HL7 is people, almost all volunteers, from organizations around the world.

HL7 is solutions, innovative ideas and resources for interoperability.

HL7 is results with the power to enhance human health and wellness on a global scale.
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HL7 doesn’t write software. **We make writing software more intuitive.**

HL7 doesn’t do clinical research. **We make doing clinical research more effective.**

HL7 doesn’t pay for healthcare. **We make paying for healthcare less costly.**

HL7 is more than standards and messaging. **HL7 is shaping the future of healthcare.**

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Stop by **BOOTH #3836** at HIMSS for live presentations in the HL7 educational theater.

- Solutions and Best Practices for Implementers
- What’s New With HL7, Including Sessions on HL7 FHIR®, Argonaut Project and C-CDA®
- The Role of HL7 Standards in Federal Interoperability Roadmap /Standards Advisory Panel

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**Theater Presentation Schedule**

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<td>2:20 – 2:50 pm Best Practices with Consolidated CDA (C-CDA®)</td>
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<td>11:50 – 12:20 pm</td>
<td>Understanding HL7’s Critical Role in Health IT Legislation and Regulation</td>
<td>3:00 – 3:30 pm The Path Forward to Interoperability through Certification and Testing</td>
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<td>HL7 and Implementation: Serving the Needs of Standards Implementers</td>
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<td>All You Ever Wanted to Know About HL7 Standards for Quality Reporting</td>
<td>5:00 – 5:30 pm EHR Systems Standards Work Group: Key Activities and Their Value to the HIT Industry</td>
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<tr>
<td>4:30 – 5:00 pm</td>
<td>HL7 Mobile Health Standards Transforming Healthcare</td>
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All You Ever Wanted to Know About HL7 Standards for Quality Reporting

Monday, April 13 | Tuesday, April 14
1:50 – 2:20 pm | 11:40 – 12:10 pm

Quality measurement, reporting and improvement are foundational components of health and healthcare. Most countries have developed national strategies to measure, monitor and improve health and healthcare, as well as pay for healthcare services based on the quality of the service and the health outcomes achieved both at the individual and population level. The rapid adoption and implementation of electronic health records, clinical decision support systems and advanced data analytics have transformed the ability to collect, report and use quality measures. Quality measurement and improvement have become instrumental in achieving better health, better care, and better access at a lower cost.

Since the 1990s, HL7 has led the development of electronic standards for capturing, calculating, and reporting quality measures. National initiatives have begun to adopt and require the use of these standards in various public and private programs. With increased scrutiny on quality, more refined and mature standards are being developed. This session will provide an overview of the current state of quality measurement and reporting, including the HL7 framework for quality measurement and reporting standards. Core HL7 standards currently in use and under development will be reviewed, including Health Quality Measurement Format (HQMF, eMeasures, eClinical Quality Measures), Quality Reporting Document Architecture (QRDA), Quality Improvement Logical Model, Metadata for Quality, and Quality on FHIR®.

Walter G. Suarez, MD, MPH: Co-Chair, HL7 Clinical Quality Information Work Group; Executive Director, Health IT Strategy and Policy, Kaiser Permanente

Best Practices with Consolidated CDA (C-CDA®)

Tuesday, April 14 | Wednesday, April 15
2:20 – 2:50 pm | 11:40 – 12:10 pm

Although the CDA standard has existed for over 14 years and has supported human readability from the start, the rapid adoption of the C-CDA Implementation Guide for Meaningful Use has not been without some challenges. This session will explore a number of topics that may be relevant to current implementations using C-CDA for patient summaries and transitions of care. We will explore the following questions and provide some useful answers:

- Where do I find the standard and C-CDA experts?
- What are the changes between C-CDA 1.1 and 2.0?
- Where can I find samples for sections used in C-CDA?
- Where can I find the value sets (codes) used in C-CDA?
- Where can I learn more about the C-CDA standard?
- Where do I ask questions about the standards?
- Where do I post issues I’m having with the standard?
- How do I help make it a better standard?

The C-CDA 1.1 & 2.0 are both draft standards for trial use (DSTU), which means HL7 is currently seeking feedback from implementers. By answering the above questions, we hope to help you and get your valuable feedback to help us improve this important standard!

