



**Minutes**  
**Health Information Technology Standards Advisory Committee**  
**(HITSAC)**

**Thursday, August 20, 2009**

Virginia Information Technologies Agency (VITA)  
Commonwealth Enterprise Solutions Center  
Chesterfield Conference Center  
11751 Meadowville Lane, Chester, VA 23836

**Attendance**

**Members present:**

Dr. Marshall Ruffin, Chair  
Daniel Barchi  
Geoff Brown  
Dr. Alistair Erskine  
John Quinn

**Members absent:**

None

**Others present:**

Bert Reese, Information Technology Investment Board liaison  
Nadine Hoffman, HITSAC administrator

**Call To Order**

Chairman Ruffin called the meeting to order at approximately 10:10 a.m. in the Chesterfield Conference Room at the Commonwealth Enterprise Solutions Center (CESC) in Chester.

At the request of Chairman Ruffin, Ms. Hoffman called the roll and confirmed the presence of a quorum, with four of five members present.

Mr. Barchi made a motion to approve the July 30, 2009, meeting minutes that was seconded by Mr. Brown and approved by the Committee by voice vote.

## Chair's Report

Chairman Ruffin advised there were no corrections to the draft Committee Charter as prepared. Mr. Barchi made a motion, seconded by Mr. Brown, to approve the Charter. The Committee approved the Charter by a voice vote. The adopted Charter is available here: [http://www.vita.virginia.gov/uploadedFiles/ITIB/Meetings/2009/August\\_20\\_2009/HITSAC\\_DraftCharter.pdf](http://www.vita.virginia.gov/uploadedFiles/ITIB/Meetings/2009/August_20_2009/HITSAC_DraftCharter.pdf).

## Welcome

Chairman Ruffin welcomed the newest member of the Committee, Mr. John Quinn.

## Overview of Federal and National Health IT

Mr. Quinn provided a presentation covering federal and national health IT. A copy of the presentation is available here: [http://www.vita.virginia.gov/uploadedFiles/ITIB/Meetings/2009/August\\_20\\_2009/HITSAC\\_HIE\\_Technology\\_Topics.ppt](http://www.vita.virginia.gov/uploadedFiles/ITIB/Meetings/2009/August_20_2009/HITSAC_HIE_Technology_Topics.ppt).

Dr. Erskine arrived at 10:30 a.m

The Healthcare Information Technology Standards Panel (HITSP), part of the American National Standards Institute (ANSI), now encompasses a range of organizations such as Health Level 7 (HL7), American College of Radiologists/National Electrical Manufacturers Association (ACR/NEMA), X12, American Society of Testing Materials (ASTM), Institute of Electrical and Electronic Engineers (IEEE), National Council of Prescription Drug Producers (NCPDP), and the American Dental Association (ADA).

Prior to HL7, ASTM propagated laboratory standards known as E31 still in use today by HL7. However, Continuity of Care Records (CCR) are still housed in ASTM. CCR is a functional standard but it has not been adopted by HITSP. In response to a question why the CCR standard has not been adopted by HITSP by Chairman Ruffin and Mr. Brown, Mr. Quinn advised HITSP brokered an agreement with HL7 and CCR to create Continuity of Care Documents (CCD). A technology objection was raised as CCR would not be based on the same models as HL7. All clinical documentation needs to be modeled on the same informational model and schema. CCR did not have the bandwidth to recreate HL7 as well. In response to further questioning by Chairman Ruffin, if HITSP supports CCR and CCD, ASTM's objections to CCR's use would be moot. However, vendors have moved forward preparing software based on CCD and not CCR. CCR doesn't provide enough flexibility to provide information outside of a summary document to generate other clinical document types that will be needed moving forward.

National Council of Prescription Drug Procedures (NCPDP) provides script standards for e-prescribing. The standards are not used in hospitals. There are both private and regulatory standards encompassed by NCPDP standards but none alone is considered sufficient for pharmacology standards.

HL7 is not an International Organization for Standardization (ISO) body but belongs to TC 215 as ISO's health care community under the U.S. Tag where every country has a representative. HL7 first submits a standard to ANSI, then it becomes available to ISO for use if they so choose. HL7 standards could be submitted through other countries but ANSI doesn't prefer this method.

