for informational purposes.

In the first draft, four care settings were specified: hospital, ambulatory, nursing home, and care in the community. A crucial part of the first model was determining whether each function was essential or desirable for each care setting. The resulting profiles were the source of a second major problem.

For instance, many felt the simple word "hospital" encompassed inpatient acute, inpatient psychiatric, and inpatient physical medicine and rehabilitation (PM&R) hospitals. The problem was that a single function in the model could be deemed essential to acute care but desirable to inpatient psychiatric and not applicable to PM&R hospitals. The lack of consensus around the priority of the function within a care setting raised many questions. When similar confusion abounded for a great number of functions, the whole model was called into question.

## Improvements in the Second Draft

It was clear to the HL7 EHR Special Interest Group, which developed the EHR model, which the second draft needed to be just as comprehensive but simpler and easier to understand than the first. At press time, the second draft appeared to contain the following improvements:

- The number of functions and subfunctions has been reduced from 1,600 to approximately 200. The model appears to be just as comprehensive, but much, if not all, of the duplication has been eliminated.
- An entire section of the first model dealing with technology infrastructure (e.g., database back up, restoring, archiving) has been eliminated. This helps the functional model achieve one of its goals—stating what functions have to be implemented, not how to implement them through technology.
- The functions are more clearly defined. A short function name, a long function statement, and a paragraph description explain the functions far better than the terse phrases in the first model. Moreover, the real-world examples in the description column help the reader better understand the functions.
- The care setting definitions now have two tiers: a broader care category and discrete examples of care settings under each category. For example, inpatient acute, inpatient psychiatric, and inpatient PM&R are examples of care settings under the hospital category.
- The priority levels have been expanded, from "essential" and "desirable" in the first model, to "essential now," "essential future," "optional," and "not applicable" in the second model. The combined two-tier care category and setting structure and the four priority levels provide greater flexibility.

For example, acute care, psychiatric, and PM&R hospitals can now sepa-

rately designate the same function with different priority levels without arguing whether the functional model is adequate for the entire category of hospitals. This flexibility allows the model to act as one standard list of functions across all care categories.

Moreover, the "essential future" priority level recognizes that functions are essential to caregivers but perhaps not feasible now because the technology is not available—a subject of much debate in the first model.

## Setting the Right Expectations: A Draft Standard for Trial Use

At press time, the second draft of the functional model was expected to be released for voting in March. Those who will be casting a ballot on the second draft will, of course, make their own assessment of the improvements made and vote their conscience. If you vote, please remember that this is officially a **draft standard for trial use** (DSTU), not a fully accredited standard.

HL7's policies and procedures state that a DSTU is an "extraordinary event" intended to help HL7 bodies, such as the EHR Special Interest Group, "provide timely compliance with regulatory or other governmental mandate and/or timely response to industry or market demand."2

As a DSTU, the target is to provide a draft that is good enough to move the initiative forward. It does not have to be perfect or comprehensive. Once the initiative has been moved forward under draft status, as per HL7 policy, there is a two-year period in which substantial improvements can be made to the draft.

It is expected that at the end of two years the draft should be of sufficient quality that it can then be balloted as a fully accredited standard. Even then, there is still some flexibility. **A revised DSTU** can be filed at the end of the two-year period and another enhancement cycle could conceivably go into effect. Certainly, though, the industry will not want to, and cannot, wait that long for an EHR standard to be approved.

The DSTU offers great flexibility in getting the standard out for vendors to begin testing their products before the fully accredited standard is approved. It will also allow CMS to conduct its long-awaited demonstration projects testing its proposal to provide differential payment to clinicians who use an EHR to improve quality and effectiveness of care.

It is important that the EHR standard progress as quickly as possible, moving the industry closer to reaping its benefits, yet still keeping the opportunity to enhance it over time. The draft standard can help get us there.

**Donald T. Mon**
(donald.mon@ahima.org) is AHIMA's vice president of practice leadership.

**Notes**

1. Rhodes, Harry, Donald T. Mon, and Michelle Dougherty. "The Drive for an EHR Standard Picks up Speed." Journal of AHIMA 75, no. 1 (2004): 18–22.

2. "Policy 14.00.01 Draft Standard for Trial Use." Health Level 7 Policy and Procedure Manual. Ann Arbor, MI: HL7, 2003.