Calvin Beebe: Treasurer, HL7 International Board of Directors; Co-Chair, HL7 Structure & Semantic Design Steering Division – HL7 Technical Steering Committee; Co-Chair, HL7 Structured Documents Work Group; Co-Editor, CDA; Technical Specialist, Information Services, Mayo Clinic – Rochester, MN
**Clinical Document Architecture (CDA*) and Consolidated CDA (C-CDA*) for Patient Summaries**

**Monday, April 13**
2:30 – 3:00 pm

This presentation will introduce the audience to the HL7 Clinical Document Architecture (CDA) and HL7 Consolidated CDA (C-CDA) standards.

CDA is an ANSI and ISO approved standard specification for the representation of clinical documents. CDA is an XML-based document markup standard that specifies the structure and semantics of clinical documents for the purpose of exchange. A CDA document is a defined and complete information object that can exist outside of a message, and can include text, images, sounds, and other multimedia content. Just as you can create a document in MS Word or in PDF, you can create a clinical document in CDA format.

The “A” in “CDA” refers to architecture and signifies the ability to constrain CDA to create more specific document types like those specified in the C-CDA. The C-CDA specification is a library of CDA templates that can be used to specify a number of document types, including; Continuity of Care Document (CCD*), Discharge Summary, Diagnostic Imaging Report, Operative Report, Progress Note and others.

Calvin Beebe: Treasurer, HL7 International Board of Directors; Co-Chair, HL7 Structure & Semantic Design Steering Division – HL7 Technical Steering Committee; Co-Chair, HL7 Structured Documents Work Group; Co-Editor, CDA; Technical Specialist, Information Services, Mayo Clinic – Rochester, MN

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**EHR Systems Standards Work Group: Key Activities and Their Value to the HIT Industry**

**Tuesday, April 14**
5:00 – 5:30 pm

The HL7 Electronic Health Record (EHR) Work Group recently completed milestone work on ISO/HL7 10781 EHR System Functional Model (EHR-S FM) Release 2. This presentation will offer an overview of what’s new in the model, including an entire new Record Infrastructure (RI) section for functions designed to support trusted management of EHR records by EHR systems.

The new RI section describes record lifecycle events occurring in the course of a record lifespan. A separate HL7 project is now taking those requirements (conformance criteria) and showing how HL7 Fast Health Interoperability Resources (FHIR) can be implemented to capture provenance and other metadata at each lifecycle event.

A number of new or updated EHR-S functional profiles are in development based on Release 2. EHR-S FM Release 2 has also attracted interest from national EHR/HIT programs around the world and a number of language translations are now underway, including Dutch, French, Italian, Japanese, Portuguese and Spanish.

In recent months, the EHR Work Group has also completed seminal work on ISO/HL7 16527 Personal Health Record Functional Model Release 1 (PHR-S FM). The PHR-S FM describes functionality for patient PHR portals, stand-alone PHR systems and/or PHR systems for health record banking.

Gary Dickinson, FHL7: Co-Chair, Electronic Health Records Work Group; EHR/HIT Standards Consultant, CentiHealth
Presentation Descriptions

Getting the Most Out of Your Data Using HL7 Clinical Decision Support Standards

Tuesday, April 14
1:00 – 1:30 pm

The use of health information technology (HIT) standards for encoding data, representing knowledge and delivering knowledge-based interventions can help facilitate implementation of clinical decision support (CDS). The presenters, who are co-chairs of the Health Level Seven CDS Work Group, will survey the standards developed by this group, including formalisms for accessing and representing clinical knowledge and data models to support these standards. The Arden Syntax is a standard language for representing medical knowledge in the form of medical logic modules (MLMs). Various patient data models will be reviewed, including the Virtual Medical Record (VMR), the Quality Improvement and Clinical Knowledge model (QUICK), and HL7 Fast Healthcare Interoperability Resources (HL7 FHIR®) as they pertain to clinical decision support. The Clinical Quality Language (CQL), which is a standard expression language for CDS and clinical quality measurement (CQM), will also be discussed. Infobuttons are context-sensitive links from EMRs to knowledge resources. The Decision Support Service standard is a joint HL7/OMG service framework for evaluating patient data using knowledge modules. The CDS Knowledge Artifact Specification is an overarching schema for defining different types of CDS artifacts, including event-condition-action rules, order sets and clinical documentation templates. The latest versions of these standards will be described at a high level, showing how they can be used to implement CDS.