Mr. Quinn provided a history of the development of versions 1.0, 2.0, and 3.0 of HL7 that may be found in the link to the presentation. Many entities still use version 2.1 even though it was first published in 1989. While HL7 is in wide use throughout the world, it is implemented in many different ways. It is a framework of possibilities and then programmers implement to the specifications needed. Version 2.6 is the current version likely to be implemented widely in the world. Industry turned to developing Reference Information Models (RIM) during the early 1990's for healthcare. HL7 ended up defining its own methodology. The kingpin standards groups for this type of model is the Object Modeling Group (OMG) that has become more interested in healthcare recently.

The Veterans Administration (VA) has worked with IBM to use the RIM. However, the VA has not been able to actually create the RIM from modeling primitives.

HL7 applied the RIM to an HL7 standard based on a Model Driven Architecture (MDA) approach to design. This approach became HL7 Version 3 that is different than Version 2. Entities can migrate from Version 2 to Version 3 but it is not a clean process. Anyone using Oracle Healthcare Database is using Version 3. Version 2 is not expected to go away as it would not be financially prudent.

Version 3 is published each year in Portable Document Format (.pdf) and Hypertext Markup Language (HTML) formats. The package encompasses 68,000 total files. In response to Chairman Ruffin's questions, Mr. Quinn responded that HL7 does run tools to ensure referential integrity amongst all the files of Version 3.

Of importance, HL7 creates specifications via a tools-based methodology using the RIM (a static model), a dynamic model called behavioral modeling, and a set of terminology bindings. The behavior model will be available within a registry so a producer sending information to a consumer can understand the workflow being supported. The consumer can then look at the exact process supported to send back data in the same format.

Version 3 implementations are expressed in Extensible Markup Language (XML) schemas. Attributes of an electronic document allow it to be in multiple places at any given time. Electronic documents in HL7 are called Clinical Documents Architecture (CDA). One such instance of a CDA is a CCD.

HL7 is based on a Reference-Model of Open Distributed Processing (RM-ODP) based Services Aware Enterprises Architecture Framework (SAEAF) and a Service Oriented Architecture (SOA).

When reorganizing HL7 four years ago, there was no formal architecture for the organization. SAEAF was formed to create an architecture framework. This is the basis of the SOA architecture used in HL7. It now serves as the SOA architecture for the National Cancer Institute.

Computable Semantic Interoperability (CSI) is a term used as a formally defined process for defining specific structures containing data, defined actions, and fully specified terminology mappings to be exchanged. Chairman Ruffin remarked that if Virginia wants Health Information Exchange (HIE), the state needs a much more specific architecture and cannot zip around the data elements. Mr. Quinn agreed with Chairman Ruffin that the architectural information must be present to support a data exchange. Dr. Erskine remarked that providers also want to ensure best care and messages transmitted to the providers need to provide data that is useful to the provider to ensure quality care. Mr. Quinn related that

insurance companies using international classification of diseases (ICD) or diagnosis codes appearing on insurance claims are requiring ICD 10, but that ICD 11 and ICD 12 will be following closely in the next few years. Further, with two international standards of ICD and Systemized Nomenclature of Medicine (SNOMED) codes that are not organized in the same ways, there are issues for semantic interoperability of information. SNOMED connects a symptom to complaints a patient should have, possible causes, possible tests, and treatments available.

Mr. Quinn advised that RIM or common static models are the basis of architecture standards in healthcare to support semantic interoperability to exchange clinical information. Constraints on the model are taken to pull out sections of the RIM a provider needs and that forms the basis of an electronic message.

When discussing National Health Service (NHS) standards, Mr. Barchi remarked that NHS makes standards available to providers. Mr. Quinn agreed and stated the importance of providers receiving standards electronically from one source rather than picking up pieces from multiple sources.

Mr. Quinn described that all interactions rely on three coordinates: data, process, and matching to terminology. In response to Dr. Erskine's question about examples of this, Mr. Quinn responded that for a given message like a lab result, the value of contextual information for data is related. The model focuses on the relationship between the data rather than just the data itself. The process focuses on the "who" and "when" of the care and the institution that did the work. The terminology is the third piece of how the value is coded and in what version of the coding.