## HL7 Recognizes and Appreciates Benefactors & Supporters

Health Level Seven is proud to recognize all its Benefactor Organizations. By becoming benefactor members, these organizations help to provide the support needed for HL7 to continue developing its industry-critical standards and work products

**We thank the following organizations for their commitment to HL7 and recognize their duration as HL7 Benefactor Members:**

- CAP Gemini Ernst & Young U.S. LLC – 13 years
- IDX Systems Corporation – 13 years
- Quest Diagnostics Inc. – 9 years
- U.S. Department of Veterans Affairs – 9 years
- McKesson Information Solutions – 6 years
- Siemens Medical Solutions Health Services – 5 years
- Eclipsys Corporation – 4 years
- Eli Lilly & Company – 4 years
- Philips Medical Systems – 4 years
- Food and Drug Administration – 3 years
- GE Medical Systems – 3 years
- IBM – 3 years
- Microsoft Corporation – 3 years
- Oracle Corporation – 3 years
- Guidant Corporation – 2 years
- Misys Healthcare Systems – 2 years
- NHS National Programme for IT – 2 years
- Science Applications International Corporation – 2 years
- Booz Allen Hamilton, Inc. – 1 year
- HIMS Solutions, Inc. – 1 year
- Partners HealthCare System, Inc. – 1 year
- Pfizer Inc. – 1 year
- Wyeth Pharmaceuticals – 1 year

**The following Supporter Member Organizations are also valued and appreciated for their commitment to HL7:**

- Link Medical Computing, Inc. – 5 years
- Sentillion, Inc. – 5 years
- Beeler Consulting, LLC – 3 years
- iNTERFACEWARE Corporation – 3 years
- Johnson & Johnson PRD – 2 years

# HL7 – International Affairs

By Kai U. Heitmann, International Representative, HL7 Board of Directors

*Kai Heitmann*

## The International Role in HL7 V3 Early Adopters

Standards in Healthcare do not live from their specifications but from their implementations. While HL7 Version 3 is still under construction, an impressive number of Early Adopter projects have been ignited worldwide. One commonality they share is that they deal with the implementation of a system that is fluid, but their experiences have been and are still important to the developing process itself.

Some countries— the Netherlands, United Kingdom and Finland for example—have designated HL7 Version 3 as a national strategy for healthcare communications. Meanwhile, a long list of other locations around the world have been making good progress on implementing V3.

From my perspective as one being involved in early adopters projects in two countries, it is important to understand that the volunteer nature of such projects and the pressure to adhere to timeline or financial requirements has helped to overcome many of V3's initial "growing pains." The solutions generated as a result have a beneficial effect on the overall development of HL7 V3.

Take the XML Implementation Technology Specification (ITS) for example. When starting our first early adopter project in mid-2002 in the Netherlands, the ITS was almost impossible to implement. Too many XML schema problems or still-to-do "sites of engineering" work caused us to handcraft many artifacts in order to get them to work for applications. This has substantially changed, and the ITS is now being implemented in many projects. It was an interesting way to go, and proved to be a good collaboration between the involved SIGs, TCs and project groups.

Another success story is that of the modeling tools. In the last few months, good progress has been made on the reliability and consistency of the tools. This is partly a result of both international early implementers' requirements and finding new ways to get skilled tool smiths from our international affiliate countries.

The only advice I have to give is to carefully consult what is already done in HL7 V3 before you start modeling. The internationalization of artifacts has to follow the rules; otherwise we'll end up with incompatible variants. It is my observation that – despite the whys and wherefores – it is often found to be easier to use HL7 methodology for "local" purposes without looking to adopt what is already "globally" defined.

Finally, I can only encourage everyone to start implementing HL7 Version 3 wherever appropriate. A good starting point and the "home" of we Early Adopters is the Implementation Committee (see www.HL7.org for further information). I encourage you all to come join the party!

## Co-Chair elections for the International Committee

When I came to my first HL7 Working Group Meeting, I joined an International Committee meeting on a Sunday morning with some 30 others. There were six official affiliates at that time. Since then, the international landscape of HL7 has changed significantly.

At my first International Committee meeting as the new International Representative to the Board in San Diego earlier this year, we had about 70 participants at the Sunday get-together. In San Diego, we had 110 "Internationals" coming from 19 countries, representing 15 affiliates so far. This is a tremendous increase of affiliates, individuals… and tasks, of course.