Robert Jenders, MD, MS, FACP, FACMI: Co-Chair, HL7 Clinical Decision Support Work Group; Professor of Medicine, Charles Drew University and University of California, Los Angeles

Howard Strasberg, MD, MS, FACMI: Co-Chair, HL7 Clinical Decision Support Work Group; VP Medical Informatics, Wolters Kluwer Health

Healthway: Promoting Interoperability Today While Preparing for an Increasingly Connected Future

Tuesday, April 14
1:40 – 2:10 pm

Healthway is a nonprofit focused on advancing interoperability through the implementation of secure, standards-based health information exchange throughout the United States. As steward for the eHealth Exchange, the largest nationwide query-based network implementing HL7 standards, Healthway has unique insight into the current state of health IT interoperability. The presentation will highlight the practical implications of sustaining current connectivity using existing and emerging standards, while maintaining a trajectory of growth to connect the nation.

Mariann Yeager: Chief Executive Officer, Healthway, Inc.

HL7 Basic Overview

Monday, April 13 Tuesday, April 14 Wednesday, April 15
5:10 – 5:40 pm 12:20 – 12:50 pm 9:40 – 10:10 am

Learn the basic organizational structure of Health Level Seven International (HL7) and the products it offers and its efforts in standards development worldwide. HL7’s healthcare standards play a key role in the exchange of electronic data in much of today’s global healthcare community and represent some of the most widely implemented healthcare standards in the world. This role has been expanded in the United States, as many HL7 data models and messaging standards have been chosen to be the foundation of several Meaningful Use requirements.

John Quinn, FHL7: HL7 International Chief Technology Officer

Dave Shaver, FHL7: Co-Chair, HL7 FHIR Governance Board; Co-Chair, HL7 Infrastructure and Messaging Work Group; Member, HL7 Membership and Strategic Resources Committee Chief Technology Officer, Founder and President, CorePoint Health
**HL7 and Implementation: Serving the Needs of Standards Implementers**

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As we travel down the path toward increased interoperability, it is critical that HL7 involves implementers in this journey more closely. As the primary consumers of HL7 standards, implementers play a key role in their successful adoption and we are looking for their expertise and participation to expand the HL7 community and provide better implementation support. Current standards implementers are encouraged to join this session to let us know what products, services and resources HL7 International can provide you with to help make standards adoption more efficient.

*Grant Wood:* Chair, HL7 Membership and Strategic Resources Committee; Facilitator, HL7 Clinical Genomics Work Group; Senior IT Strategist, Intermountain Healthcare Clinical Genetics Institute

*Hans Buitendijk, MSc, FH7:* Director, HL7 International Board of Directors; Co-Chair, HL7 Clinical Statement Work Group; Co-Chair, HL7 Orders and Observations Work Group; Senior Expert R&D, Cerner Corporation

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**HL7 Fast Healthcare Interoperability Resources (HL7 FHIR®)**

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HL7 FHIR (pronounced “Fire”) is a new specification that describes a RESTful API that can be used to exchange health, healthcare and related information between systems across a variety of contexts, from the classic in-hospital back-office system exchange to social media in a web 2.0 context. FHIR combines HL7’s existing health knowledge with a simple, scalable exchange protocol that is used in the latest web-based technologies. FHIR defines a set of ‘resources’ to represent health and healthcare administration-related information. These resources express granular clinical and administrative concepts that can be electronically exchanged in order to quickly and effectively solve system interoperability problems in healthcare and related processes. The resources cover the basic elements of healthcare – patients, admissions, diagnostic reports, medications and problem lists – with their typical data elements and also support a range of richer and more complex clinical models. The simple direct definitions of the resources are based on thorough requirements gathering, formal analysis and extensive cross-mapping to other relevant standards.