When discussing terminologies and ontologies, Chairman Ruffin asked if current procedural terminology (CPT) is a terminology. Mr. Quinn advised it was a terminology and that SNOMED is an ontology. ICD 9 is also probably still a terminology but ICD 10 and 11 are encroaching on becoming an ontology. Most important to the discussion of ontologies and terminologies, the data sent must be structured. The vision for interoperability is to have formally structured data to ensure proper exchange of data and information. Taking current text used and putting it into a structured format is presenting a problem, particularly with the human interface to create a structured note.

In discussing HL7 version 3, the Food and Drug Administration (FDA) and the Centers for Disease Control (CDC) are becoming very active in using the updated version. Specifically, the FDA is deploying version 3 for prescription labeling. In response to Chairman Ruffin's question about the distinct coding elements inside C32, Mr. Quinn responded that the data elements are based on HL7 data types and XML syntax. Mr. Quinn believes the industry will face an issue in coordinating or mapping between version 2 and 3.

Canada is currently implementing HL7 version 3 with the vision to connect all of the provinces together once fully implemented. A slide of Mr. Quinn's presentation details Canada's EHR infrastructure. The individual institutions are still using version 2.x and then defining the mapping to report information to version 3 to begin to connect the provinces together. In response to Dr. Erskine's question concerning how a physician office running version 2.x reports data to a higher level using version 3, Mr. Quinn responded that the Canadian government pays for the provider to augment their system so the messages interact using a mapping tool to put the messages into version 3.

HL7 is lacking in finding enough support to implement the standards and changes. Technical writers particularly are in high demand but low volume. Further, tooling is also an

issue. The NHS's tools do provide a RIM status model that forms a basis for version 3. HL7, as a volunteer organization, also faces the impediment of funding to develop standards and architectures.

The Committee discussed the amount of money now becoming available to fund interoperability standards but that less talk is actually being done on the standards. Chairman Ruffin expressed that this situation may present a benefit for the Commonwealth to team with the federal government to move forward to adopt standards at this time.

In response to Mr. Barchi's comments about fears that health systems and providers will finish their required pieces by 2016 and then realize that interoperability does not exist, Mr. Quinn stated that shouldn't happen. Specifically, HITSP and the participating vendors are working to ensure that doesn't happen within the HL7 framework right now.

In the course of the NHS project, Mr. Quinn remarked that he was asked to figure out how a vendor could build an acute ambulatory electronic health records (EHR) system. The vendor would need 12 to 15 years to build the interpretive content at this time. In response to Chairman Ruffin's question that Mr. Quinn was referring to a complete EHR system rather than an HIE, Mr. Quinn responded that an HIE is not as complicated and only a piece of a total EHR system.

Chairman Ruffin recessed the meeting at approximately 12:40 p.m. for lunch.

Chairman Ruffin reconvened the meeting at approximately 1:20 p.m.

## Priorities of the Division of Consolidated Laboratory Services (DCLS)

Ms. Willie Andrews, Director of Laboratory Operations for DCLS, and Ms. Vickie Tyson, IT Project Manager for DCLS, provided a presentation located here:

[http://www.vita.virginia.gov/uploadedFiles/ITIB/Meetings/2009/August\\_20,\\_2009/HITSAC\\_DCLS\\_Why\\_We\\_Message.ppt](http://www.vita.virginia.gov/uploadedFiles/ITIB/Meetings/2009/August_20,_2009/HITSAC_DCLS_Why_We_Message.ppt).

In response to Chairman Ruffin's question if there were other competing government labs in the Commonwealth, Ms. Andrews advised there are Virginia Department of Health (VDH) local labs doing some of the same testing, but they may send some testing to DCLS. She advised they may provide duplicate services but not really competing services.

Ms. Andrews stated that DCLS was asked to participate in the public health laboratory interoperability project. Virginia was one of six states participating and the first state to send an HL7 influenza test result electronically.

DCLS gathers a diversity of information outside of the patient centric approach such as the food eaten, the location, and environmental analysis. Prior to September 11, 2001 (9/11), DCLS did not adequately electronically share data, both within and external to the organization. Currently, DCLS maintains three laboratory management information systems (LIMS): an environmental, newborn screening, and clinical information systems. Post 9/11, public funding allowed the building of public and environmental health and emergency preparedness response system. Partnering with the Association of Public Health Laboratories, DCLS formatted the sixteen business processes needed to create LIMS. In response to Chairman Ruffin's questions, Ms. Andrews and Ms. Tyson responded that DCLS is engaged with the CDC, public health information network (PHIN), and does use PHIN

components for messaging with the CDC. DCLS's LIMS are aligned with their laboratory operations.