Until the end of 2003, Mark Shafarman and Woody Beeler served as the co-chairs of the International Committee. Due to their increased responsibilities in other areas of HL7, they asked for a change. This also suggested a change in the international co-chair structure. So we decided to have official co-chair elections that would bring the number of international co-chairs to five. They are: the International Representative to the HL7 Board of Directors (an existing position which I currently hold); an affiliate liaison responsible mainly for maintaining contact with the various HL7 affiliates; an HQ liaison who will stay in close contact with HL7's headquarters in the US; a secretary responsible for meeting minutes, web representation and general documentation; and a technical co-chair for all the international technical specifications.

At press time, the results of these elections were not complete. Announcements will be made when the final results are official.

## International Calendar

**5th International Affiliates Meeting, October 2004 in Mexico**

**2nd International Conference on CDA, October 2004 in Mexico**

**Full HL7 Working Group Meeting in the Netherlands, May, 2005**

# HL7 Welcomes New International Affiliate Chairs

## Marivan Santiago Abrahão – HL7 Brazil

Born August 29, 1956, Marivan Santiago Abrahão went on to graduate from Fluminense Federal Univesity, Rio de Janeiro, RJ, Brazil in 1982.His Academic and Medical Specializations include internal medicine, nephrology, medical informatics, and web systems development. Abrahão also has expertise in the following areas of medical informatics: Clinical Guidelines, Medical Knowledge Representation, E-Learning, Health Information Systems and Electronic Health Record.

Abrahão holds the following positions:

- Chief Officer of the Scientific Information Center - CENIC from Albert Einstein Research and Education Institute. (www.einstein.br)
- Director of Information Systems from the Brazilian Society of Health Informatics - SBIS (www.sbis.org.br ); and
- Director of Avesta Inc., a Health Informatics Consultant Company

Abrahão lives and works in the city of São Paulo, Brazil. He is married, has a 12-year old daughter. The Abrahão family is also expecting a son in September.

## Petr Hanzlicek – HL7 Czech Republic

Petr Hanzlicek works as an Informatician in the EuroMISE Center - the common institution of the Czech Academy of Sciences and Charles University in Prague. Hanzlicek holds a specialization in interdisciplinary research in the field of medical informatics and statistics. He is a member of the Czech Society for Biomedical Engineering and Medical Informatics CLS JEP since 1997, and also a member of the Czech Society for Cybernetics and Informatics since 2000. He also heads a subcommittee of the Czech StandardsInstitute, which specializes in health informatics and works as a mirror group of CEN/TC251.

# Joint International CDA Conference & Affiliates Meeting to take place in Mexico

This year's 5th International Affiliate & CDA International Meetings will be held in Acapulco, Mexico from October 18th until the 22nd, 2004. On October 18 - 19 the International Affiliate Meeting will take place covering topics, such as "V3 Implementation Experiences" and "National Electronic Health Record initiatives." Afterward, October 20 – 22, the second international conference on the Clinical Document Architecture (CDA) will take place. Both meetings will include workshops, tutorials and case studies to better study this topics.

The CDA conference will be part of the 15th IEEE Computers & Communications conference held every year at the Convention Center of Acapulco, where Mexico's IEEE Engineering in Medicine and Biology Society has agreed to dedicate two panels for some 60 people for the CDA conference. Through this participation, many of the 300 local students who attend the IEEE conference are expected to get involved in laboral and educational tracks related to medical informatics which is a relatively new topic in Mexico.

HL7 Mexico has expressed its interest in getting participation not only from all International Affiliates, but will also encourage US members to join this year's International Meetings.

# The National e-Claims Standard (NeCST) Project

The National e-Claims Standard (NeCST) Project, a Canadian Institute for Health Information (CIHI) initiative, was initiated in April 2000 as a collaborative effort between the public and private sectors as well as national provider associations. This pan-Canadian collaborative effort represents thousands of participants and billions of dollars in healthcare spending. CIHI, a neutral, national organization with relevant standards development experience in consensus building, was asked to facilitate and manage the project. This project is funded in part by Canada Health Infoway, an independent corporation working to accelerate the development of compatible electronic health record systems in Canada.