*Grahame Grieve:* Project Lead, HL7 FHIR Project; Co-Chair, HL7 Modeling and Methodology Work Group; Modeling and Methodology Facilitator-HL7 Infrastructure and Messaging Work Group; Consultant, NEHTA; National Development Manager, Health Intersections Pty Ltd.
**HL7 Mobile Health Standards Transforming Healthcare**

**Monday, April 13**
**4:30 – 5:00 pm**

This HL7 session will explore standards within mobile health related to:

- Providing better patient engagement, by improving safety and supporting independent living
- Enabling family members to remotely engage in care decisions
- Transforming healthcare by providing patients and care providers timely access to health information services
- Supporting patients, care providers, and payers by providing expanded and timely access to healthcare information
- Addressing patient safety and security through shared implementation standards for healthcare systems
- Meeting the need for standards and shared solutions strategies
- Enabling new payment models that allow for micro-payment of services
- Supporting virtual offices visits, improving access, patient engagement, and care plan compliance

*Harry Rhodes, MBA, RHIA, CHPS, CPHIMSS, FAHIMA: Co-Chair, HL7 Mobile Health Work Group; Director, National Standards, AHIMA*

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**Interoperability to Support a Learning Health System**

**Monday, April 13**
**3:50 – 4:20 pm**

The concept of a learning health system is one in which emerging knowledge and advances in science and technology can be applied for improving health. It is a system in which both evidence development and knowledge application flow seamlessly and continuously in the course of care. Achieving such a vision will require interoperability that is seamless as well and the flow of data that is captured once and reused many times. The mission of the HL7 Learning Health Systems Work Group is to take a system level view of data interoperability and standards requirements for a learning health system using the methods and techniques applied to smaller, individual domains in that system.

*Russell Leftwich, MD: Co-Chair, HL7 Learning Health Systems Work Group; Chief Medical Informatics Officer, Tennessee Office of eHealth Initiatives*

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**Meaningful Use Stage 2: Laboratory Results Interface**

**Monday, April 13**
**1:10 – 1:40 pm**

This is a presentation on the Lab Results Interface (LRI) Implementation Guide (IG). It is intended to provide an explanation of why the LRI IG is important and how the IG can flexibly handle a wide variety of interoperability sophistication of the users. It was developed within the Standards and Interoperability Framework Initiative (S&I Framework) supported by the Office of the National Coordinator of Healthcare (ONC). This IG uses profiles to further refine and tighten the functionality of the IG. This flexibility allows users to use the IG and expand their use of the IG as they gain more functionality in their systems through the selection of more complex profiles.

*John Quinn, FHIL7: HL7 International Chief Technology Officer*
Meaningful Use Stage 3: Laboratory Orders Interface (LOI) and Electronic Delivery of a Directory of Lab Services (eDOS)

Wednesday, April 15
2:20 – 2:50 pm

In this session the presenter will highlight how the Laboratory Orders Interface Implementation Guide (LOI IG) has taken advantage of the flexibility developed in the Laboratory Results Interface Implementation Guide (LRI IG). Both the LOI and eDOS implementation guides are being developed to provide the interoperability on the order side of a laboratory interface with the expectation that this will be part of MU3 to be released in 2014. In this session we will continue to explore the flexibility and the expanded role that profiles have between these guides. We will review how this group of guides becomes a family of implementations to help better facilitate interoperability in the laboratory space.

Come learn about data type flavors, implementation guide profiles and other concepts introduced in these implementation guides.

John Quinn, FHL7: HL7 International Chief Technology Officer

Preparing for the Collection and Use of External Family History & Genetic Test Result Data

Wednesday, April 15
1:00 – 1:30 pm

2015 will mark the year that clinical genetics and genomics achieves critical mass. Several national and international groups have increased their activity in this area. The Institute of Medicine’s Action Collaborative is focused on getting coded genetic data into the electronic health record. This year a pilot will begin to test a standardized data set with organizations representing laboratories, health systems, and EHR vendors. The Global Alliance for Genomics and Health is working to solve the issues of sharing data between researchers, biobanks, clinical trials, and healthcare providers - thinking globally across geographic boundaries.

These activities, the recently announced NIH Precision Medicine initiative, and the movement toward healthcare consumers owning and controlling their data, will increase the implementation demands of HL7 Clinical Genomics solutions. Implementation guides are available for both Version 2 and CDA-based genetic data transmission, and the Version 3 Pedigree model for family health history. Now, FHIR resources are being created for all of these standards.