In response to Chairman Ruffin's question, Ms. Tyson advised most of the other states are using the same LIMS, known as STARLIMS by the proprietary vendor. Ms. Tyson stated the capability exists to share data, but there are different disciplines and results that may be captured.

Ms. Tyson advised the committee of the code sets used for the LIMS. They are located here:

[http://www.vita.virginia.gov/uploadedFiles/ITIB/Meetings/2009/August\\_20, 2009/HITSAC\\_DCLS\\_Code\\_Sets.xls](http://www.vita.virginia.gov/uploadedFiles/ITIB/Meetings/2009/August_20, 2009/HITSAC_DCLS_Code_Sets.xls).

Ms. Tyson reported that most of DCLS's partners are on HL7 version 2.3.1 for electronic test result messaging in the clinical and micro LIMS.

In response to Chairman Ruffin's question about environmental samples, Ms. Andrews advised a lot are water samples, but others could include soil and fish. The results are sent to multiple partners such as the CDC, Environmental Protection Agency (EPA) and the FDA.

The data exchange applications use Orion Rhapsody as the data integration engine and message broker in part due to their extensive experience and wide ranging use in the public health community. BizTalk seems to be the Commonwealth standard for enterprise solutions but DCLS believes Orion Rhapsody's wide ranging use and approval make it more appropriate for its uses.

DCLS partners with a multitude of federal agencies to share electronic data and information. In response to Chairman Ruffin's questions, Ms. Andrews advised the federal government does provide some schema for code sets to transmit data. However, the federal government has not set out an overall federal architecture. Different agencies, and even within agencies, use a diversity of information instead of one overall standard for messaging.

DCLS does not have any messaging initiatives specific to Virginia, as it is very hard to find another state agency to message with because they are not using current technology. Instead, DCLS is working on messaging initiatives with federal government agencies and other states. In response to Mr. Barchi's question on how DCLS indexes test results to people for state-to-state messaging, Ms. Tyson indicated the system is not patient centric but specimen centric. The messages still should have patient information but that is not the thrust of the data exchange for DCLS purposes. When they do collect or need patient information, Ms. Andrews advised they would like the patient ID number from other states or some unique identifier for the patient. DCLS does not use Social Security numbers as a rule for a unique identifier.

In response to Chairman Ruffin's question about point-to-point messaging with VDH, Ms. Tyson responded that DCLS does have point to point messaging but each transaction type is unique with some based on HL7 and some non-HL7. So while DCLS is attempting to adopt HL7, they are facing challenges that many other agencies are not moving forward on HL7.

DCLS does not have any Virginia general funding for IT but relies on grant sponsored partnerships with federal and state agencies. This presents a lack of a sustainable funding model.

In addition to the challenges included in the presentation, Ms. Andrews said another issue is that DCLS is not always a party to health exchange initiatives undertaken by other agencies of the Commonwealth.

Chairman Ruffin asked if it was appropriate to ask for DCLS's suggestions on standards that HITSAC should adopt to address the issues DCLS raised. DCSL responded they would be willing to compile a list of standards they would like to see and utilize for HIE. Further, Chairman Ruffin would be interested in the DCLS suggestion of an appropriate governance structure.

## Virginia Health Exchange Network (VHEN) Program Update

Chris Bailey, Senior Vice President of the Virginia Hospital and Healthcare Association (VHHA), provided a presentation on the status of Virginia Health Exchange Network (VHEN) located here:

[http://www.vita.virginia.gov/uploadedFiles/ITIB/Meetings/2009/August\\_20\\_2009/HITSAC\\_VHEN\\_Update\\_090820.ppt](http://www.vita.virginia.gov/uploadedFiles/ITIB/Meetings/2009/August_20_2009/HITSAC_VHEN_Update_090820.ppt).

VHEN is a collaboration of health plans, health systems, and the state to attempt to streamline administrative transactions, lower costs, and improve service quality. The first phase focused on eligibility and benefits verification. Phase two plans to implement self pay and health plan participation. In response to Chairman Ruffin's question, Mr. Bailey responded that Medicaid is also involved in the process.

VHEN reached a consensus on a common goal for standardization on the national standards for administrative data known as CAQH CORE.