During 2003/04, the NeCST project has enjoyed many successes, made significant progress and achieved several milestones. As a result of significant effort and sponsor support, the NeCST HL7 generic claims, pharmacy and preferred accommodation messages, known as the FICR messages, passed membership ballot and is now a normative HL7 ANSI-approved standard as part of the HL7 V3 Release 1. This is a significant milestone for the NeCST project and for Canada. As of November 2003, Chiropractic & Physiotherapy Special Interest Group (SIG) submitted their messages forward to HL7 for Committee Level review. NeCST's success as an accepted standard is highlighted by the work of BCE Emergis. Working in conjunction with chiropractic and physiotherapy health care providers, BCE Emergis is the initial implementer of a sub-set of NeCST messages for chiropractic and physiotherapy claims for the Workplace Safety & Insurance Board of Ontario. This represents the first HL7 v3 implementation in Canada. BCE Emergis designed (or created) a reusable methodology for HL7 v3 messages implementation through the development of an API for use by provider side software vendors.

NeCST will continue to work on completing and submitting the messages HL7 v3 ballot for the areas of:

- Chiropractic and Physiotherapy
- Vision Care
- Oral Health
- Physician

The NeCST project is very fortunate to have the support of a diverse group of stakeholders who work diligently and have made great progress in standards development. The NeCST project demonstrates that pan-Canadian standards can be developed through a collaborative and consensus building process.

***Representatives of some of HL7's 24 international affiliates posed for a photo with HL7 Board Chair Mark Shafarman at the San Diego Working Group Meeting in January 2004. Appearing from left to right: Tom de Jong, HL7 The Netherlands; Hye-Jung Cheng, Ph.D., HL7 Korea; Yun Sik Kwak, M.D., Ph.D., HL7 Korea; Gavin Tong, HL7 Canada; Mark Shafarman, HL7 Board Chair; Kai Heitmann, M.D., International Representative, HL7 Board; Klaus Veil, HL7 Australia; Bernd Blobel, Ph.D., HL7 Germany; David Markwell; HL7 UK; Diana Perez, HL7 Mexico; Guilermo Reynoso, M.D., HL7 Argentina; Martin Entwhistle, HL7 New Zealand; and Jordi Bisbe, HL7 Spain.***

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# Clinical Context Object Workgroup (CCOW) Technical Committee Completes V1.5 Ballot

By Robert Seliger, Co-Chair, CCOW TC

***Robert Seliger***

In January of this year, CCOW completed the unanimous committee ballot of CCOW V1.5. This newest version of CCOW will have undergone full membership ballot by the time this article goes to print. As with all previous "point" versions of CCOW, this latest version continues to build on the foundation established in CCOW V1.0. While there were several enhancements of a rather technical nature, the most interesting capability embodied in CCOW V1.5 is support for temporary synchronization of context. This new capability is in addition to CCOW's traditional support for constant synchronization.

With constant synchronization it is required that applications that are linked to each other via a particular context subject, such as the identity of a patient, remain synchronized with this context. When the context changes, so must the state of each application to reflect the data for the same patient.

For example, if the user selects the medical record number for Jane Q. Smith in a CCOW-complaint PACS application, and the user is also using a CCOW-compliant results reporting application and a CCOW-compliant clinical documentation application, then both of these applications are responsible for automatically "tuning" to Jane Q. Smith's patient record and showing her data. If Jane Q. Smith is not a patient known to one of these applications, then the requisite behavior is for the application to not show any patient-specific data. If the user subsequently selects the medical record number for "Bill T. Jones" via the clinical documentation application, then the PACS application and the results reporting application are responsible for automatically "tuning" to Bill T. Jones" and showing his data.

In the previous example, the applications remain constantly synchronized to the same patient, even when the patient context changes. However, in some cases it is desirable to relax the constant synchronization requirement. The idea is to enable the user to perform a gesture that synchronizes all of their CCOW-compliant applications to a particular context, but once synchronized the applications are free to deviate from the context until they are once again explicitly synchronized by the user.

As an example of the power of temporary synchronization, consider the "view" subject, newly defined for CCOW V1.5. The view subject identifies a particular screen or presentation that each application in a set of context-sharing applications should render in response to a specific user gesture. The objective is make it easy for users to align the displays and controls for all of their applications in order to support a particular task. For example, if a doctor is preparing for her rounds, then she might interact with an application to indicate her desire to prepare for rounds review. Upon selecting this view, all of the applications she is using present data displays and application controls that are appropriate for facilitating the process of preparing for rounds review.