Grant Wood: Facilitator, HL7 Clinical Genomics Work Group; Chair, HL7 Membership and Strategic Resources Committee; Senior IT Strategist, Intermountain Healthcare Clinical Genetics Institute

The Argonaut Project and HL7 FHIR

Monday, April 13
11:10 – 11:40 am

Tuesday, April 14
11:00 – 11:30 am

Wednesday, April 15
11:00 – 11:30 am

The Argonauts are a group of highly motivated health information technology vendors and healthcare organizations that have come together to sponsor a focused effort to accelerate development of a FHIR API and Core Data Services specification under the auspices of HL7. This session will discuss who is participating, the scope of work that is planned, the timeline for completion of the work, and how this work relates to some other ongoing initiatives. We will also discuss the newly announced Argonaut Project Implementation Partners Program.

Stanley Huff, MD, FHL7: Chair, HL7 International Board of Directors; Chief Medical Informatics Officer, Intermountain Healthcare
The Path Forward to Interoperability through Certification and Testing  

Tuesday, April 14  
3:00 – 3:30 pm  

Two leaders in HIT interoperability testing and certification will describe best practices to effectively and efficiently test and certify HIT interoperability products and integrated solutions. Testing and certification are key components on the road to interoperable, plug and play HIT solutions. This session will include a description of why constrained standards are necessary for realizing interoperability, and a discussion of why certification is a worthwhile investment. Included in the discussion will be what we have learned from other industries. They will further discuss what level of rigor it takes for testing and certification to be “good enough” to achieve healthcare provider confidence in the usability and patient safety of HIT interoperability.

Anuj Desai: Vice President, Market Development for the New York eHealth Collaborative (NYeC); Leader, New York Digital Health Accelerator (Multi-State/Multi-Vendor EHR/IHE Interoperability Work Group)

Joyce Sensmeier: Vice President, Informatics, HIMSS; President, IHE USA; Past Standards Implementation Technical Manager, Healthcare Information Technology Standards Panel

Understanding HL7’s Critical Role in Health IT Legislation and Regulation  

Monday, April 13  
11:50 – 12:20 pm  

Standards are an integral part of the recent federal health IT legislation with prominent mentions in the ONC’s Interoperability Roadmap and Standards Advisory. Join HL7 CEO Charles Jaffe, MD, PhD, for an overview of the current legislative environment and learn how HL7 plays a role in Meaningful Use and other federal initiatives.

Charles Jaffe, MD, PhD: HL7 International Chief Executive Officer

Using the EHR System Functional Model for EHR Record Risk Assessments  

Wednesday, April 15  
10:20 – 10:50 am  

The HL7 Electronic Health Record (EHR) Work Group continues to extend the utilities of ISO/HL7 10781 EHR System Functional Model (EHR-S FM) Release 2 through direct and indirect support for companion projects in Health IT. Among these are:

- Office of the National Coordinator (ONC) Standards and Interoperability (S&I) Initiative for Electronic Submission of Medical Documents (esMD)
- ONC S&I Initiative for Data Provenance (DPROV)
- HL7 EHR Functional Model-Security and Privacy Joint Vocabulary Alignment Workgroup

One common theme for these and other HL7 EHR Work Group initiatives is assuring that interoperability begins with a reliable source system and authentic source records so that patients, clinicians, and clinical enterprises, among others, can evaluate the trustworthiness of clinical information.

The presentation will offer a briefing on how the EHR-S FM can be used to support trust assurance from the perspective of a clinical provider, focusing on common sources of risk.

Reed Gelzer, MD, MPH: Co-Chair, HL7 Electronic Health Records Work Group; HIT Policy and EHR Specialist, Provider Resources, Inc.
My Family Health Portrait.

**The Argonaut Project**

HL7 launched the joint Argonaut Project in December 2014. This initiative addresses the recommendations of the JASON Task Force, a joint task force of the HIT Standards and Policy Committees. The goal of the newly formed project is to accelerate the development and adoption of HL7's Fast Healthcare Interoperability Resources (FHIR®). The purpose of the Argonaut Project is to rapidly develop a first-generation FHIR-based API and Core Data Services specification to enable expanded information sharing for electronic health records and other health information technology based on Internet standards and architectural patterns and styles. The project will accelerate current FHIR development efforts to provide practical and focused FHIR profiles and implementation guides to the industry in 2015.