In response to Chairman Ruffin's question, Mr. Bailey responded that the other finalist for the development of VHEN was CSC, which joined forces with a local IT firm. CSC designed a very similar system for the New England health exchange network (NEHEN). Availity was the vendor selected by the Commonwealth.

In response to Dr. Erskine's question on the implementation timeline, Mr. Bailey responded that he expected one-half of participants to adopt VHEN by the first quarter of 2010. Mr. Bailey is also hopeful the health systems will be tied in by then as well. Chairman Ruffin remarked that the process outlined by VHEN could be very useful in implementing HIEs as well.

Chairman Ruffin asked about the interface standards for VHEN. Mr. Quinn remarked that a Health Insurance Portability and Accountability Act (HIPAA) transaction utilizes CAQH CORE as the envelope for the actual interactions. They are designed to be batch transactions but can accommodate real time transactions. Chris Bailey advised he could get the Committee more information on specific standards and architectures used in other states as well.

Bert Reese, a member of the Information Technology Investment Board (ITIB) and ITIB liaison to HITSAC, arrived and took part in the discussion.

## Research Center Activities Update

Dr. Erskine provided an abbreviated version of his presentation on Clinical Research Center Activities located here:

[http://www.vita.virginia.gov/uploadedFiles/ITIB/Meetings/2009/August\\_20\\_2009/HITSAC\\_Research\\_Informatics\\_090820.ppt](http://www.vita.virginia.gov/uploadedFiles/ITIB/Meetings/2009/August_20_2009/HITSAC_Research_Informatics_090820.ppt).

Dr. Erskine advised that a group of academic medical centers formed together to consider the implementation of HIEs or electronic processes in lieu of paper processes.

In discussing the Clinical Data Interchange Standards Consortium interoperability model, Mr. Quinn remarked that the Biomedical Research Integrated Domain Group (BRIDG) model for the transmission of electronic data serves then as the domain analysis model.

Mr. Brown asked how the shaping of the collection of information in the transition of the continuity of care will incorporate other types of reporting by and to small practices. Dr. Erskine advised the resource centers have some funding to provide support to small practices as that is where the vast majority of medical care is provided. Mr. Quinn agreed the vast majority of providers work at small, independent group practices who cannot fund an IT expert. The committee discussed the funding coming shortly about resource centers. Mr. Bailey, Senior Vice President of the Virginia Hospital and Healthcare Association (VHHA), advised that Secretary Tavenner's office will form a subcommittee of the Health Information Technology Interoperability Advisory Committee (HITIAC), which Mr. Bailey will chair to address the funding for the resource centers. The expectation was for one or two centers in each state. Research centers will be funded by the National Institute of Standards and Technology (NIST).

## Other Business

Chairman Ruffin invited comments from Mr. Reese concerning HITSAC's role to test and recommend governance models as well as technical standards. Mr. Reese agreed with this assessment. Mr. Reese asked about only adopting the federal standards. Mr. Quinn responded they may not meet all of Virginia's needs. Chairman Ruffin advised they may only set a floor and the Commonwealth may need to institute more than the federal health architecture.

Chairman Ruffin believes HITSAC's principle focus is to create a governance model and technical standards to achieve a meaningful use of electronic records to win more of the federal funding. Mr. Reese responded that the organization structure may already be in place around Mr. Bailey's organization. He believes the biggest issue may be to interoperate with each other on the state agency level. Then, the Commonwealth can share the areas of interoperability with other states to ensure continued interoperability.

Mr. Barchi left the meeting at 3:15 p.m.

In response to Mr. Reese's questions, the Committee discussed formulating a list of agencies presenting material to HITSAC and with who and how they are sharing information and data.

Chairman Ruffin stated interoperability is a primary purpose of HITSAC to achieve meaningful use that is defined by the federal government. He believes information needs to be shared amongst multiple providers to achieve meaningful use. Mr. Reese agreed with this statement and the focus on interoperability to achieve this. Mr. Reese also advised HITSAC to focus on state or government agencies rather than the private sector.

## Public Comment

Chairman Ruffin called for any public comment. There was no comment from the public.

## Adjourn

Chairman Ruffin asked for a motion to adjourn. Mr. Brown made a motion, seconded by Dr. Erskine, to adjourn the meeting at approximately 3:25 p.m.