After the applications are synchronized to the current view, the user may then freely navigate the application to a different display and/or set of controls, hence the idea of temporary synchronization. The user may resynchronize the applications to the current view by selecting the same view again, or the user may synchronize the applications to another view by selecting a different view. The capability to control an otherwise independent set of applications in this manner provides yet another way in which the CCOW standard can greatly facilitate the caregiver's workflow, resulting in an even better match between the capabilities of IT systems and end-user needs

*Rob Seliger is co-chair of the HL7 CCOW Technical Committee and President & CEO of Sentillion, Inc.*

## Standard Protocol Elements Version 1.0 Released for Comment in March 2004

HL7 / CDISC's Protocol Representation (PR) Group has published the Standard Protocol Elements for Regulated Clinical Trials Version 1.0 for review and comment. The two element lists, along with descriptive documentation, define key elements of clinical protocols, as identified by the PR Group thus far. This version is based on the ICH guidance for good clinical practice, with special emphasis on ICH E6, E3 and E9.

These documents are available on the CDISC website at http://www.cdisc.org/standards/protocol.html. A subset of these elements has been used as input to an HL7 Clinical Document Architecture model, which was published and balloted through HL7 in March.

Comments are being accepted through the CDISC Public Discussion Forum (www.cdisc.org/discussions/discussions.html) through April 30, 2004.

# HL7's First Educational Summit of 2004 A Success

## Two Additional Summits Scheduled for This Year

HL7's first Educational Summit of 2004, held March 30-31, 2004 in Chicago, IL, was a great success, with more than 80 people attending. The two-day summit featured tutorials on a variety of relevant HL7 topics like Version 2, Version 3, Clinical Document Architechture (CDA), Electronic Health Records (EHR), Structured Product Labeling and more.

"Offering educational summits is one of many ways in which HL7 is attempting to meet the growing needs of its members and the healthcare industry at large," said Abdul-Malik Shakir, HL7 Board member and chair of HL7's Education Committee. "It provides an opportunity for the HL7 member, or prospective member, to obtain in-depth exposure to HL7 products, services and standards, including new initiatives such as EHR and Structured Product Labeling."

Shakir added that attending the summit prepares participants to be more productive when attending HL7 working group meetings, which are held three times per year at various locations throughout the US and include the activities of HL7's nearly 40 technical committees and special interest groups, as well as its Board of Directors meetings.

### About HL7 Educational Summits

The HL7 Educational Summit is a concentrated, two-day series of tutorials focused on HL7-specific topics such as Version 2 and Version 3 implementation and the Clinical Document Architecture (CDA). Educational sessions offered at the summit will also cover general interest industry topics such as the EHR, XML and HIPAA. They combine the country's most popular convention locations with a high-quality educational itinerary that provides students with expert HL7 training straight from the source. The tutorials will be taught by instructors who have been hand selected by HL7. Each of the summit's instructors is not only an HL7 expert, but has actually participated in developing the HL7 standards.

Two more summits are scheduled for this year: August 17-18 in Arlington, VA; and November 9-10 in Scottsdale, AZ

HL7 certification testing is also offered at HL7 educational summits at a cost of $100 for members and $150 for non-members. HL7 is the sole source for HL7 certification testing.

## HL7 Board Approves New Laboratory Special Interest Group

The HL7 Board of Directors, at January's working group meeting in San Diego, approved the formation of the organization's newest special interest group (SIG) — Laboratory.

Pending the group's co-chair elections at the May working group meeting in San Antonio, the Laboratory SIG is co-chaired on an interim basis by **Austin Kreisler** of McKesson Information Solutions and **Louise Brown** of TNT Global Systems.

### Mission

The Laboratory SIG supports the HL7 mission to create and promote its standards by helping to assure that the HL7 V3 messages and models concerning laboratory related information - ordering, specimen collection, specimen tracking, chain of custody, and results reporting - address all of the requirements of the many stake holders and variations in different countries. V2.x related activities will remain with Orders & Observations TC.

### Charter

**Work Products and Contributions to HL7 Processes**

This SIG will provide a joint forum for members of the relevant TCs concerned with clinical messages related to ordering and reporting of Laboratory tests. Laboratory SIG would primarily focus on issues involving laboratory ordering and results reporting in areas such as general laboratory, microbiology, and pathology. The SIG will specifically take into account the experience of the parallel groups in the UK, CEN, Australia and other countries and with US authorities.