**Clinical Document Architecture (CDA®)**

Clinical documents are the core of a patient’s lifetime health record. HL7’s CDA standard provides an exchange model for clinical documents such as discharge summaries and progress notes. A consistent approach to electronic clinical documents means that critical information contained in the documents can be used independently of the application on which it was produced. For example, CDA documents can be displayed using XML-aware web browsers or wireless applications on mobile devices. This standards is implemented throughout the world. CDA, Release 2 was published as an international standard by the International Organization for Standardization (ISO) in late 2009.

**Consolidated CDA® (C-CDA®)**

The HL7 Consolidated CDA is an implementation guide that reconciles and consolidates nine different healthcare exchange templates into a single template library. The Office of the National Coordinator for Health IT (ONC) named the guide in Meaningful Use Stage 2. It includes the following implementation guides: History & Physical Note, Consult Note, Operative Note, Procedure Note, Diagnostic Imaging Reports, Discharge Summaries, Unstructured Documents (any clinical type) and Progress Notes. This implementation guide is currently a draft standard for trial use (DSTU).

**Clinical Genomics Pedigree Model**

The HL7 Clinical Genomics Pedigree Model is a data standard for transmitting family health histories between systems. This includes describing a patient’s full pedigree with diseases and conditions, and the option to link genetic data and risk analysis. It has the ability to transmit complete family history information for clinical decision support. This model is ANSI-approved and is the HITSP-accepted standard. This standard allows EHR/PHR interoperability, and is in use by the Surgeon General in his family history collection website: My Family Health Portrait.

**HF7 Fast Healthcare Interoperability Resources (HL7 FHIR®)**

HL7 FHIR (pronounced “Fire”) specifies a RESTful API that can be used to exchange health, healthcare and related information between systems across a variety of contexts, from the classic in-hospital back-office system exchange to social media in a web 2.0 context. FHIR combines the best features of HL7’s existing solutions, while leveraging the latest web technologies and applying a critical focus on implementation. FHIR solutions are built from a set of modular components called “Resources”. These resources can easily be assembled into working systems that solve real world clinical and administrative problems at a fraction of the time and cost of existing alternatives. FHIR is suitable for use in a wide variety of contexts, including uses for mobile devices, cloud communications, EHR-based data sharing, server communication in large institutions, and much more.

**S&I Framework Laboratory Results Interface Implementation Guide Using HL7 Version 2.5.1**

This implementation guide was included in the Meaningful Use Stage 2 Standards and Certification Criteria for 2014. It provides guidance for electronic reporting of laboratory tests to ambulatory care providers in the US. It was developed within the S&I Framework supported by the Office of the National Coordinator of Healthcare Information Technology (ONC) and balloted through HL7. The LRI IG uses profiles to refine the IG. The refinement can occur through the use of identifiers, fields or other critical items that help define the information necessary to support the EHR and the laboratory based on business requirements and the healthcare setting. This flexibility allows implementers to expand their use of the guide as they gain more functionality in their systems through the selection of more complex profiles.

**Quality Reporting Document Architecture (QRDA)**

QRDA describes constraints on the CDA and is a document format that provides a standard structure with which to report quality measurement data to organizations that will analyze and interpret the data. Quality measurement in healthcare is complex. Accurate, interpretable data efficiently gathered and communicated is key in correctly assessing that quality care is delivered. The standard has recently been included as one of the requirements for EHR certification in the Meaningful Use Stage 2/3 Standards certification criteria.

**Version 2 Messaging Standard**

The Version 2 Messaging Standard is one of the most widely implemented standards for healthcare information in the world and was published as an international standard by ISO in 2009. Version 2 is a messaging standard that allows the exchange of clinical data between systems. It is designed to support a central patient care system as well as a more distributed environment where data resides in departmental systems. In 2010, Version 2 was named in the US Office of the National Coordinator for Health Information Technology’s Final Rule on the initial set of standards, implementation specifications and certification criteria for EHR technology.

Version 2.8.1, representing the latest update to the Version 2 standard, was published in August 2014.