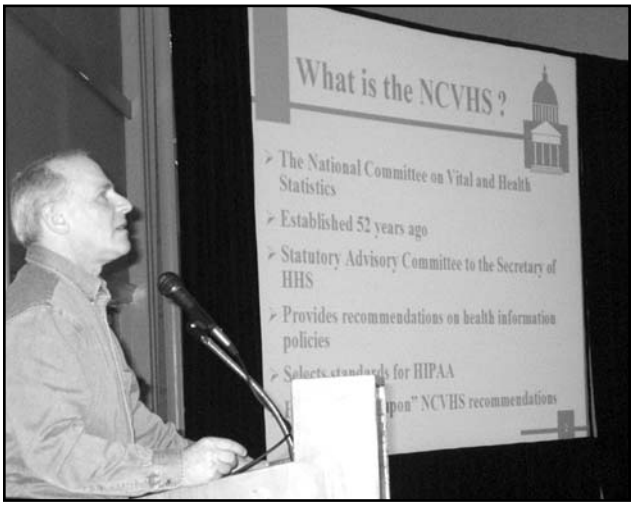
**Formal Relationships with Other HL7 Groups**

The Laboratory SIG will be sponsored by Orders & Observations Technical Committee and will work closely with Lab Automation and Point of Care SIG to manage scope and deliverables for the respective groups. LAPOCT SIG would continue to primarily focus on issues involving lab device automation (including point of care devices). Any adjudication of issues between the two SIGs will remain the responsibility of the Orders & Observations TC.

# NCVHS Recommends Core Set Of Clinical Data Terminologies

By Jeff Blair, Vice Chair of the Subcommittee on Standards and Security of NCVHS

On Tuesday, January 20, 2004, HL7 working group meeting attendees heard a presentation on the most recent recommendations from the National Committee on Vital and Health Statistics (NCVHS) regarding Patient Medical Record Information (PMRI) standards. These new recommendations, which identified a core set of PMRI (clinical data) Terminologies, were set forth to the Secretary of the Department of Health and Human Services in November of 2003.




***Jeff Blair, vice chair of the subcommittee on standards and security of the National Committee on Vital and Health Statistics, shared his presentation during Tuesday's general session at the HL7 January working group meeting.***

The NCVHS is the statutory advisory committee to the Secretary of HHS and Congress for healthcare information policy. It was directed by Congress in 1996 to study, select and recommend national standards for PMRI as part of the Administrative Simplification Provisions of HIPAA.

Two years ago, the NCVHS recommended the first group of PMRI standards. These were the PMRI message format standards. They included seven HL7 Version 2 transaction sets, DICOM and NCPDP SCRIPT. It also recommended that the Federal government encourage the further development and early adoption of emerging standards including HL7 Version 3 and IEEE 1073. These PMRI standards were subsequently adopted by the Federal government and designated as Consolidated Health Informatics (CHI) standards.

The NCVHS recommended the second group of PMRI standards in November 2003. For this second group of standards, the NCVHS recognized an initial core set of PMRI (clinical data) terminologies which include:

- SNOMED-CT
- LOINC (laboratory only)
- Federal Drug Terminologies
- RX-Norm
- The Representations of The Mechanism of Action and Physiologic Effect of Drugs from NDF-RT
- Ingredient Name, Manufactured Dosage Form and Package Type from FDA

The NCVHS also recommended that the National Library of Medicine (NLM) receive additional funding to:

- Integrate the core set of PMRI Terminologies
- Map the core set to other "important related terminologies"

The mapping would first be done to the HIPPA transaction code sets including CPT-4, CDT, Level II HCPCS, ICD-9-CM and NDC. The second priority for mapping to the core set of PMRI Terminologies would include DSM-IV, Private sector drug knowledge databases, ISBT 128 (Blood products and tissues code set), Medcin, MedDRA and nursing terminologies not included in SNOMED-CT.

Finally, the NCVHS also identified the areas where additional research is needed before it can recognize other terminologies as part of the core set or as "important related terminologies."

## Congratulations *to the following people who passed the HL7 Certification Exam*

### Certified HL7 V2.4 Chapter 2 Control Specialist

**January 22, 2004**

Craig Caesar
Jinwook Choi
Sheldon Gilmer
Pamela Hathaway
Neville McGrath
Sudhir Oak
Vidura Stich

### HL7 Canada

**January 30, 2004**

Muhammad Saeed Abidi

### HL7 China

**December 12, 2003**

Guangxi Li
Yueli Wang
Jianguo Zhang

### HL7 India

**October 31, 2003**

M. Sathis Kumar
Gautam S. M
Anil Kumar K
Kishore B.V.
Chandrasekhar Srinivasan
Niranjan H.S.

**December 18, 2003**

Sujatha Dulipsingh
Ramkumar Velu
Harish Krishnan
Preetam Eklaspur
Singaravelan Dhandapani
Saroj Kumar Panigrahi

# HL7 Version 3 Early Adopters Program

By Abdul Malik-Shahir, HL7 Board; Co-Chair, Education Committee, Implementation Committee, Modeling and Methodology

*Abdul-Malik Shakir*

The HL7 Board of Directors had established an Early Adopters Program under the auspices of the Implementation Committee. The Implementation Committee is a Board appointed administrative committee. The mission of the Implementation Committee is "to support HL7 members and other users of HL7 standard, draft standard and informative protocol specifications with the identification and resolution of issues related to successful implementation of the specifications."

A goal of the Version 3 Early Adopters Program is to identify, support and recognize organizations that are undertaking specific implementation projects that use Version 3 standards that are still under development, draft standard for trail use, or first release of a normative specification. This program assures that Early Adopters have a forum in which to share their experiences, that they have access to appropriate technical support from HL7 committees, and that their experience will lead to value-added refinement of the standards.

The first meeting of Early Adopters was held on Wednesday, January 21, 2004 during the Working Group Meeting in San Diego. The meeting was attended by more than 80 people from throughout the world representing more than 30 distinct v3 implementation projects. Each participant was asked to complete a worksheet describing their project, identifying the v3 specifications being implemented, and providing contact information for primary project contacts. The data from the worksheets have been collected in a spreadsheet and posted to the Implementation Committee page of the HL7 website (www.HL7.org).

A list service has been established for the Implementation Committee and the Early Adopter Program. Interested parties can subscribe to the lists by following the appropriate links on the HL7 website or from the Implementation Committee page. The Implementation Committee is working in conjunction with staff at HL7 Headquarters and the National Institute of Standards and Technology (NIST) to establish a registry for early adopters. The registry will be hosted on the HL7 website and will provide a means for early adopters to identify themselves, describe their projects, indicate which V3 standards their projects implement, provide contact information for the project, and optionally provide a link to a project website. Once registered in the Early Adopter program an early adopter will be able to upload relevant documents such as implementation guides, localized v3 artifacts, and technical committee inquires to the NIST v3 artifact registry. Their posting will be cross-referenced to the appropriate v3 artifacts and will be retrievable using a variety of search indexes.

The registry provides an important link between early adopters and the HL7 committees responsible for the v3 specifications being used. It provides a means for the committee to discover who is implementing their specifications, understand what is working and what improvements are needed, and to have an ongoing dialog with early adopters concerning potential solutions to perceived problems in the specification. The registry allows early adopters to learn from each other and to leverage each other's work products and implementation solutions.

The Implementation Committee believes that the Early Adopter program will play an important role in assuring the quality and practical value of v3 specifications. The Implementation Committee will be exploring additional aspects of the Early Adopter Program during the May 2004 Working Group Meeting. Among the topics to be discussed are how to best encourage participation in the Early Adopter program and how to express the appreciation HL7 has for the contributions made by v3 early adopters.

# INTEROPERABILITY

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***Health Level Seven (HL7) and Integrating the Healthcare Enterprise (IHE) would like to thank the following participating organizations, sponsors and partners for their enthusiastic support of the HL7-IHE Interoperability Demonstration at the 2004 Annual HIMSS Conference and Exhibition.***

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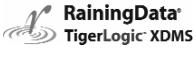


















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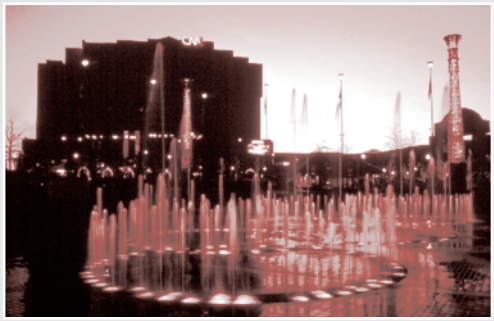
# UPCOMING MEETINGS

**May 2–7, 2004**

**Working Group Meeting**
Hyatt Regency San Antonio
San Antonio, Texas

**September 26–October 1, 2004**



**18th Annual Plenary & Working Group Meeting**
Sheraton Atlanta Hotel
Atlanta, Georgia

**January 23–28, 2005**

**January Working Group Meeting**
The Hilton in the Walt Disney Resort
Orlando, Florida

## UPCOMING 2004 HL7 EDUCATIONAL SUMMITS

**August 17–18, 2004**
Hyatt Regency Crystal City
Arlington, VA

**November 9–10, 2004**
Hilton Scottsdale Resort
Scottsdale, AZ

# HL7 Board Approves Policy on Contract Work

Periodically the HL7 Board contracts for work to be undertaken or services to be provided, usually related to a specific project or deliverable. Due to the nature of the task, an HL7 member typically performs this work or provides the service, but HL7 membership is not a requirement.

The main objective of this procedure is to enable openness and avoid the perception of backroom deals and inappropriate influence on key aspects of the standard that would erode confidence in the standard as a true industry standard based on consensus and wide input. This should be achieved with a minimum of bureaucracy and extra workload for all parties involved.

### HL7 Contract Work Selection Process

Initially, the HL7 Board or the HL7 Executive Committee (or their designee) will outline the work or service to be contracted including scope of work, the expected qualifications, deliverables, time-frame and if appropriate, a budget. Unless the Board determines that there are good reasons to proceed otherwise, the work or service to be contracted will be publicly announced via the appropriate means (HL7 general list, or domain-specific list, etc.) providing the information previously outlined. After a reasonable time to respond, the HL7 Executive Committee will review the proposals received and make a recommendation to the Board.

Any person who is a candidate for the work or service to be contracted will be absent from any decision-making discussion and voting on the award of that contract. A member of the HL7 Executive Committee, or their designee, will notify all applicants of the results of the evaluation process and the HL7 membership of the successful proposal. HL7 will keep a register of all contracts awarded which will include a description of the work/service to be provided, the decision date, the amount payable, the start date and expected end date of the project.

For more information, please see the HL7 Policy and Procedure Manual, which can be found at www.HL7.org.

## Upcoming Co-Chair Elections

The following HL7 Technical Committees and Special Interest Groups will be conducting co-chair elections at the upcoming HL7 working group meeting, which convenes May 2-7, 2004 in San Antonio, TX:

- **Attachments –** electing two co-chairs to fill the positions currently held by Chris Stahlecker and Nancy Wilson-Ramon (both of whom may be re-elected)
- **Community Based Health –** electing one co-chair to fill the position currently held by John Firl (who may be re-elected)
- **Conformance –** electing one co-chair to fill the position currently held by Jennifer Puyenbroek (who may be re-elected)
- **Control/Query –** electing one co-chair to fill the position currently held by Mark Tucker (who resigned)
- **Financial Management –** electing two co-chairs to fill the positions currently held by Freida Hall and Chuck Meyer (both of whom may be re-elected)
- **Laboratory –** this new SIG will be electing two co-chairs
- **Laboratory, Automated and Point-of-Care Testing –** electing a fourth co-chair
- **Modeling and Methodology –** electing a fifth co-chair
- **Patient Administration –** electing one co-chair to fill the position currently held by Jean Ferraro (who may be re-elected)
- **Patient Care –** electing one co-chair to fill the position currently held by Charlie Mead (who resigned)

***NOTE:*** If you cannot attend the upcoming working group meeting in San Antonio but would like to participate in the elections, you will be given the opportunity to forward an absentee vote for one of the candidates via e-mail.

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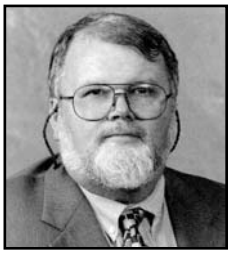

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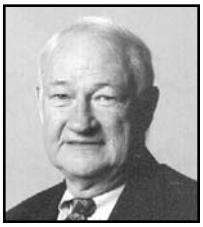

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# San Antonio Working Group Meeting

## May 2-7, 2004
## Hyatt Regency San Antonio
## San Antonio, TX

Health Level Seven invites you to attend the HL7 working group meeting in beautiful San Antonio, Texas. Four tracks of tutorials are available on topics like Version 2, Version 3, V3 Early Adopters, Electronic Health Records (EHR) and more! Plus, our working group meetings give you the opportunity to participate in the development of new and exciting HL7 standards that will be widely used in the healthcare industry.

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